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Structure and Function

A Guide to Three Major
Structural-Functional Theories

Part I Approaches to
the simplex clause

Christopher S. Butler

Structure and Function
A Guide to Three Major Structural-Functional Theories: Part 1

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Volume 63

Structure and Function: A Guide to Three Major Structural-Functional Theories: Part 1: Approaches to the simplex clause
by Christopher S. Butler

Structure and Function: A Guide to Three Major Structural-Functional Theories

Part 1: Approaches to the simplex clause

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From Tucker, G. H. (1998). *The Lexicogrammar of Adjectives: A Systemic Functional Approach to Lexis*. London & New York: Cassell: structures from Figure 12 (p. 88) incorporated into Figure 7.3 of Chapter 7.

Preface

The central aim of this set of two volumes is to outline and compare three approaches to the study of language which we may label 'structural-functionalist': Functional Grammar, (FG) as developed by Dik and his colleagues; Role and Reference Grammar (RRG), as developed most recently by Van Valin; Systemic Functional Grammar (SFG), associated mainly with the name of Halliday. The two volumes are intended as a composite whole, and present an account which expands, through several stages, the level of detail of the description. For this reason, a particular concept or proposal may be treated at various points in the two volumes; frequent cross-references are therefore used to guide the reader.

Part 1 deals with the concept of a functional grammar, and within this concept, that of a structural-functional grammar. It then goes on to argue that three contemporary theories (FG, RRG and SFG) can be regarded as central within the structural-functional paradigm, and outlines the approach of each of these theories to the simplex clause, with more detailed discussion of the structure and meaning of phrasal categories, the representation of states of affairs, and tense-aspect-modality systems. Part 2 first deals with aspects of the clause which are particularly closely related to the structure of discourse, covering illocution and related areas, information structuring, and clause combining. There follows a chapter on discourse, text and context. Approaches to child language acquisition and to various applications (stylistic, educational, computational, clinical) are then discussed. The work ends with an overall evaluation of the three theories in terms of 'criteria of adequacy', followed by a discussion of such criteria in relation to the development of a more comprehensive functional model. The implications of these criteria for the shape of an integrated model are outlined, with some consideration of how the theories reviewed in the two books might contribute to such an integrated approach.

The object of Chapter 1 of this first volume is to provide a background for both volumes, by discussing what is meant, in this work, by the terms 'functional approach to language', 'structural-functional approach' and 'structural-functional grammar'. These terms can be seen as more and more specific, in the sense that a structural-

functional approach is one kind of functional approach, while a structural-functional grammar is one kind of structural-functional approach to language.

I take, as the central defining characteristic of a functional approach, the claim that language is essentially a means of communication between human beings, and that this fact is crucial in explaining why human languages are as they are. This orientation clearly contrasts with that of 'formal' approaches, such as those represented within Chomskyan linguistics. The difference of approach brings with it an important difference in the object of study: for a true functionalist, it must be the whole multi-faceted complex of language in relation to its use, while for a formalist it is the ideal native speaker's grammatical 'competence', or maybe even the more restricted component of this which is enshrined in 'Universal Grammar'.

The chapter then goes on to examine the complexities of the concept of autonomy (of syntax, and of the whole grammar), and its rejection, in various ways and to varying degrees, by functionalists. The nature of functional explanations is then examined in more detail. After a brief section on innateness and language acquisition, I address some further issues which arise from the 'language as communication' viewpoint: the centrality of meaning (semantics/pragmatics) for functional approaches; the importance of non-discreteness and the cognitive dimension of language; and the need to go beyond the sentence to study structure and meaning in larger stretches of discourse.

The chapter ends with a discussion of diversity within functional approaches, outlining some classifications which have been proposed, and setting up a set of seven properties of functional approaches to language, some of which are present in varying degrees, or in some cases not at all, in particular approaches. One important way in which functional approaches can be seen to vary is the extent to which they regard the grammar of a language as itself constituting a system, which needs to be described and correlated with function within discourse. This is the position which Van Valin has termed 'structural-functionalist', and it is in this sense that the term is used in the present book, in contrast with those who believe that a functional dimension is compatible with existing formal accounts of language, and those, at the other end of the spectrum, who reject grammar as a system, regarding it as an epiphenomenon of discourse. Finally, I distinguish, within structural-functional approaches to language, between those which formulate sets of interlocking statements which can be claimed to constitute a generative grammar of a language, and those which, while providing structural-functional descriptions, do not integrate them into a coherent overall grammar, with some degree of formalisation, which can be used to 'generate' the structure of sentences.

Having established a set of properties against which we can discuss the degree of functional orientation of particular approaches, I go on in Chapter 2 to examine six approaches which identify themselves as functionalist and/or share at least some of the seven characteristics listed. These are not, of course, the only approaches which could have been chosen, but are intended to indicate the range which might

be taken to fall within, or close to, the limits of 'functionalism'. They are: the 'generative functionalism' of, for instance, Prince and Kuno; FG; RRG; SFG; the loose collection of approaches often known as 'West Coast functionalism', as represented by the work of Givón and of Hopper & Thompson; and Langacker's Cognitive Grammar. I come to the conclusion that generative functionalism and Cognitive Grammar are, in very different ways, somewhat peripheral to functionalism as defined here. The kind of West Coast functionalism espoused by Hopper & Thompson is clearly not of the structural-functional kind, since they regard grammar as derivable from discourse. It is argued that Givón's type of functionalism, while it could be regarded as a structural-functional approach, is not a structural-functional grammar in the sense intended here, since Givón deliberately does not integrate his proposals into a set of interlocking rules and principles. FG, RRG and SFG, on the other hand, can all be regarded as generative structural-functional grammars, though they differ considerably in position on the formal-functional cline, SFG being rather further towards the more functional end, while RRG is perhaps the closest to the formal end.

Chapter 3 is devoted to a preliminary discussion of FG, Chapter 4 to RRG and Chapter 5 to SFG. The aim here is to build on the material in Chapter 2 by presenting a summary of how each theory proposes to account for the structure of simplex clauses. This involves further discussion of types of priority, motivation and methodology in the three approaches, and serves as an overall background to the more detailed examination of particular areas of the grammar in later chapters. The presentation is deliberately fairly uncritical at this stage, although differing positions within each model are discussed.

In Chapter 6, I attempt to bring together the material of the previous four chapters in a comparative treatment of the overall characteristics of the three theories and how they account for the structure and meaning of simplex clauses. I concentrate here on four major themes: the overall approach, in terms of what the theories are attempting to account for and why; the approach taken to matters involving levels of linguistic description and their relationship; the treatment of syntagmatic and paradigmatic relationships; and the question of layering. Recent proposals for a synthesis of ideas from FG and RRG are also brought in here. The discussion has a much stronger critical component than in the previous chapters.

Chapters 7–9 offer discussion of three specific areas of the grammar, across all three theories. In each chapter, each theory is dealt with in turn, and the chapter ends with a section comparing the three approaches. Chapter 7 is concerned with the structure and meaning of units at the phrasal level, the bulk of it being devoted to a discussion of the noun phrase, though other classes are also examined. Chapter 8 tackles the complex question of how situations in the world of discourse are represented in the three theories; it thus deals with what in many approaches would be called predicate-argument structure. Finally, in this volume, Chapter 9 is concerned with the related themes of tense, aspect, modality and polarity across the three theories.

In a work of this kind, a balance has to be struck between exhaustiveness of coverage and the limitations of space, not to mention the reader's interest and perseverance. I have opted for a solution whereby a small number of publications are used as the backbone of the discussion: for FG the two volumes of Dik's *The Theory of Functional Grammar* (Dik 1997a, 1997b); for RRG Van Valin & LaPolla's *Syntax: Structure, Meaning and Function* (1997);¹ for SFG Halliday's brief article (1994a) 'Systemic theory' and especially *An Introduction to Functional Grammar* (1985a, 1994), Matthiessen's *Lexicogrammatical Cartography* (1995) and Halliday & Matthiessen's *Construing Experience through Meaning: A Language-Based Approach to Cognition* (1999). I have, however, also made reference to a large number of other publications, some of which build on, but do not fundamentally modify, the proposals made in the main works, while others offer major challenges to existing accounts of the theories.² Clearly, I have had to be selective in the coverage of the literature, choosing those works which in my view offer additions or challenges of some substance. Furthermore, I have not attempted to cover work on segmental phonology,³ and there is little on diachronic aspects of linguistics. I can only offer my apologies to readers who feel I have omitted important material.

In accordance with the claim that a truly functional account of language must be rooted in the study of authentic textual materials, the points made throughout the book are illustrated by examples taken from textual corpora, some of which are shown to challenge claims made in the literature. All but one of the corpora are available in computer-readable form, so that suitable examples can be found using commercially available text-searching software. This way of proceeding has one obvious disadvantage: text corpora are more readily available for English than for other languages, and not available at all for the majority of the world's languages. This is potentially particularly problematic because of the importance accorded to typological matters in many functional approaches to language, including FG and RRG. Nevertheless, it is a fact that the majority of the illustrative material offered in even strongly typologically-oriented accounts is from English, and I have therefore felt justified in making English the main language of exemplification in this book also. I have, however, included a fairly large number of examples from Spanish (a language on which much of my own research is conducted), some from Dutch, and others from the Australian Aboriginal language Gooniyandi. The Gooniyandi examples are taken from taped narratives in the corpus collected by McGregor and published as McGregor (1990a), which is not, to my knowledge, available in computer-readable form. The table below gives details of the computer-readable corpora used for exemplification in the two volumes of the present work.

A reference is given for each example cited from a corpus. Examples in this work taken from the British National Corpus cite their source by means of a three letter code and the sentence number within the text. The source texts are, for the most part, copyright and may not be cited or disseminated except as a part of the corpus.

Full bibliographic details of the source concerned are available from the BNC project, or on the world wide web.⁴ For the London-Lund corpus, the reference consists of the text category number, text number (and subtext identification where present) and tone unit numbers. For the HCM corpus, the number of the text and the page number in the written version of the corpus (Esgueva & Cantarero 1981) are given. For the Corpus de Referencia, *El Mundo* on CD-ROM and the ECI Dutch corpus, the filename only is cited, since no other suitable reference categories are given in the texts.

Corpora used to provide examples

Corpus	Language	Approximate size (words)	Brief description
British National Corpus (BNC)	English	100 million	90% written, 10% spoken. Mainly from 1975–1993. Tagged with part of speech for each word.
London-Lund Corpus (LLC)	English	½ million	Spoken, 1960s/70s. Has prosodic annotations.
El Habla de la Ciudad de Madrid ⁵ (HCM)	Spanish	150,000	Spoken, in conversations with interviewer, also spontaneous recorded conversations. 4 generations of speakers. Collected 1970s.
Corpus Oral de Referencia de la Lengua Española Contemporánea (Referencia)	Spanish	1 million	Spoken, various subgenres. Early 1990s.
El Mundo CD-ROM	Spanish	64 million	Texts of Spanish newspaper <i>El Mundo</i> on CD-ROM, 1994–1996.
European Corpus Initiative Multilingual Corpus on CD-ROM (ECI)	Large number of languages represented. Used in this book for Dutch data.	98 million in all	Wide variety of material, mainly written. Dutch component used was from the Leiden Corpus of Dutch, consisting of newspapers, transcribed speech, etc.

Notes

1. Unfortunately, drafts of a new introduction to RRG (Van Valin, forthcoming) became available too late for consideration in the present work.
2. Because the RRG research community was fairly small until relatively recently, the number of publications which offer radical challenges to mainstream proposals in RRG is not large, so that readers will find that most of the discussion of this theory centres on the work by Van Valin & LaPolla. Also for this reason, chapters and sections on RRG will tend to be rather shorter than those devoted to the other two theories.
3. There is, in fact, hardly any work on segmental phonology in FG or RRG, though there has been some in SFG: for a selection of papers on systemic phonology see Tench (1992).
4. For example, to find the source for text “ABC”, consult the URL <http://sara.natcorp.ox.ac.uk/BNCbib/AB.html#ABC>. For further information about the British National Corpus, consult its website at <http://www.natcorp.ox.ac.uk>.
5. This is a computer-readable version of the materials in Esgueva & Cantarero (1981). I am indebted to the editors for permission to convert these materials into computer-readable form.

CHAPTER 1

Functionalist approaches to language

1.1 Introduction

The aim of this first chapter is to explore what is meant by a functionalist approach to language, in order to be able to narrow down the focus of this study to a small set of approaches which we may characterise as ‘structural-functional grammars’.

Given the dominance of ‘formalist’ approaches to language in the decades after the publication of Chomsky’s *Syntactic Structures* (1957) and *Aspects of the Theory of Syntax* (1965), ‘functionalists’ have often characterised their positions in relation to ‘formalist’ claims. Although I shall not continue to use scare quotes around the terms ‘formal(ist)’ and ‘functional(ist)’, the reader is urged to treat these terms with some reserve until some of the preliminary ground has been cleared. As we shall see, although the distinction is indeed grounded in fundamental differences of approach, it is, like most dichotomies in linguistics, over-simple and potentially misleading. Furthermore, the terms themselves are in need of some clarification.

As the primary aim of the present book is to offer a critical discussion of some key functional approaches to language, seen in relation to each other, I do not claim to offer anything new to the debate between formalists and functionalists. A whole volume has recently been devoted to this debate, from an essentially formalist viewpoint (Newmeyer 1998), by one of the few linguists to have treated the matter in some depth, and it is to be hoped that one or more functionalists will offer a book-length reply in the near future. Clearly, however, some preliminary remarks on these issues are in order. In this chapter, then, I shall discuss, in a preliminary way, some of the properties which differentiate functional approaches to language from formal ones (typified by the theories of Chomsky¹), and which are explored in much more detail in later chapters of the book. This discussion will reveal that although there are indeed certain characteristics which underlie functionalist approaches, there is, as might be expected, a whole spectrum of approaches within the broad heading of functionalism. Within this diversity, I shall distinguish a set of criteria which will be taken to define ‘structural-functional grammars’. This prepares

1. Useful summaries of the philosophical and methodological underpinning of Chomsky’s linguistics are available in Salkie (1990) and Cook & Newson (1996).

the ground for Chapter 2, in which six approaches to language are examined against the criteria discussed here, in order to isolate a set of core structural-functional grammars.

1.2 Language as communication

The starting point for functionalists is the view that language is first and foremost an instrument for communication between human beings, and that this fact is central in explaining why languages are as they are. This orientation certainly corresponds to the lay person's view of what language is. Ask any beginner in linguistics, who has not yet been exposed to formal approaches, what a language is, and you are likely to be told that it is something that allows human beings to communicate with one another. Indeed, students are often surprised to learn that the most influential linguist of the second half of the twentieth century claims that:

Human language is a system for free expression of thought, essentially independent of stimulus control, need-satisfaction or instrumental purpose. (Chomsky 1980:239)

Clearly, the linguistic scholar, like the physical or natural scientist, need not and arguably should not base his or her work on popular views of natural phenomena: however, in this case the popular view is based on very solid foundations, in that most of us spend a considerable proportion of our waking hours using language for the purpose of communicating with our fellow human beings.²

In answering his critics on this point, Chomsky (1980:229–230) attacks the claim that the 'essential purpose' of language is communication, by pointing to cases of language use (such as the language-mediated resolution of a problem, an informal conversation of a phatic kind intended only to maintain social contact, or talking to an unresponsive audience) which, he maintains, must be treated as non-communicative if the concept of communication is not to be reduced to the point of vacuity. For a functionalist, however, Chomsky's remarks miss the point that such uses of language are plausibly regarded as parasitic on 'normal' communication. As Dik puts it:

The primary aim of natural languages is the establishment of inter-human communication; other aims are either secondary or derived. (Dik 1986:21).

Foley & Van Valin make a similar point:

There may well be instances of verbal behavior which are non-communicative, but this in no way undermines the fundamental functionalist tenet that an understanding of language structure requires an understanding of the functions language can serve, communication being the primary one . . . (Foley & Van Valin 1984:9)

2. Van Valin (2000:319), in an introductory article on functional linguistics, makes the similar point that any informal survey of non-linguists regarding the primary function of language would indicate that by far the most usual answer would be that language is used for communication.

Furthermore, as Foley & Van Valin (1984:8) observe, the functionalist conception of communication is not confined to the narrow sense of conveying propositional information, but encompasses the whole range of speech events which take place in human societies, including the setting up and maintenance of social relations, so that an informal conversation engaged in mainly for the purposes of ‘phatic communion’ is indeed to be regarded as communicative.

In a similar vein, Nuyts (1992a, 1993a) argues that many of the examples of putatively non-communicative acts cited by Chomsky, including self-talk, are indeed communicative, in the sense that they share with clearly communicative acts the same kinds of basic factors as determinants for the way in which the speaker forms the linguistic acts. Nuyts presents a quite detailed review of the literature on what is meant by ‘function’ in relation to language, and argues that the main ‘role function’ of language is indeed communication, while the ‘organic functions’ common to all linguistic acts are as follows:³

- i. An informative function: language allows its user to make explicit the SoA⁴ relevant in the communicative situation.
- ii. An intentional function: language allows its user to pursue intentions with the relevant SoA.
- iii. A socializing function: language allows its user to conform to the rules and norms existing with respect to the interpersonal and social relationship with the interaction partner.
- iv. A contextualizing function: language allows its user to adapt to the specific characteristics of the setting in which the interaction occurs. (Nuyts 1992a:60)

Nuyts (1992a:62–64, 1993a:226–228) demonstrates that these factors are involved in ‘individualistic’ language use, such as talking to oneself, just as they are in language acts which are indisputably communicative: the act involves a SoA which is relevant to the situation; the speaker must have some reason for performing the act; the speakers’ relationships with themselves influence the way in which they perform acts of self-talk; and the way in which such talk occurs is clearly sensitive to setting, in that one would not, as Nuyts points out, do it in the same way in public as in private.

Furthermore, Nuyts (1992a:74–75) points out that even if communication is not the sole (or, we might add, even the main) function of language, this would still not invalidate the functionalist enterprise, since it is indisputable that communication is, at least, one of the functions of language, and so we still need to explain how language is organised in such a way as to allow this usage.

3. The term ‘organic function’ is due to Greenberg (1958), and refers to the activity of a unit – e.g. the function of the eyes is to see. This is opposed to ‘activity function’, which Nuyts recasts as ‘role function’, by which he means the function of a system in allowing some entity to perform some task.

4. SoA (State of Affairs): “an aspect of (the interpreted) reality” (Nuyts 1992a:51) which the speaker wishes to refer to in an utterance.

There are also problems with the opposition between language as a primary means of communication and language as a tool for thought. As Nuyts observes, the two are not in opposition or conflict:

Language certainly does support thinking, in individualistic language use [...] but also in real communication, to the same degree as communication in itself is an inalienable aspect of human thinking. There is no opposition whatsoever here.
(Nuyts 1992a: 64, 1993a: 228)

Dik (1997a: 5) also points out that if, with Chomsky, we assume that language is primarily a means for the individual expression of thought, the fact that there is much in common linguistically across individuals within the same speech community remains unexplained.

1.3 The object of study

If linguistics, under the functionalist view, is seriously concerned to explicate language as communication, then it must take as its object of study the whole complex of multi-levelled patterning which constitutes a language. Furthermore, it must relate that complex of patterns to their use in communicative activities.

The formalist view of a language is very different. For Chomsky, a language is “a set of structural descriptions of sentences, where a full structural description determines (in particular) the sound and meaning of a linguistic expression” (Chomsky 1977: 81). Note that this definition effectively reduces the concept of a language to that of a grammar: indeed, Chomsky (1980: 217ff.) has argued that the concept of a language is too vague and too much influenced by socio-political considerations to be of any use in a rigorous linguistics. Chomsky dismisses not only ‘a language’ but even ‘language’ itself as “an obscure and I believe ultimately unimportant notion” (Chomsky 1981: 7), noting that in the study of generative grammar “the focus of attention was shifted from ‘language’ to ‘grammar’”. As has been pointed out by a number of functionalists (see e.g. Foley & Van Valin (1984: 4) and Givón (1979: 31)) this shift has the extremely important effect of defining certain aspects of language as lying outside the proper concerns of the linguist. Under the Chomskyan view, linguistics is to be concerned only with syntax, morphology, phonology and those aspects of semantics which can be strictly tied to the structures of sentences. Indeed, Chomsky limits the object of study still further, to a ‘universal grammar’ (UG), which he describes as “the system of principles, conditions, and rules that are elements or properties of all human languages” and as “the essence of human language” (Chomsky 1976: 29). Under a view in which the communicative functions of language are regarded as paramount, this limitation in formalist approaches is clearly unacceptable.

Chomsky restricts the object of study for linguistics not only to grammar, but to the ideal native speaker’s knowledge of that grammar (grammatical competence) as opposed to the use which is made of this knowledge in actual communication (performance) (see Chomsky 1965: 4). In later work, Chomsky (1986: Chapter 2) replaces the competence/performance distinction by that between I-language (the speaker’s internal, mental

knowledge of the language system) and E-language (language as actually externalised in acts of communication). I-language is the true object of study for Chomsky; work which studies the actual use of language and relates it to the discourse environment, the social context, or other conditions of use is concerned with E-language, and so outside the scope of linguistic theory. The conceptualisation of the grammar in terms of knowledge is crucial to Chomskyan theory, and Chomsky makes it clear that he is not concerned with knowledge conceived as the practical ability of speakers to speak and understand their language(s), but as “a certain state of the mind/brain, a relatively stable element in transitory mental states once it is attained” (Chomsky 1986:12).

A functionalist approach, however, given the emphasis on language as communication, must be centrally concerned with the relationship between linguistic patterning and contexts of use, and cannot, therefore, accept the competence/performance or I-language/E-language distinctions as they stand. Some functionalists are willing to recognise that there is a distinction to be made between knowledge of rules and regularities, on the one hand, and the use to which this knowledge is put, on the other. But even for such linguists, the linguistic knowledge involved goes far beyond knowledge of the syntactic, semantic, morphological and phonological rules, to include knowledge of how these rules can be appropriately used in particular types of context. In other words, these functionalists are concerned with the specification of communicative competence, as defined by Hymes (1971/1972). As we shall see later, other functionalists, especially those who work within Systemic Functional Grammar, would go further still, to reject the distinction between knowledge and use, replacing it with the concept of a linguistic potential from which choices are made, in actual communicative events, in accordance with contextual factors.

1.4 Autonomy and functional explanation

At the heart of the debate between formalists and functionalists is the question of whether grammars are autonomous with respect to factors outside them, or rather are to be explained in terms of such external factors. As we shall see, the question as just posed is grossly over-simplified and conceals a number of component issues. In other words, the concepts of autonomy and functional explanation are themselves complex and need careful unpacking.

1.4.1 The complexity of the concept of autonomy

As Croft (1995:492ff.) has pointed out, the term ‘autonomy’ and its derivatives cause a great deal of confusion in the literature, since they are used in at least three different ways, which are not always clearly distinguished:

- *Autonomy of syntax*: this is the claim that syntactic phenomena are essentially independent of the conventional semantic, pragmatic and discursive functions of those phenomena.
- *Autonomy of grammar*: this is concerned with the claim that the grammar of a language, taken in the widest sense to include semantic, pragmatic and discursive patterns, is essentially independent of external functional factors concerned with the use of language as a communicative tool in social contexts.
- *Autonomy of the linguistic faculty*: this is the claim that linguistic capabilities constitute a 'module' which is essentially independent of other cognitive capabilities.

Croft (1995:491ff.) also draws a distinction between two aspects of autonomy which cut across the first two senses listed above, so giving scope for further confusion in the debate:

- *Arbitrariness*: in the case of the autonomy of syntax, arbitrariness would mean that syntactic elements or rules could not be derived from semantic and/or discursive properties, and still predict syntactic behaviour correctly; in the case of the autonomy of grammar, it would mean that the properties of the grammar (in the wide sense) could not be predicted from the communicative and social functions which that grammar serves.
- *Self-containedness*: with respect to the autonomy of syntax, this would mean that the syntactic system of a language would contain elements and rules which interact closely with each other, but not with semantic and/or discursive properties; with respect to the autonomy of grammar, it would mean that the grammar is largely self-contained with reference to communicative and social factors.

As Croft observes, self-containedness is the stronger of the two types of claim, in that it entails arbitrariness, while the reverse is not the case. Furthermore, various logically possible combinations of claims regarding autonomy are derivable from the above sets of distinctions. It would, for example, be possible to maintain that syntax is both arbitrary and self-contained, arbitrary but not self-contained, or neither arbitrary nor self-contained (Croft 1995:491).

1.4.2 Autonomy of syntax

Discussion concerning the autonomy of syntax is well illustrated by the debate between Newmeyer and a number of functionalists, in an issue of *Language and Communication* which is devoted to the formalism/functionalist debate. Newmeyer (1991a:22–24) cites the variety of functions which can be performed by Subject-auxiliary inversion in English. Newmeyer's contention is that "[t]he environments in which the auxiliary construction occur [*sic*] defy a uniform semantic characterization" (p. 23) and that this demonstrates that "there are profound structural generalizations in language that have no synchronic external motivation" (p. 22). Furthermore, Newmeyer seeks to forestall a possible reply by functionalists in terms of unity of some broader discourse function, by claiming that the use of the inversion construction "has a variety of discourse effects" (p. 23), in that it can

be used to signal a number of different speech act types. Furthermore, Newmeyer points out, the various kinds of speech act which can be realised through inversion can also be realised by a variety of other syntactic devices. He concludes:

... we may conclude from a study of the inverted auxiliary that the principles involved in characterizing constructions formally must be distinguished from those involved in determining the use of particular constructions in discourse. The inverted auxiliary construction is typical in that its properties point to the reality of function-independent structural systems at the heart of language. (Newmeyer 1991a: 24)

Claims such as these, however, are founded on the false assumption that functionalists believe in a direct, one-to-one correlation between form and semantics or discourse function. This is not so, and has never been so. Even a cursory glance at the functionalist literature will in fact show a recognition of the complex relationships between form and semantic, pragmatic and discursal factors. Newmeyer's purely syntactic analysis was in fact challenged by Lakoff (1991), whose reply sparked off further debate between the two positions.

More recently, Newmeyer (1998) has taken a line which at first sight appears to diminish the distance between formalists and functionalists in this area. He points out (p. 161) that generative linguists have often postulated close relationships between form and meaning, although they have not, in general, claimed a causal relationship from meaning to form. Newmeyer nevertheless maintains his position with regard to the autonomy of syntax, illustrating his argument with analogies from chess and from bodily parts (1998: 161ff.). The rules of chess, he points out, form a system which may be described in its own right, even though the shape of the system may well have been influenced by factors outside the system itself. Similarly, human organs such as the liver have a structure which can be described as a system quite independently of the external influences which impinge on that system. And so it is, he claims, with the syntactic systems of human languages. For him, the important point is "whether one's syntactic competence incorporates such external motivating factors" (1998: 161) – a question which he answers in the negative.

According to Newmeyer, then, syntax is, in Croft's terms, both arbitrary (in that syntactic rules cannot be reduced to semantic and/or discourse pragmatic factors) and self-contained (in that the syntactic system can be described quite independently of semantic and/or discourse pragmatic factors).

As far as functionalists are concerned, Croft distinguishes three types of position, and four types of functionalist model, corresponding to acceptance or rejection of arbitrariness and self-containedness:

- a. syntax is arbitrary and self-contained (AUTONOMIST FUNCTIONALISM)
- b. syntax is arbitrary, but not self-contained (MIXED FORMAL/FUNCTIONALISM and TYPOLOGICAL FUNCTIONALISM)
- c. syntax is not arbitrary or self-contained (EXTREME FUNCTIONALISM)
(Croft 1995: 491)

Those linguists whom Croft dubs ‘autonomist functionalists’ take essentially the same position with regard to the autonomy of syntax as the formalists:

... autonomist functionalists do argue for a conventional relation between syntactic structure and discourse function, [...] In other words, many constraints on the behavior and/or distribution of sentences need not be provided by the syntactic component. Nevertheless, the conventions governing the formation of the syntactic structures themselves are not provided by discourse (or conceptual structure, for that matter). (Croft 1995: 497)

Croft’s ‘mixed formal/functionalists’ are those whose descriptions of grammars mix purely formal and functional categories and features. Croft (1995: 503–504) claims that Head-Driven Phrase Structure Grammar, Construction Grammar and even Chomsky’s own more recent grammars are non-autonomous in this respect, so diminishing the difference between functionalism and formalism here. For instance, the theta criterion in the Principles and Parameters model, which constrains syntactic rules, makes reference to theta roles, which are themselves semantic in nature.

‘Typological functionalists’ also produce mixed descriptions, but these are constrained in the sense that they make a distinction between universal properties of grammars (usually involving implicational hierarchies) which are functional in nature, and language-specific features, which are arbitrary:

The basic strategy for constructing a typological FA [Functional Analysis – CSB] is to examine a correlation between syntax and semantics (or perhaps discourse function), seek a functional prototype that is found across languages, and construct implicational universals (particularly implicational hierarchies) holding between non-prototypical semantic types and the prototypical ones. The universal hierarchies and prototypes are the crosslinguistic manifestation of particular kinds of relationships among semantic and/or discourse elements in a speaker’s mind. These functional elements and relationships partake in the grammatical knowledge of an individual. Hence the grammatical system is mixed, but the mixture is of a specific type: it is made up of functionally defined universal elements and relations as well as arbitrary language-specific elements and relations. (Croft 1995: 505)

Finally, Croft’s ‘extreme functionalists’ reject both the arbitrariness and the self-containedness of syntax. In Croft’s view, no linguists hold this position today, as all agree that there is at least some arbitrariness in the syntax of every language.

1.4.3 Autonomy of grammar

Croft (1995: 491) is careful to point out that semantic and discourse-pragmatic properties fall within the overall semiotic system of language (i.e. within ‘the grammar’, in its wide interpretation), so that the autonomy of syntax debate we were concerned with above is essentially internal to that semiotic system. A second question, however, and one which has taken centre stage in the formalist/functionalist debate, is whether the semiotic system of a language (its ‘grammar’) is autonomous with respect to factors which are external to

that system. Again, as we have seen, the question of autonomy can be broken down into sub-questions of arbitrariness and self-containedness.

The standard formalist position is that the grammar is indeed autonomous (both arbitrary and self-contained) with respect to external factors. Chomsky (1976:56) makes it clear that he accepts that “there are significant connections between structure and function: this is not and has never been in doubt”. But while recognising the value of demonstrating correlations between structure and function, he rejects the possibility of explaining grammatical structure in functional terms:

Where it can be shown that structures serve a particular function, that is a valuable discovery. To account for or somehow explain the structure of UG [Universal Grammar – CSB], or of particular grammars, on the basis of functional considerations is a pretty hopeless prospect, I would think; ... (Chomsky 1976:58)

Newmeyer, likewise, readily recognises that external factors have shaped linguistic systems:

More often than most formalists have been willing to accept, external factors based in communicative efficacy helped to steer grammar in the course of language evolution. Functionalists, then, have been right in stressing the interest and importance of identifying the external factors that have led grammar to take its present shape and form. (Newmeyer 1991a:26)

He too, however, maintains the position that synchronically, linguistic systems are autonomous with respect to these external influences.⁵ As Croft (1995:511) observes, however, the scope of Chomsky’s Universal Grammar is limited: UG is not intended as a complete theory of grammar, let alone of language. The autonomy claim is therefore to be seen only in relation to this limited scope: the principles of UG are claimed to be unaffected by external influences, and once the values of parameters have been set, these too are unaffected. This debate will be taken up again later, when functionalist positions on the issue have been examined.

In terms of Croft’s sub-dimensions of arbitrariness and self-containedness, there are three logical positions which could be taken on the issue of the autonomy of the grammar, one of which is, he claims, not attested, in that no linguist would claim that the grammar can be wholly derived from external motivating factors:

- a. grammar is arbitrary and self-contained (CONTEMPORARY FORMALISM and EXTERNAL FUNCTIONALISM)
- b. grammar is arbitrary, but not self-contained (INTEGRATIVE FUNCTIONALISM)
- c. grammar is not arbitrary or self-contained (not attested). (Croft 1995:492)

‘External functionalism’ is the position in which UG or certain aspects of it may come under attack, but the autonomy of the linguistic system is not denied. ‘Integrative functionalists’, on the other hand, deny the self-containedness, and hence the autonomy, of the

5. Newmeyer (1998:104) has pointed out that innateness, which is so central to Chomsky’s theorising, can be regarded as an external explanatory factor. For further discussion see Newmeyer (1998, Chapter 2, §5), also §1.6 in the present chapter.

semiotic system of language: although they accept that this system is at least partially arbitrary, they consider that it is too intimately bound up with its external motivating factors for it to be possible to describe it insightfully without reference to those factors. The relationship between functional factors and linguistic features is not, however, by any means one-to-one, but displays considerable complexity:

... any non-simplistic view of the notion “functional explanation” will not be committed to the view that linguistic form is a direct reflection of extragrammatical principles.

A non-simplistic view of “functional explanation” will hold, rather, that the organization of a natural language is a solution to a complex problem, the “solution space” of which is circumscribed by a variety of interacting and counteracting functionally motivated principles. A natural language, then, can be seen as one of a set of possible solutions to a complex problem: the achievement of inter-human communication. (Dik 1986: 18)

... while in the main all biological design evolves under adaptive – functional – pressures, a simple isomorphism between structures and functions is not always transparent in complex, interactive biological systems. The existence of some measure of arbitrariness in the grammatical code is thus to be expected. (Givón 1995: 11)

[Functionalism] perfectly allows for the possibility that features of language are non-functional, or functionally inadequate [...] Such features should even be expected, for at least two reasons: First, because structures unavoidably have their own inherent properties and once created (for some purpose) start to live a life of their own. Second, because language is a functionally complex system (communication is a multifaceted activity) and the many interacting dimensions are not always mutually compatible in terms of the requirements they impose on structure. (Nuyts 2001a: 4)

In stressing the multiplicity and complexity of these external factors, functional linguists are taking very much the same line as those who study an ecosystem in biology:

One cannot understand the features of a biological or a cultural system without understanding the systems with which they interact, and their function in terms of the operation of the entire organism of which they are part. The interaction of grammar with semantic, cognitive, pragmatic, developmental, and perceptual systems is no different. (Thompson 1991: 94)

I shall return later to parallels between linguistics and biology, as they affect the formalism/functionalist debate.

1.5 The nature of functional explanations

The discussion so far has appealed to the notion of ‘functional explanations’, but with only rather general characterisation of what such explanations might involve. In view of the centrality of this concept to the functionalist enterprise, a rather more detailed anal-

ysis of it than I have attempted so far is needed. As a framework for the discussion which follows, I shall take two detailed treatments of functional explanation, one from the functionalist Dik (1986), the other from the formalist Newmeyer (1998), who deals with the various motivating factors he claims have been put forward by functionalists, as a prelude to his own arguments about which of these factors he finds convincing as possible explanations.

First, we must ask just what is meant by ‘explanation’ in the current context. Newmeyer distinguishes between two types of explanation, internal and external, as follows:

An internal explanation in linguistics is one in which a set of facts fall out as a consequence of the deductive structure of a particular theory of grammar. An external explanation is one in which a set of facts is derived as a consequence of principles outside the domain of grammar. (Newmeyer 1998:96)

Newmeyer then claims that all grammars postulate some grammar-internal generalisations – for instance the reason for the subjects of all passive verbs in English being in the nominative case is that all subjects, of whatever verb, are in the nominative. Because of their adherence to the autonomy principle, however, formalists would want to go much further than this

... to construct a formal model from which the syntactic properties of the language under consideration follow as an automatic consequence. (Newmeyer 1998:101)

Newmeyer also claims that functionalist accounts make use of internal explanation, and cites as an example the unidirectionality which is a key feature of functionalist accounts of grammaticalisation. That is, it is postulated that in the kind of historical change which is involved in grammaticalisation, lexical elements become grammaticalised, but grammatical elements never become lexicalised. This, Newmeyer observes, is a grammar-internal hypothesis. Nevertheless, it is Newmeyer’s view that

... it is a defining characteristic of functionalism in linguistics that any ‘real’ explanation of a grammatical regularity must be external to grammar itself. (Newmeyer 1998:102)

Newmeyer’s use of the term ‘grammar’ in the quotations above makes it difficult, at first, to decide whether he is talking about the grammar as widely conceived, or just about syntax. The confusion is cleared up, however, by his use of ‘syntax-internal’ as a synonym for ‘grammar-internal’ in his discussion. The last quotation, then, may be taken as claiming that all functionalists believe that any real explanation of syntactic phenomena must come from outside the syntax itself – in other words, that the syntax is not, in Croft’s terms, self-contained. Newmeyer thus excludes Croft’s ‘autonomist functionalists’ from his characterisation of functionalism. For the other groups in Croft’s classification, however, Newmeyer’s claim is for the most part accurate, though we shall see below that competing external factors can create situations in which languages may change from within, even if the external factors remain constant.

As we saw in the earlier discussion of Croft’s classification, many functionalists (Croft’s ‘integrative’ type) would wish to go beyond the claim that the syntax of a language is ex-

ternally motivated, to propose that the grammar in its wider sense is so intimately bound up with external motivating factors that it makes no sense to try to describe it without reference to those factors. Let us, then, turn to the nature of the external factors which have been proposed. I shall begin with Dik's account and then move to Newmeyer's critical evaluation of functionalist positions.

Dik divides "the functional prerequisites imposed on natural languages" into three broad categories:

- (i) the aims and purposes for which natural language expressions are used;
- (ii) the means by which natural languages are implemented;
- (iii) the circumstances in which natural languages are used. (Dik 1986:21)

As we have seen, one of the fundamental tenets of functional linguistics is that languages are primarily means of human communication. We might expect, then, that one of the factors which has shaped the forms which languages take is the need for the efficient transfer, from speaker/writer to hearer/reader, of information of various kinds. Note that we are not concerned here only with factual or representational information, but also with the whole range of types of information which have been variously described as 'social' (Lyons 1977: 50ff.), 'expressive' (Lyons 1977: 50ff.), and interpersonal (Halliday 1970a: 143, Lyons 1977: 50ff.). Indeed, from a functional point of view it is not surprising that the first systematic patterns found in child language acquisition are concerned with demanding objects, getting people to do things, interacting socially with carers, and the expression of personal reaction, rather than with the transmission of factual information, which emerges considerably later, at the age of 21–22½ months (Halliday 1975: 40): after all, the initial functional pressures on the child are the need for food, warmth, affection, and so on, rather than the need to transmit facts and ideas.

A second important source of functional pressure on languages is the means by which messages are conveyed: that is, primarily the vocal-auditory channel, with the written mode as secondary. As Dik (1986: 30ff.) has pointed out, many of the phonological characteristics of languages can be accounted for in terms of pressures deriving from the nature of the vocal tract and of the associated psychological processing mechanisms. Among those discussed by Dik are ease and economy of articulation, and properties related to the degree of perceptibility of sounds (e.g. the fact that in 3-vowel systems, the vowels usually occupy maximally distinct positions in the phonological space).

An example at the syntactic level would be the principle of end-weight, whereby complex, 'heavy' constituents tend to be placed late in the clause. Dik (1978a: 189–212, 1997a: 411–413, 1997b: 126–131, see also §3.2.3 of the present work) has generalised this principle into what he calls the Language-Independent Preferred Order of Constituents (LIPOC), which states that, other things being equal (which they frequently are not – see the discussion of competing motivations below), constituents will be ordered in terms of their complexity, from least to most complex. Dik links this principle to the functional pressure of psychological processing mechanisms:

The following hypothetical psychological principle would have explanatory power with respect to LIPOC:

It is easier to perceive, process, and store complex information when this information is presented in chunks of increasing internal complexity. (Dik 1978a:212)

A particularly important factor in aiding the processing of language, according to many functionalists, is the non-arbitrariness which I touched on earlier in my discussion of Croft's classification of functionalist approaches. Dik (1986:37ff.) distinguishes the principles of isomorphism and patterning, the latter being of two kinds, arbitrary and iconic. What Dik labels isomorphism is also referred to as biuniqueness, that is a one-to-one relationship between meaning and form. Dik points out that languages tolerate some deviation from this principle, and that there are mechanisms, well-documented in the literature on historical linguistics, by which deviations can be avoided or restored to relative conformity with the principle. The principle of iconicity postulates that in many linguistic phenomena some degree of similarity is found between the form and content of linguistic expressions (see, for example, Haiman 1980, 1983, 1985; Givón 1983, 1984a, 1984b, 1989, 2001a, 2001b). Following Haiman, Dik (1986:40–41) points out that iconicity is evident wherever, for example, reduplication of linguistic material indicates plurality, repetition or intensity, or where formal complexity reflects semantic complexity, constituent order mirrors temporal or psychological order, or the formal cohesion between items parallels their semantic cohesion. It has also shown by Givón (see the publications cited above) that the degree of explicitness of linguistic expressions is correlated with the degree of predictability or, conversely, unexpectedness, of the entity referred to.

Dik (1986:39–40) also points out that even where patterning is not plausibly seen as iconic, but is 'arbitrary' (see, however, the caveats on arbitrariness discussed earlier), it can still aid in language processing. For instance, what in Government and Binding Theory is termed the 'head parameter', i.e. the relative position of heads and their modifiers in syntactic constructions, is arguably non-iconic; nevertheless, the consistency in ordering across different types of head-modifier relation allows language users to interpret new instantiations correctly. Similarly, the dominant orderings of Subject, Verb and Object (e.g. SVO for English, VSO for Japanese, etc.) provide interpretation strategies for decoding.

So far, then, we have seen that Dik postulates communicative efficiency, together with physiological and psychological processing factors, as important influences on the forms which languages take. A third important source of functional pressure on languages is the socio-cultural context. Here, as Dik (1986:27–28) reminds us, we are concerned with all those aspects of languages which allow us to signal, and respond to, relationships between addressor and addressee – relationships which themselves are strongly culture-dependent. Why, for instance, in English-speaking cultures, might we ask a stranger for information using some formula such as *I wonder if you could possibly tell me ...*, and why would this be quite inappropriate (and so considered sarcastic or ironic) as a way of eliciting information from a close relative, for whom a plain *What ...?* question would be sufficient? The answer, as discussed in many treatments of linguistic politeness, is rooted in the concept of indirectness: an indirect speech act mirrors the distancing between speaker and hearer which the speaker wishes to signal,

and this very signal would clearly be inappropriate for a close relative, except if temporary distancing were intended. Note also that indirect speech acts tend to be longer than direct ones, so that length also comes to be associated with greater politeness, in the right contexts. In other words, iconicity is an important aspect of the signalling of politeness.

Finally, mention should be made of diachronic change in relation to functional explanations. Dik (1986:21–22) emphasises the effects of competing functional pressures on the development of languages, but as Givón (1979: Ch. 6, 1984a:41) reminds us, the relationship is two-way, in that language change is one of the main factors in the motivation of form-function relationships. An important functionalist concept in the area of diachronic linguistics is that of grammaticalisation, the process whereby some originally lexical items lose their lexical status over time, and become grammatical markers, under the pressure of functional constraints (see, for example, Haiman 1985; Hopper & Traugott 1993).

There is, of course, no guarantee that all of the various functional pressures reviewed above will lead in the same direction, and this, as we shall see in more detail below, has been seen as a problem by formalists wishing to argue against the functionalist perspective. The position widely espoused within the functionalist literature is that the state of a language at any particular time is the result of **competing motivations**. Three representative quotations are given below:

... it is rarely the case that a single surface convention serves one and only one communicative function. Rather, most aspects of the grammar are governed by several competing aspects of the communicative situation (cognitive structures, social goals, perception, and production constraints). (Bates & MacWhinney 1982: 187–188)

There is thus continuous competition between different functional prerequisites; the actual synchronic design of a language is a compromise solution, a precarious balance in efficacy with respect to different functional prerequisites. (Dik 1986:21–22)

Clearly, any simplistic concept of functionalism, which attempts to work in terms of a direct one-to-one mapping between function and form, is bound to fail. The general function of language is ‘communication’, but communication is a highly complex ‘process’, involving very many different dimensions at many levels of analysis [...]. Each of these dimensions imposes its own requirements on structure and use, and these requirements are not always mutually compatible, hence the linguistic system is constantly torn back and forth between them in a never ending dynamic process of adaptation. (Nuyts 2000: 126)

Dik (1986:22) points out a consequence of this ‘precarious balance’, namely that languages may veer internally between different compromise solutions, even if the external pressures remain constant; in other words, change can arise ‘from within’, though the ultimate explanations for the unstable situations which result in those changes are external.

It is worth noting that most of the functional pressures discussed briefly above are related to characteristics of human beings as a whole, and of language processing mechanisms (the notable exception is socio-cultural context, though even here, universals have been proposed). If these factors are indeed important in shaping the forms of lan-

guages, we might expect them to leave their imprint on all human languages, though the details would be expected to vary because of competition between motivations. It is not surprising, then, that functionalists have often attempted to validate their claims through the study of a wide range of language types, so that a typological dimension comes out strongly in many functional grammars. Van Valin (2000: 324) also points out that many major contributors to functional linguistics in the USA have worked on languages in which the grammatical coding of communicative function is clearer than it is in English.

Let us now turn to Newmeyer's (1998) critical account of the factors proposed by functionalists as explanations for why languages are as they are, which builds on his earlier discussions of this area (Newmeyer 1991a, 1991b, 1992, 1994).

Newmeyer devotes considerable attention to explanations based on language processing, and agrees with functionalists that these are plausible:

... the demands of real-time language processing may have 'left their mark' on grammars, in the sense that some grammatical features can be attributed to an accommodation of the grammar to the parser. (Newmeyer 1998: 106)

Newmeyer is particularly impressed by the Early Immediate Constituents (EIC) principle put forward by Hawkins:

The human parser prefers linear orders that maximize the IC-to-non-IC ratios of constituent recognition domains (CRD). (Hawkins 1994: 77)

where the constituent recognition domain for any given phrasal mother node is the set of nodes which must be parsed for recognition of this node and all its immediate constituents. As Newmeyer observes, Hawkins shows that this principle is able to make correct predictions in a number of areas concerned with linear ordering, such as the tendency in VO languages for 'heavy' constituents to occur towards the right of the VP, the predilection for extraposition of sentential Subjects in VO languages as contrasted with the preposing of sentential Objects in OV languages, the tendency of VO languages to be prepositional and OV languages postpositional, and the rarity of centre- and particularly self-embeddings in the world's languages.

Newmeyer also reviews functionalist claims concerned with iconicity, and observes that this term has often been used somewhat loosely by functionalists. He himself (1998: 115–118) concentrates on 'structure-concept iconicity', which, following an earlier paper (Newmeyer 1992), he subcategorises into the following types:

- **iconicity of distance:** the idea that the linguistic distance between two items reflects the corresponding conceptual distance (e.g. Haiman's (1983, 1985) claim that there will be no language in which the linguistic distance between two expressions X and Y will be greater in signalling inalienable possession than in signalling alienable possession);
- **iconicity of independence:** Haiman's (1983: 783) claim that there is a correlation between the linguistic separateness of an expression and the independence of the concept represented by that expression (e.g. nouns which are incorporated morphologi-

cally into other words have less possibility for independent reference, and for focus or stress, than non-incorporated nouns);

- **iconicity of order:** the tendency of morpheme or word ordering to reflect the logical relationships which their referents enter into;
- **iconicity of complexity:** the relationship between linguistic complexity and conceptual complexity, as seen, for example, in reduplication of elements to indicate plurality;
- **iconicity of categorisation:** the claim that concepts which are realised by the same grammatical category also tend to have cognitive similarities, as exemplified by the tendency of grammatical subjects to be agents, and objects to be patients.

Newmeyer (1998:130) considers that structure-concept iconicity is a plausible external explanation for what grammars look like, although he suggests (1998:129) that this factor may be reducible to processing effects, since one would expect that it is easier to process language if there is some degree of relationship between linguistic elements and the concepts they stand for. He points out (1998:157–161) that formalists have often posited highly iconic relationships between structure and meaning, and that although they have not seen these relationships in causal terms, the postulation of causality is very plausible.

Newmeyer also discusses briefly two factors, text frequency and economy, which he believes can be reduced to parsing constraints. With regard to text frequency, he argues that it is unlikely that language users can have a mental representation of the relative frequencies of all the grammatical constructions of a language. He also considers that there are more plausible explanations, essentially in terms of processing constraints, for phenomena for which frequency has been seen as responsible. Likewise, matters of economy are basically concerned with processing effects.

There is one type of functional explanation, however, which Newmeyer sees as at odds with empirical observations. This is the claim that the syntax of a language comes about largely as a response to “discourse pressure to optimize information flow” (1998:130). For example, Newmeyer cites two principles which have been put forward by functionalists, the Prague School concept of ‘communicative dynamism’ and Givón’s (1988) ‘communicative task urgency’ principle, which lead to conflicting predictions in terms of the distribution of ‘given’ and ‘new’ information, and both of which give predictions that conflict with those of Hawkins’ Early Immediate Constituents parsing principle. Hawkins demonstrates empirically that it is his principle that makes the correct predictions.

To summarise the necessarily rather brief presentation of Newmeyer’s view presented so far: Newmeyer is quite willing to accept that two factors external to the grammar, processing constraints and structure-concept iconicity (the latter possibly being ultimately assimilable to the former), are probably responsible, at least in part, for the shapes of the grammars of languages. Furthermore, (some of) the effects attributed by functionalists to text frequency and economy can also be linked to processing factors. Thus, although he parts company with (some) functionalists as far as the effects of information flow in discourse are concerned, Newmeyer is not basically in disagreement about the fundamental principle of functionalism, namely that grammars are the way they are, at least in part,

because of influences which are external to them. Why, then, does he still see functionalist programmes as problematic? The answer to this question lies in the concept of competing motivations which I examined briefly earlier.

In earlier work, Newmeyer seems quite content to accept the principle of competing motivations:

... one could plausibly maintain the position that individual instances of language change are determined in whole or in part by system-external functional factors, yet the net effect of the entire set of changes, as a result of their complex interaction with each other, is a synchronic system in which the relationship to these functional factors is largely opaque. (Newmeyer 1991a:5).

Furthermore, competing motivations are invoked as an explanation for why the formalist grammatical model, based on Universal Grammar, has the shape it does:

... the organization of the grammatical model itself and several central UG principles take the form that they do precisely because of 'competing motivations'. (Newmeyer 1991b:103)

In his more recent work, however, Newmeyer claims that the competition claim is fraught with difficulties. While space precludes a very detailed analysis, the importance of this area justifies a fairly full summary of his arguments.

For Newmeyer, the key question is whether it is possible to build external functional motivations into synchronic grammatical analysis. In other words, he wishes to

... examine the implicit assumption in much functionalist work that an optimal grammatical description specifies direct linkages between the formal properties of language and the external forces that are responsible for them. (Newmeyer 1998:140–141)

He then goes on to examine, as an example of such an assumption, Dik's (1989a:215) account of indirect object constructions, in which the order DO-IO reflects movement of what is given from giver to recipient, and so is iconic, while the opposite order is said to reflect the greater prominence which animacy confers on the recipient. Newmeyer assumes that the functionalist would propose a direct link from the motivating factors to the ordering of elements. He then points out (1998:141) that not all languages have this alternation in ordering (examples are given from Bini and Hausa, to contrast with English), and assumes that the functionalist explanation would be that in certain languages, one motivation wins out against the other. He goes on to comment:

It might very well be the case that over time prominence and iconicity have helped to shape the respective orders of direct and indirect objects of the three languages in their different ways. But from that fact it does not necessarily follow that in the synchronic grammars of the languages the same motivating factors are at work. (Newmeyer 1998:141)

Newmeyer points out that in some cases, the original functional motivation for a given grammatical pattern was lost some time in the past (an example from relativisation in

Swahili is given), and that in such cases, that motivation clearly cannot be invoked in relation to the synchronic grammar. Rather, it is the case that phenomena which might once have been motivated functionally have simply survived as conventionalised elements in the language. The only way out of this dilemma for functionalists, according to Newmeyer, would be to claim that convention is itself a functional motivation, and this would seriously weaken the functionalist position, since “convention by definition plays no role in shaping grammatical structure, only in preserving structure that itself was shaped by (presumably) functional factors” (1998: 142).

There are several points in this argument where a functionalist might want to object. Firstly, in terms of strict logical implication, Newmeyer is, of course, correct in saying that the operation of some functional force in the development of a language does not mean that it necessarily operates in some particular synchronic state of that language. Nevertheless, it is surely reasonable to accept, as a hypothesis (and therefore provisionally), that the functional factors which are claimed to be responsible for the appearance of particular word orders over time are also involved in the selection of one order rather than another, when that choice is available.

Secondly, as Croft has pointed out (see above), very few functionalists would want to claim that no aspects of grammar are conventionalised, or arbitrary. We do not have to postulate that convention is itself a functional motivation in order to explain this arbitrariness – the principle of competing motivations, as we have seen, provides the explanation, if it can be upheld. However, Newmeyer is in fact wrong to claim that convention plays no role in shaping grammatical structure. As Croft (1995: 522–523) has pointed out, there are two reasons for regarding the conventionalised, stable, arbitrary elements in a language system as functionally motivated. Firstly, the psychological routinisation of grammatical constructions can be attributed to factors concerned with the efficiency of communication. Secondly, agreed convention plays an important part in the creation and maintenance of social bonds signalled through language.

A major problem with Newmeyer’s account is the rigid distinction he assumes between the synchronic state of a grammar and the diachronic changes which have led up to that state. Like other formalists, Newmeyer implicitly assumes that the synchronic grammar which is the object of study can be isolated as a homogeneous system. But once again Croft (1995: 517ff.) reminds us that variationist sociolinguistics has demonstrated convincingly the intimate interplay of the synchronic with the diachronic: the work of Labov and others has shown that the forces for language change are present in the synchronic state of a language, in the form of linguistic variations within language communities, some of which give rise to the ‘standard’ features of future linguistic communities. Crucially, such systematic variability is present even within the language of individuals, and so must be a part of what the speaker implicitly knows about his or her language. Since the systematicity of the variants is linked to interaction in different social contexts, we see here the operation of external functional factors in the synchronic state of an individual’s grammar. To attempt to circumvent this ‘problem’ by positing multiple socially-determined individual grammars, or sociolects, would, as Croft (1995: 519) rightly says, create an even worse

problem, in that there would then be no principled explanation for the large parts which such sociolects have in common.

As well as rejecting competing motivations as adequate explanations for the synchronic state of a grammar, Newmeyer (1998: 145ff.) argues against competition as an attempt to explain how the typological features of the world's languages are distributed. His view is that

... *in principle* such an approach makes perfect sense. However, given the open-ended multiplicity of motivating factors that have been put forward in the literature and our inability to provide any independent measure of their relative weight, we have no hope of explaining typological generalizations by means of appeal to them. In brief, any conceivable state of affairs, existing or nonexisting, could be attributed to some reasonable functional force or combination of forces, thereby explaining nothing. (Newmeyer 1998: 145, emphasis in original)

Newmeyer's general point, illustrated by reference to particular analyses from the functionalist literature, is that if one proposes that one motivation is stronger than another, then one must give independent motivation for why this is the case. Newmeyer points out that Croft (1990: §7.4) accepts this argument, but attempts to provide an answer to the problem by postulating that when we have two conflicting motivations, we would expect to find languages in which one, but not the other, was fulfilled, but we would predict that there would be no language which showed patterns that fulfilled neither of the two motivations. Newmeyer (1998: 149ff.) presents two arguments against Croft's position. He explains the first as follows:

... we have no reason to believe that the accidental sample of languages in the world today stands in any close relationship to the class of *possible* human languages. The nonoccurrence of a particular feature in a sample, however large, may simply not be that conclusive with respect to the question of its possibility. (Newmeyer 1998: 149–150, emphasis in original)

In other words, showing that no known language has patterns which refute the predictions of competing motivations is no guarantee against the possibility that there might, in theory, be some possible human language which would indeed refute these predictions. Surely, however, this is simply the problem, common to any scientific endeavour which accepts the principle of the refutation of hypotheses, of finding evidence which falsifies a hypothesis. Furthermore, if Newmeyer's criticism were valid, it could also be levelled at formalist claims: how do we actually know that there could not be some possible human language which violates the principle of subjacency, for example?

Newmeyer's second argument against Croft is that there is no principled limit to the set of possible motivations:

No constraints have ever been proposed – nor is it even clear that such constraints exist – on what might conceivably act as an external motivation for grammatical structure. (Newmeyer 1998: 150)

Newmeyer goes on to claim that Croft has himself unwittingly illustrated this problem in one of his own analyses. Briefly, the situation is that Croft (1990:193), as an illustration of his claim that phenomena violating all of a set of motivations should not be attested, postulates economy and iconicity as competing factors in determining the relationship between the number of morphemes used to express a category, and the markedness of that category. Constructions which violate the predictions of both economy and iconicity should not be attested. As Newmeyer observes, Croft (1990:216) later gives an example where just such a violation is indeed attested, and postulates a third motivating factor to explain the exception. Newmeyer comments:

In other words, we have found another motivating factor to come to the rescue. Again, since the number of potential motivations is, as far as we know, open-ended, any attempt to explain the typological distribution of a feature on the basis of an appeal to them is extremely problematic. (Newmeyer 1998: 150)

To some extent, Newmeyer's basic point is well taken: an account in which we can always find some other explanation to rescue the situation would indeed be suspect – but only, surely, if that explanation is *ad hoc*. The third factor which Croft appeals to in his explanation is a well-attested phenomenon in the historical development of Slavic languages, and it does indeed provide a convincing and satisfying explanation for the exception at issue. Furthermore, this seems once again a case of the pot calling the kettle black: as sceptics have often dryly observed, the formalist grammars of the not too distant past were well known for their adoption of rescue tactics such as filters.

Newmeyer also claims:

The problem of weighting motivations is increased astronomically by the fact that there is no simple correspondence between experimentally ascertained preferences of language users and properties of grammars (and therefore, by extension, typology). (1998: 151)

If this claim is tantamount to saying that psycholinguistic evidence does not correctly predict the forms of grammars, and if it could be substantiated on a large scale, it would indeed be worrying. But what it actually appears to mean, from the two examples given, is that

... the parser 'competes' with factors that, given our present state of knowledge, are simply unquantifiable. (1998: 152)

The qualification 'given our present state of knowledge' is important here. No functionalist would claim that we have a complete list of the possible motivating factors – much research remains to be done. But to argue that a line of enquiry is not worth pursuing because of our present state of knowledge flies in the face of the spirit and practice of scientific endeavour – including, it might be said, the formulation of formalist theories of language.

Newmeyer (1998:153) anticipates, and tries to provide an answer to, a possible objection to his position, namely that appeals to competing motivations are common, and go unchallenged, in other domains of study. The example he cites is that we regard as established the link between smoking and lung cancer, despite the lack of a one-to-one

relationship between those who smoke and those who contract the disease. We could say, then, that smoking habits are in competition with other factors, such as genetic and environmental influences. Newmeyer's view is that this situation is very different from that of competing motivations in language: in the former case, we are relating one cause to one disease, but in the case of language the motivations and the postulated effects are both multiple. What Newmeyer fails to add is that there may be linguistic phenomena with just one straightforward motivation, and that the genesis of disease could be seen in terms of a complex set of factors influencing an equally complex set of pathological states.

Newmeyer's overall conclusion (1998: 153) is that we can indeed identify certain plausible external motivations for typological features (in particular, parsing and structure-concept iconicity), but that it is hopeless to try to explain the typological distribution of some particular grammatical feature in terms of competing motivations. I hope to have shown, in the above discussion, that although a great deal of research into competing motivations is still needed, Newmeyer's views are unduly pessimistic, not only in relation to functionalism but also for the formalist approaches which he himself supports.

We have seen, then, that Newmeyer accepts some kinds of external motivation for grammars, although he considers competing motivations to be a serious problem. He is well aware that functionalists will ask how he can reconcile the acceptance of external shaping factors with his adherence to the claim of autonomous syntax. He illustrates this (1998: 161–162) by means of two analogies which are familiar from previous discussions in the literature: chess and bodily organs. The argument runs as follows. Although it is quite possible that the rules of chess were motivated functionally, a statement of the rules themselves does not make reference to such functional factors, but is a self-contained system, by means of which all legal moves in the game can be generated. Similarly, although external factors (e.g. a bout of drinking) can certainly affect the state of the liver, the liver has not thereby stopped being a self-contained system. What the argument boils down to is this: the syntax of a language is a system in its own right, and in order to specify this system itself we do not need to (and, Newmeyer would claim, we should not) incorporate explanations of why it is the way it is.

This, then, is the nub of the disagreement between formalists and functionalists. As we saw earlier, all present-day functionalists except those who espouse 'autonomist functionalism' (and who, in Newmeyer's terms, are not really functionalists at all), would reject the autonomous specification of syntax as a worthwhile exercise, even if it were possible. A conception of language in which its communicative functions are paramount can have no place for such an autonomous description – put simply, it would be of no use merely to specify the system, without saying why that system is as it is. And many, of course, would reject the very possibility of formulating a purely syntactic system, since they believe they have shown formal patterns to be so intimately bound up with meaning, and with other factors regarded by the formalists as external to the system, that any attempt to describe formal patterns in their own right, while still maintaining the overall goal of accounting for language as a communicative semiotic system, is doomed to failure.

This debate is recast in a particularly interesting light in a paper by Nettle (1999), who compares functionalist approaches in linguistics with those in biology, where it is generally

accepted that Darwinian concepts of evolution, based on the concept of functional adaptation, form the unifying explanatory basis of the discipline. Nettle attributes the problems of functionalism in linguistics⁶ to a set of methodological and empirical shortcomings, which have provoked hostility in the formalist camp. Each of these problems, Nettle argues, has a parallel in biology, and each can be resolved in linguistics by measures similar to those already taken in biology.

The starting point for Nettle's arguments (1999: 46–50) is the parallel between biological and linguistic evolution. Just like biological evolution, linguistic evolution is based on replication (the maintenance and transmission of languages by their speakers), variation (in performance), and selection (the adoption of some variants, but not others, into the grammar). Furthermore, we may posit, as a working hypothesis, a Linguistic Adaptiveness Hypothesis which is parallel to the Biological Adaptiveness Hypothesis which must be true for Darwinian evolution to occur:

Linguistic Adaptiveness Hypothesis: The probability of adoption of linguistic forms into a grammar is related to their communicational or cognitive utility.
(Nettle 1999: 449)

Nettle then goes on to address four types of objection to functional explanation in linguistics, each of which has a parallel in the history of evolutionary biology.

Firstly, formalists have pointed out that many examples of functionalist explanation are circular: “the change is presumed to be adaptive because it occurred, and presumed to have occurred because it is adaptive” (Nettle 1999: 451). This is paralleled by a mode of explanation which was attested in the history of biology, to the effect that “[e]volution is explained as the survival of the fittest structures, but the fittest structures are identified by the fact that they survive” (1999: 451). As Nettle observes, this circularity can be avoided only if there is some independent way of showing that a change is adaptive, in relation to some well-defined goal. In biology, this has been achieved by means of optimality modelling in terms of mathematical functions which, for example, predict quite successfully the effects of the availability, nutritional value and handling time of various foods on the preferences of animals for those foods, on the assumption that these will adapt to maximum efficiency. Nettle points out that similar models can be constructed in certain areas of linguistics,⁷ and must be based on empirical data from experimental psycholinguistics, speech production and perception, and the like, and applied to the study of a large and

6. Nettle (1999: 446–447) restricts his comments to functionalist approaches which “seek to explain the structure of languages – their sounds, words and grammatical conventions – using the assumption that they are adapted to their usage in representing and communicating messages”, and then goes on to claim that linguists such as Zipf, Martinet, Mandelbrot, Givón and Haiman fall under this category, but that Halliday and Dik represent a rather different kind of functionalism, which attempts “to classify grammatical forms according to the communicative functions which they serve *within* the total system of language”. As we shall see in Chapter 2, Nettle's defining criterion actually applies just as well to Halliday and Dik as to the other linguists he mentions.

7. Optimality Theory, as developed by Smolensky, Prince and others (see e.g. Archangeli & Langendoen 1997, Kager 1999), takes as its basis the idea that the forms attested in languages reflect the resolution of

representative range of languages. Nettle cites work by Lindblom (Lindblom 1986, Lindblom & Maddieson 1988), on the prediction of vowel and consonant systems, as a good example of the kind of study which is needed.

A second problem discussed by Nettle (1999:452–454) is the distorting effect of social selection on the working of the Linguistic Adaptiveness Hypothesis. The biological parallel here is with sexual selection, which can lead to the preservation of features, such as the peacock's tail, with little apparent usefulness apart from their role in sexual attraction. As Nettle points out, however, sexual mechanisms do not replace natural selection, but rather interact with it, the relative importance of the two being a matter for empirical investigation. Similarly, the drive to adapt one's language to the norms of social groups one wishes to identify with interacts with, but does not replace, the basic mechanism which is hypothesised to favour communicational efficiency.

The third problem identified by Nettle (1999:454–455) is the argument that if the Linguistic Adaptiveness Hypothesis were true, we would expect that all languages would converge on a particular optimal set of characteristics. But it is recognised in biology that evolution leads to a variety of solutions: it is not, for example, expected that all mammals should evolve the same body shape.

The fourth difficulty used in attacks on functionalism (1999:455–457) is empirical inadequacy. For instance, Mandarin Chinese has undergone massive phonological reduction, resulting in a large number of homophones, which could be seen as communicationally inefficient. Nettle's reply to this criticism is that the decoding pressures which presumably led to the simplifications outweighed the disadvantages of increased homophony, but that the communicational difficulties caused by this homophony were reflected in further changes, replacing some homonyms by different, compound items.

Throughout these various arguments, there runs the thread of competing motivations, and Nettle is well aware that this explanation can easily be made vacuous. As he remarks, competing pressures have often led to apparent arbitrariness, in evolutionary biology as well as in linguistics, but this should not be taken to invalidate the principle of competing motivations. The only way to avoid vacuity is through detailed and rigorous empirical work:

This must not be used to make functionalism unfalsifiable: we need to have precise, principled models of how different motivations interact, and under what circumstances each is likely to be important. (Nettle 1999:456)

Despite his more optimistic stance on competing motivations, Nettle's final position is not dissimilar to Newmeyer's, in that he believes functional and formal approaches are not, in principle, incompatible. He cites the work of the great behavioural biologist Niko

conflicts between competing constraints. Although it has been developed furthest in the area of phonology, it has also been applied to syntax and to language acquisition. Although the theory has so far aligned itself largely with formalist approaches, there would appear to be no reason in principle why it should not be applied to functionalist accounts. I am indebted to Lachlan Mackenzie for this suggestion.

Tinbergen, who posited four types of question which one could ask about any kind of behaviour:

1. Functional: What is the purpose of the behaviour, and how is the behaviour adapted to that purpose?
2. Mechanistic: What are the (physiological, neural, cognitive) structures involved in the behaviour?
3. Ontogenetic: What factors influence the development of the behaviour, and how does the developmental process work?
4. Phylogenetic: What is the ancestral history of the behaviour? (adapted from Tinbergen 1963, cited in Nettle 1999:458)

These four questions were seen by Tinbergen as logically independent, and so, argues Nettle, they can be in linguistics. In other words, functionalists can safely continue to try to answer the first question above, while formalists attempt to answer the second (and to some extent the third, in terms of the logical problem of language acquisition).

This final argument, however, runs up against an important problem, in that it assumes that we have some theory-neutral description of the behaviour under study. As we saw in §1.3, formal and functional linguists do not even agree substantially on what it is that is to be described. Furthermore, different modes of description, involving different theory-internal categories, are appropriate for different ways of construing language. It thus seems somewhat naive to suggest that formalists and functionalists can simply produce differently angled analyses with respect to the same object of description.

Where, then, does this leave us on the question of external functional motivation for linguistic phenomena? The crucial problem is certainly that of justifying arguments involving competing motivation, and I have no doubt that the formulation and testing of predictive models, as advocated by Nettle, is the most convincing way forward. It is surely, however, no accident that most of the studies he cites are related to the phonetic/phonological end of the linguistic hierarchy, where predictions can be made on the basis of reliably measurable physical phenomena such as acoustic spectra. It may be considerably more difficult to formulate such models for higher levels of linguistic description, although Hawkins' (1994) work on the prediction of constituent order on the basis of parsing constraints offers hope that this may be too pessimistic a forecast in relation to syntax. It remains to be seen whether the methodology of predictive models of competing motivation can be made to work for the even higher levels of semantics and discourse pragmatics, with which truly functional theories are very much concerned (see §1.7.1).

As for the inherent compatibility of formal and functional theories celebrated by Newmeyer and Nettle, I remain somewhat sceptical, given the wide divergence between the objects and methods of study. The object of study for the true functionalist must be language as put to communicative use – that is, (at least) **communicative** competence – while that for the formalist remains, essentially, the grammatical competence of the ideal native speaker, isolated from considerations of use. The methodological correlate of this difference is concerned with the primary source of data for investigation: logically, if func-

tionalists are committed to the study of language as used in communicative events, they should take, as one of their main sources of information about the language system, authentic language produced in known situations, though we shall see that in practice functional approaches differ considerably in this respect; formalists, on the other hand, still tend to eschew the study of real texts, regarding such 'performance' data as a degraded, indirect reflection of the underlying competence which is the true object of study.

1.6 Innateness and language acquisition

The principles of functional explanation outlined above are also relevant to the acquisition and development of language in children, as we shall see below. Since so much discussion in the area of acquisition has centred around the Chomskyan model in recent years, I shall sketch that model before presenting the bare bones of functionalist challenges to it.⁸

The problem of language acquisition is of crucial importance to the Chomskyan programme: given that the object of investigation in Chomskyan linguistics is the native speaker's grammatical competence, Chomsky is above all concerned with how that competence comes to be present in the minds/brains of individuals. The solution proposed rests on what is known as the 'poverty of the stimulus' argument: young children, it is claimed, quickly acquire constructions which they could not possibly have learned by generalisation from the language which surrounds them in their everyday lives, since insufficient evidence is available in the linguistic input for such generalisation to be plausible. If, then, such constructions cannot be learned from actual linguistic evidence, the basis for them must already be available to the child in the form of innate principles which, taken together, constitute a genetically pre-programmed language acquisition device. Since, as is well known, a normal child can learn any language, given a suitable environment, these principles cannot be tied to specific languages, but must constitute a 'universal grammar' (UG), common to all human languages.

UG consists of a number of principles, together with a finite number of parameters, each of which can take a small range of values. The principles specify the conditions which all languages must meet, and include, for example, the structure dependency principle, the principles of X-bar syntax, the subadjacency principle, and so on. The parameters specify those respects in which languages are free to vary, but within tight limits. For instance, languages can be divided into those, such as English, French and German, which require a Subject nominal and those, such as Spanish and Italian, which do not (the so-called 'pro-drop' parameter); some languages, such as English, consistently have heads before their complements, while others, such as Japanese, have heads following their complements. For any given language, the combination of the universal principles and the parameters with their specific values constitutes the core grammar of that language, other aspects of

8. A somewhat more detailed account of functionalist positions on acquisition will be given in Chapter 5 of Part 2.

the grammar being regarded as peripheral.⁹ As pointed out by Radford, the development of Chomsky's thinking in the 1990s, leading to the Minimalist Program,

... is motivated to a large extent by the desire to minimize the acquisition burden placed on the child, and thereby maximize the learnability of natural language grammars. (Radford 1997:6–7)

It is interesting that Newmeyer (1998:104) is of the view that to appeal to innateness is itself to provide an external explanation for linguistic phenomena. Furthermore, work by functionalists has suggested explanations for some of the phenomena of language acquisition which do not involve the postulation of innate capacities specific to language, but which do rely heavily on the innateness of more general cognitive capacities. Many functionalists, however, remain open to the possibility that there may be some innate capacities which are specific to language. Apart from the question of degree, the main difference between formalists and functionalists in this respect is that for the formalist the postulation of innateness arises from a logical argument predicated on the correctness of the 'poverty of the stimulus' premise, whereas for the functionalist innateness, like other constructs within linguistics, is a matter for empirical investigation. Lakoff summarises this position clearly:

It is an open empirical question for us just what is and is not innate. In general, we assume a great deal of innate conceptual structure and processing capacities, and we take these as forming the basis for linguistic universals. (Lakoff 1991:55)

A further consequence of the Chomskyan view of language acquisition as a logical problem is the assumption that we may validly treat the transition between the initial state of the new-born child, and the final steady state of the adult's competence, as instantaneous. The argument here, as presented in Chomsky (1976:121–122), is that if there are fundamentally different stages in language acquisition, and the nature of learning at a given stage depends on what has already been learned, then we would expect that different individuals, exposed to different learning experiences, would achieve different steady-state outcomes. As this seems not to be the case, the initial idealisation, though obviously false, is claimed not to affect the validity of the theory.

Functionalists, unsurprisingly, have challenged the formalist 'instantaneous acquisition' view. As Mühlhäusler observes:

To argue about development and origins from the end point would seem problematic. As observed by C.-J. Bailey in numerous places, whilst development can explain end points, the reverse is usually not the case. (Mühlhäusler 1991:77)

As Van Valin (1991a:9) has pointed out, almost all the work on acquisition within functionalist frameworks has adopted a constructionist position, under which the child actually constructs the grammar of his or her language, rather than the adaptationist position

9. A useful summary and discussion of the theory of UG, including principles and parameters, can be found in Cook & Newson (1996).

adopted by formalists, which maintains that the child adapts the principles of Universal Grammar to accommodate the data from the language to which s/he is exposed, the only real learning involved being that concerned with the acquisition of the vocabulary.

1.7 Some further issues

The functionalist commitment to an approach which prioritises language as communication might be expected to carry with it certain further commitments, which have perhaps been implicit in our discussion so far, but which deserve to be made explicit, not least because discussions of the nature of functionalism are usually firmly centred around the formalist/functionalist debate, and in particular the issues of autonomy and external motivation.

1.7.1 The centrality of semantics/pragmatics

What is communicated by human language is not fundamentally sounds or marks on paper, nor even lexical items in syntactic constructions, but meanings. Linguists have, to varying extents and with a considerable measure of disagreement, regarded such meanings as belonging to the realms of semantics ('what words and sentences mean') and pragmatics ('what speakers/writers mean in using sentences and other linguistic forms'). It might be expected, then, that a functional approach to language would place semantics/pragmatics at the very heart of the model, thus differing radically from formal approaches, which consider syntax as central.

1.7.2 The importance of the cognitive dimension

If we are to construct linguistic theories around the basic tenet that language is primarily a means of communication, our theories must reflect the intimate relationship between language and cognition. For instance, we might expect a functional theory to have something to say about the relationship between cognitive principles of categorisation and the organisation of the lexicon, and also about the constraints on languages imposed by factors concerned with the storage and retrieval of linguistic items and structures in the production and comprehension of language.

One important aspect of the relationship between language and cognition arises from the fact that in order to be effective in communication, a language must be flexible and capable of creative extension. I am not referring here solely to the concept of creativity which is so crucial to Chomskyan theory (i.e. the native language user's ability to produce and understand sequences s/he has never come across before, by virtue of his or her grammatical competence), important as this is. The creativity permitted by language is much wider and more pervasive than this, including, for example, that made possible by the non-discreteness of word meanings.

It might be expected, then, that functionalist accounts of language would reject the classical, Aristotelian concept of classification, under which entities can be classified in terms of sets of necessary and sufficient features, in favour of some version of the approach to non-discreteness which, prompted by Wittgenstein's (1978) philosophical observations on 'family resemblance' models of meaning, have been developed, largely by psychologists, into what is now generally known as 'prototype theory'.¹⁰

1.7.3 The importance of discourse and its relationship with context

When we communicate, we do not, in general, use isolated sentences. Rather, communication takes place through multi-propositional discourse, organised into the structures we now recognise as characterising conversations, lectures, committee meetings, formal and informal letters, and the like. These categories recognise the important relationship between (both written and spoken) texts and the contexts in which they are created and understood. It might therefore be expected that an approach which committed its adherents to an essentially communicative view of language would also entail a commitment to the study of discourse and of the relationships between texts and their contexts of production and interpretation.

1.8 Diversity within functionalism: some interim conclusions

We have already seen that there is considerable diversity of viewpoints within functionalism.¹¹ This diversity emerged clearly from Johanna Nichols' review of the functional approaches which could be recognised in the early 1980s (Nichols 1984), in which she distinguishes conservative, moderate and extreme types, on the basis of the extent to which form is claimed to be motivated by function:

The conservative type merely acknowledges the inadequacy of strict formalism or structuralism, without proposing a new analysis of structure. [...] The moderate type not only points out the inadequacy of a formalist or structuralist analysis, but goes on to propose a functionalist analysis of structure and hence to replace or change inherited formal or structural accounts of structure. [...] Extreme functionalism denies, in one way or another, the reality of structure *qua* structure. It may claim that rules are based entirely on function and hence there are no purely syntactic constraints; that structure is only coded function; or the like. (Nichols 1984: 102–103)

10. For a good overview see Taylor (1995), and for more detail Rosch (1978), Geeraerts (1989) and other papers in Volume 27 of *Linguistics*, the papers in Tsohatzidis (1990), Seiler (1993).

11. Van Valin (2000: 335–336) even goes so far as to say that many of the ideas and methodologies subsumed under the heading of 'functional linguistics' "are more distant from each other than they are from many formalist ideas".

A rather different classification from Nichols' is offered by Bates & MacWhinney:

We can discern at least four levels of functionalism, ranging from a relatively conservative historical view to some radical proposals about the nature of adult grammatical knowledge. Each level requires qualitatively different kinds of evidence, although the stronger levels presuppose the more conservative ones both logically and empirically. The four respective positions involve (1) claims about diachronic or historical correlations between form and function, (2) synchronic or ongoing correlations between form and function in real-time processing, (3) use of these form-function correlations in the acquisition of language by children, and finally (4) a functionalist approach to the grammar or system of representation that mediates the relationship between form and function. (Bates & MacWhinney 1982: 178)

We might expect that Nichols' 'conservative functionalists', though perhaps accepting the lower levels of this hierarchy, would not align themselves with full-blown, level 4 functionalism.

Finally, we have the much more detailed typology of functionalist approaches worked out by Croft (1995), on the basis of the distinctions between the autonomy of syntax and the autonomy of grammar, and between arbitrariness and self-containedness, which was discussed in §1.4.

From the discussion in this chapter, and drawing freely on the various classifications of functionalism which have been outlined, we can propose the following properties of functional approaches to language, some of which are present in varying degrees, or in some cases not at all, in particular approaches:

- an emphasis on language as a means of human communication in social and psychological contexts;
- rejection, wholly or in part, of the claim that the language system (the 'grammar') is arbitrary and self-contained, in favour of functional explanation in terms of cognitive, socio-cultural, physiological and diachronic factors;
- rejection, wholly or in part, of the claim that syntax is a self-contained system, in favour of an approach where semantic and pragmatic patterning is regarded as central, with syntax, if recognised as a structural system at all, regarded as one means for the expression of meanings, which is at least partially motivated by those meanings;
- recognition of the importance of non-discreteness in linguistic classification and, more generally, of the importance of the cognitive dimension;
- a concern for the analysis of texts and their contexts of use;
- a strong interest in typological matters;
- the adoption of a constructionist rather than an adaptationist view of language acquisition.

Of these seven characteristics, the first three would seem to be absolutely central to the functionalist endeavour, the others being derivable from them, in varying degrees, as demonstrated by the discussion in this chapter. I would therefore agree with Newmeyer that Croft's 'autonomist functionalists' are not functionalists in the sense intended here.

Beyond these central characteristics, functional approaches differ quite widely, especially in the extent to which they accord importance to cognitive matters, the textual dimension, and language typology.

Even within the central characteristics, however, there are shades of difference, as is implied by the qualification ‘wholly or in part’. Crucially, from the point of view of the present book, there are differences in the extent to which functionalists accept that grammar is a system in the structuralist sense. The essential difference between ‘moderate’ and ‘extreme’ functionalists, in Nichols’ classification, lies in the fact that the latter not only claim that grammatical phenomena and categories emerge from the requirements of discourse, but also go on to reject the concept of grammar as a structural system. Moderate functionalists, on the other hand, while sharing with the ‘extreme functionalists’ the view that grammar is shaped by use, accept that in synchronic terms the grammar of a language is indeed a system, which must be described and correlated with function in discourse. This is the position which has been characterised by Van Valin as ‘structural-functionalist’, in his introduction to *Role and Reference Grammar*:

Language is a system, and grammar is a system in the traditional structuralist sense; what distinguishes the RRG conception from the standard formalist one is the conviction that grammatical structure can only be understood and explained with reference to its semantic and communicative functions. Syntax is not autonomous. In terms of the abstract paradigmatic and syntagmatic relations that define a structural system, RRG is concerned not only with relations of cooccurrence and combination in strictly formal terms but also with semantic and pragmatic cooccurrence and combinatory relations. Hence RRG may be accurately characterized as a structural-functionalist theory, rather than purely formalist or purely functionalist. (Van Valin 1993b: 2)

If we read Van Valin’s ‘purely formalist’ and ‘purely functionalist’ as referring to the two ends of a spectrum reflecting the rather complex set of factors discussed in this chapter, then it is in the sense explained above that the term ‘structural-functionalist’ (or its close relative ‘structural-functional’) is used in the present book.¹²

Even where grammar as system is indeed accepted, it does not necessarily follow that the system is modelled as ‘a grammar’, in the sense of an interlocking set of rules and principles whose import and relationships are made absolutely explicit and which is capable, at least in principle, of assigning structures and interpretations to linguistic expressions.

12. It should be noted that the sense of ‘structuralist’ intended by Van Valin, and taken over in the present book, is not that which Noonan (1999) rejects in his introduction to the principles of West Coast Functionalism. Noonan (1999: 14–17) asserts that the acceptance of “a pure, internally consistent kind of structuralism” entails the acceptance of self-containedness and arbitrariness, as well as systematicity, as defined according to Croft (1995), and also that such a position is independent of any commitment to functionalism. As we have seen, the only group who accept both self-containedness and arbitrariness of syntax, as well as claiming a functionalist orientation, are Croft’s ‘autonomist functionalists’, and the only group who would accept both self-containedness and arbitrariness of the linguistic system are his ‘external functionalists’. The group Van Valin is characterising as ‘structural-functionalist’ is of neither of these types, as will be demonstrated further in Chapter 2.

We can therefore distinguish, within structural-functional **approaches** to language, a set of structural-functional **grammars**.

We see, then, that even Croft's quite fine-grained classification is somewhat oversimplified, and understandably so, since it was developed specifically in relation to the issue of autonomy. In the next chapter, the similarities and differences outlined above will be explored in more detail through an examination of specific approaches, with a view to isolating a central core of **structural-functional grammars** for detailed consideration in the rest of this book and in Part 2.

CHAPTER 2

Functionalism, structural functionalism and structural-functional grammars

An examination of six approaches to language

2.1 Introduction

In Chapter 1, I arrived at a list of seven functionalist characteristics, which are restated for convenience below:

- an emphasis on language as a means of human communication in social and psychological contexts;
- rejection of the claim that the language system (the ‘grammar’) is arbitrary and self-contained, in favour of functional explanation in terms of cognitive, socio-cultural, physiological and diachronic factors;
- rejection of the claim that syntax is a self-contained system, in favour of an approach where semantic and pragmatic patterning is regarded as central, with syntax regarded as one means for the expression of meanings, which is at least partially motivated by those meanings;
- recognition of the importance of non-discreteness in linguistic classification and, more generally, of the importance of the cognitive dimension;
- a concern for the analysis of texts and their contexts of use;
- a strong interest in typological matters;
- the adoption of a constructionist rather than an adaptationist view of language acquisition.

We also saw that these could be present to varying degrees, and some of them not at all, in various approaches which consider themselves as functionalist. Of particular relevance to the present work is the fact that functionalist accounts differ in the extent to which they regard grammar as a structural system, and that even those functional linguists who do accept this may not formulate explicit sets of interlocking rules and principles which, in principle, allow us to assign structures and interpretations to linguistic expressions.

In the present chapter, I shall examine, in the light of these points, six approaches which identify themselves as functionalist and/or share at least some of the seven charac-

teristics listed above. I must emphasise that I am not claiming that these are the only approaches which could have been examined: rather, I have chosen them in order to illustrate the range of approaches which subscribe to at least some of the characteristics discussed in Chapter 1, and in order to facilitate the demarcation of the class of structural-functional grammars. The approaches to be discussed are:

- ‘generative functionalism’, as espoused by, for example, Prince and Kuno;
- Functional Grammar, as initially proposed by Dik;
- Role and Reference Grammar, developed mainly by Van Valin and his colleagues;
- Systemic Functional Grammar, associated principally with the name of Halliday;
- the rather loose collection of approaches sometimes called West Coast Functionalism, which was developed initially by scholars who were (and in some cases still are) located on the West Coast of the USA, but could now be taken to include the work of various other scholars;
- Cognitive Grammar, in the form developed primarily by Langacker.

Many of the topics introduced here will be taken up again at various points in the book, and there is therefore no attempt at a thorough treatment here. Certainly, I shall not try here to assess the extent to which particular approaches succeed in adhering to the principles enunciated by their proponents. Rather, the aim is to present, often in the words of the principal exponents of the six approaches, a thumbnail sketch of underlying principles in relation to our list of functionalist characteristics, which will not only give the reader an introduction to each, but will also allow us to distinguish functional approaches from those which, while sharing some characteristics with them, are not best characterised in these terms, and will also permit us to place the functional approaches on a scale ranging from ‘most like formalist grammars’ to ‘radically functional’. Importantly, the discussion will allow us to narrow the focus of interest still further by distinguishing a small set of **structural-functional grammars** which will form the basis for discussion in the rest of the book.

2.2 ‘Generative functionalism’

Ellen Prince, in her commentary on Newmeyer’s (1991a) discussion of functionalism, complains that because Newmeyer characterises functionalists in terms of their rejection of autonomous grammar

... there are a number of linguists who simply do not exist, following Newmeyer’s taxonomy. These are a rather diverse group of linguists, all of whom are functionalists in that they study, among other things perhaps, the discourse or processing functions of syntactic forms, but who reject neither a generative account nor the autonomy hypothesis. (Prince 1991:79)

Among such linguists, whom she labels ‘generative functionalists’, Prince includes herself and also Kuno, whose position is clearly illustrated by the following statement:

Functional syntax is, in principle, independent of various current models of grammar such as (standard, extended standard, and revised extended standard) theories of generative grammar, relational grammar, case grammar, tagmemics, and so on. Each theory of grammar must have a place or places where various functional constraints on the well-formedness of sentences or sequences of sentences can be stated, and each theory of grammar can benefit from utilizing a functional perspective in analysis of concrete syntactic phenomena. Therefore, in theory, there is no conflict between functional syntax and, say, the revised extended standard theory of generative grammar. (Kuno 1980: 117–118)

Prince (1991:80) appears to see generative functionalists as differing from other generative linguists primarily in matters of methodology, particularly in relation to the data for linguistic study. While subscribing wholeheartedly to the Chomskyan view that what linguistics must explain is the native speaker's "mass of tacit intuitions", as reflected in his or her competence, Prince rejects the implication that intuitions, rather than attested utterances, are the primary data of linguistics. As she observes:

... the fallacy in this leap is that no one has ever presented even a hint of evidence that any part of the human's linguistic competence is the ability to evaluate sentences produced artificially, out of context. Clearly, such an ability is part of our *metalinguistic* competence, not our linguistic competence ... (Prince 1991:80, emphasis in original)

The 'generative functionalist' position can be summarised as follows:

- the 'autonomous grammar' tenet of the formalists is accepted; this is thus a 'conservative' approach in Nichols' terms;
- statements about linguistic competence should take account of the discourse contexts in which sentences are used, as revealed in actual performance;
- Prince, at least, is willing to accept that much of the autonomous syntax component of competence is 'wired in' (Prince 1991:80).

We see, then, that Prince and Kuno basically subscribe to the formalist agenda: they accept the autonomy principle, and there is no indication that a central aim of 'generative functionalism' is to give an explanatory account of language as communication (though some of Prince's work, in particular, does deal with pragmatic aspects of language – see, for example, her work on information structuring (e.g. Prince 1978, 1981)). As Hopper observes in relation to Prince's 1978 study of clefting:

Studies of this kind, far from questioning the principles of formal linguistics, may be said to reinforce them by foregrounding the idea of autonomous grammar, and then calibrating selected aspects of this grammar against presumed discourse functions. (Hopper 1992:364)

Likewise, Van Valin says of such accounts:

They do not challenge the fundamental assumptions of formal theories, and therefore they represent an extension of them rather than an alternative to them. (Van Valin 2000:330)

For Croft (1995:496–497), Prince and Kuno represent what he calls ‘autonomist functionalism’ (see §1.4.2). Work of this kind is, however, clearly very peripheral in terms of the characteristics I have put forward as central to the core of functionalist studies, namely an overriding concern with language as communication, and the rejection of the autonomy hypothesis. In a sense, then, Newmeyer is right to exclude ‘generative functionalism’ from functionalism proper.

2.3 Dik’s Functional Grammar

Functional Grammar (FG) was originally proposed in Dik (1978a), and has been revised and amplified as a result of work by numerous scholars since then. The most recent overview is available in the two volumes of Dik’s *The Theory of Functional Grammar*, henceforth *TFG1* (Dik 1997a, which is a revised edition of Dik 1989a) and *TFG2* (Dik 1997b).¹ Very brief summaries of the theory are available in Dik (1994, 1996); short accounts of key elements can also be found in the reviews of *TFG* by Verstraete (2000) and Martín Arista (forthcoming), who deal with both volumes, and Yang (2000), who concentrates on *TFG2*. A valuable critical discussion of FG can be found in Siewierska (1991). A brief history of FG is available in Anstey (forthcoming).²

2.3.1 Language as communication

FG explicitly claims to be concerned with language as communicative, social interaction:

The primary aim of natural languages is the establishment of inter-human communication; other aims are either secondary or derived. (Dik 1986:21)

In the functional paradigm, [...] a language is in the first place conceptualized as an instrument of social interaction among human beings, used with the intention of establishing communicative relationships. Within this paradigm one attempts to reveal the instrumentality of language with respect to what people do and achieve with it in social interaction. (Dik 1997a:3)

In other words, as Dik (1997a:5) makes clear, the ultimate aim of FG is to account for the communicative competence of the natural language user.

2.3.2 Rejection of the autonomy of the grammar, in favour of functional explanation

We have already seen, in §1.5, that Dik (1986) has provided a detailed discussion of the kinds of functional pressure which shape the forms of languages, and that he endorses

1. Earlier versions of much of the discussion in this section can be found in Butler (1990, 1991a, 1999a).

2. At the time of writing this book, information on FG can also be found on the FG web site at <http://www.functionalgrammar.com>, which has links to other sites, including a discussion list.

the idea that these differing functional motivations may, at any one time and in particular areas of the grammar, be in competition, so giving rise to apparent arbitrariness, or ‘autonomy’.

FG does, however, accept that the grammar of a language is a system in the structuralist sense. Discussing linguistic expressions, Dik states:

These expressions themselves are again structured entities, i.e. they are governed by rules and principles which determine their build-up. (Dik 1997a: 3)

These rules and principles must be explained, wherever possible, in functional terms:

... a theory of language should not be content to display the rules and principles underlying the construction of linguistic expressions for their own sake, but should try, wherever this is possible at all, to explain these rules and principles in terms of their functionality with respect to the ways in which these expressions are used. (Dik 1997a: 4)

2.3.3 The centrality of semantics and pragmatics, and the motivation of syntax

Dik’s approach is also typically functionalist in giving priority to semantics and pragmatics rather than to syntax, and indeed casts doubt on the possibility of making a clear division between syntax and semantics:³

Semantics is regarded as instrumental with respect to pragmatics, and syntax as instrumental with respect to semantics. In this view there is no room for something like an “autonomous” syntax. On the contrary, to the extent that a clear division can be made between syntax and semantics at all, syntax is there for people to be able to form complex expressions for conveying complex meanings, and such meanings are there for people to be able to communicate in subtle and differentiated ways. (Dik 1997a: 8)

Indeed, as will be discussed later, FG has no clear separate level of syntactic patterning: rather, syntax, together with morphology and intonation, is one of the types of device through which meanings are expressed, via the ‘expression rules’ of the grammar.

The above quotation suggests that pragmatics should occupy a central place within the overall account of language envisaged by Dik, and indeed one of the standards of explanatory adequacy which Dik (1997a: 13) sets up for his theory is that of **pragmatic adequacy**.

2.3.4 The cognitive dimension

Dik also makes a commitment to **psychological adequacy**, so building a cognitive dimension into the theory:

3. Note that here Dik appears to be using the term ‘autonomous’ to mean ‘separate, as levels of description’.

... such a grammar must also aim at *psychological adequacy*, in the sense that it must relate as closely as possible to psychological models of linguistic competence and linguistic behaviour. (Dik 1997a: 13)

Nuyts (e.g. 1992a, 2001a) has developed a variant of FG which he calls Functional Procedural Grammar, and which takes the cognitive dimension particularly seriously. Recent work in the Functional Lexematic Model, which combines ideas from Dik's FG and from Coseriu's lexematics, also has a strong commitment to cognitive matters (see e.g. Faber & Mairal Usón 1999). Recently there have been a number of attempts to make aspects of the model more sensitive to processing considerations (see e.g. Mackenzie 2000; Hengeveld forthcoming a, forthcoming b; Bakker 1994, 1999, 2001; Bakker & Siewierska 2002, forthcoming).

2.3.5 Text and its relationship with context

FG was for many years developed almost entirely as a sentence grammar. Dik does, however, comment as follows on the desirability of a textual dimension to FG:⁴

... the highest aim of a functional grammar of a particular language is to give a complete and adequate account of the grammatical organization of connected discourse in that language. (Dik 1997a: 12)

This statement is amplified as follows in *TFG2*:

... the theory of FG, if it is to live up to its self-imposed standards of adequacy, should in the long run account for the functional grammar of discourse. In other words, it should show how clauses can be combined into coherent stretches of talk, conversation, or written text. At the same time, it is evident that this is a very high aim for a theory of grammar to strive for, and that we have only the bare outlines of what a theory of discourse should look like. (Dik 1997b: 409)

A programmatic sketch of Dik's own discourse model is given in Chapter 18 of *TFG2*. We shall see that in the last few years considerable effort has been expended in the development of submodels of discourse in FG.

2.3.6 Typological considerations

FG is explicitly committed to standards of **typological adequacy**. Dik states of FG

... that it should be *typologically adequate*, i.e., that it should be capable of providing grammars for languages of any type, while at the same time accounting in a systematic way for the similarities and differences between these languages. (Dik 1997a: 14)

4. Dik, in common with many other writers, does not distinguish clearly between *text* and *discourse*. I shall not pursue this distinction in the present chapter; it is, however, discussed in Chapter 4 of Part 2.

This orientation is amply reflected in the work of Dik and other FG linguists. For example, the discussion in Dik's *TFG* is illustrated by reference to more than 80 languages, and one only has to consult a bibliography of FG⁵ to appreciate the wide range of languages which have been studied. Furthermore, FG linguists have provided methods for the construction of typologically balanced samples of languages (see Rijkhoff & Bakker 1998).

2.3.7 Language acquisition

Dik makes a commitment, in principle, to a functionally-based account of language acquisition:

From a functional point of view, [...] it is certainly much more attractive to study the acquisition of language as it develops in communicative interaction between the maturing child and its environment, and to attribute to genetic factors only those underlying principles which cannot be explained as acquired in this interaction. (Dik 1997a:7)

There has, however, been only a limited amount of work on acquisition within FG.

2.3.8 Summary

Summarising the above, we may say that FG:

- regards as central the fact that language is used primarily for communication in social and psychological contexts;
- is trying to account for the communicative competence of the natural language user;
- rejects the arbitrariness and self-containedness of the linguistic system, and proposes that the forms of grammars are the result of competing functional motivations – FG can thus be seen as an integrative functionalist theory, in Croft's terms, although in practice the emphasis on the linguistic system itself means that the degree of integration attempted is less than in, for example, SFG and West Coast Functionalism;
- considers semantics and pragmatics as central to the approach, but recognises syntax as one means for the realisation of meaning – FG is thus a structural-functional approach (or a 'moderate' functional approach in Nichols' terms), and is classified by Croft (1995:502) as a mixed formal/functionalist approach;
- makes a commitment to psychological adequacy, which is being realised in recent work by building in relationships between language and human categorisation, and also a sensitivity to processing factors;
- has only recently paid considerable attention to discourse-related matters, though these loom large in current work;
- is very much concerned with matters of typological adequacy;

5. See, for example, de Groot & Olbertz (1999). An updated version with searching facilities is available at <http://www.functionalgrammar.com>.

- takes a basically constructionist stance on language acquisition, though rather little empirical work on this area within FG has been published.

2.4 Role and Reference Grammar

Role and Reference Grammar (RRG) was first proposed by Foley & Van Valin (see Van Valin & Foley 1980; Foley & Van Valin 1984) and has since been developed largely by Van Valin and his colleagues. The most recent authoritative accounts of the theory are Van Valin (1993b) and Van Valin & LaPolla (1997).⁶ A new introduction to RRG is also due to appear (Van Valin, forthcoming).

2.4.1 Language as communication

RRG is firmly committed to the study of language as communication:

The theme underlying the various functional approaches is the belief that language must be studied in relation to its role in human communication. Language is thus viewed as a system of human communication, rather than as an infinite set of structural descriptions of sentences. (Foley & Van Valin 1984:7)

What RRG is attempting to characterise, then, is not just syntactic competence, but communicative competence:

... because speaking is a form of social behavior and the different activities in which speaking plays a role are governed by sociocultural norms and conventions, a speaker's knowledge of language also includes knowledge of these social constraints. Hence what the functionalist seeks to characterize is what Hymes [...] calls a speaker's *communicative competence*, a notion which subsumes Chomsky's concept of grammatical competence and which explicitly involves both linguistic and social knowledge. (Foley & Van Valin 1984: 11)

2.4.2 Rejection of the autonomy of the grammar, in favour of functional explanation

RRG is committed to the functional explanation of linguistic phenomena, as is indicated by the italicised portion of the following quotation:

... functional explanations for morphosyntactic phenomena relate not only to such things as markedness relations among linguistic forms but also to pragmatic principles, and discourse and sociolinguistic universals, *which themselves must be related to necessary properties of communication systems in general and human perceptual mechanisms and social interaction in particular.* (Foley & Van Valin 1984: 13; emphasis added)

6. At the time of writing, information on RRG can also be found on the RRG web site at <http://linguistics.buffalo.edu/research/rrg.html>, which also has links to other sites, including a discussion list.

However, it is probably fair to say that the emphasis in RRG has been on the exploration of language systems themselves, though from the perspective of their use in communication:

Languages are *systems*, not random collections of grammatical constructions. When we explore them from the perspective of how they achieve a certain communicative end, we see their systematic nature most clearly.
(Foley & Van Valin 1984: 374: emphasis in original)

2.4.3 The centrality of semantics and pragmatics, and the motivation of syntax

RRG rejects the autonomy of syntax claim of the formalists, in favour of the idea that function motivates form, but accepts that the syntax of a language constitutes a system:

... one of the basic principles of functional linguistics is that clause-internal morpho-syntax can only be understood with reference to the semantic and pragmatic functions of its constituent units, and consequently the major task is to describe the complex interaction of form and function in language. (Foley & Van Valin 1984: 14)

Language is a system, and grammar is a system in the traditional structuralist sense; what distinguishes the RRG conception from the standard formalist one is the conviction that grammatical structure can only be understood and explained with reference to its semantic and communicative functions. Syntax is not autonomous. In terms of the abstract paradigmatic and syntagmatic relations that define a structural system, RRG is concerned not only with relations of cooccurrence and combination in strictly formal terms but also with semantic and pragmatic cooccurrence and combinatory relations. Hence RRG may be accurately characterized as a structural-functionalist theory, rather than purely formalist or purely functionalist. (Van Valin 1993b: 2)

Van Valin also makes it clear that syntax is only relatively, rather than completely, motivated:

Syntax is not radically arbitrary, in this view, but rather is *relatively motivated* by semantic, pragmatic and cognitive concerns. It is not completely motivated: syntax cannot be reduced to any one or a combination of these notions. There is a significant degree of arbitrariness in linguistic structure which cannot be denied, ...
(Van Valin 1991a: 9, emphasis in original)

Unlike FG, RRG has an explicitly syntactic component of clause structure, which is nevertheless still semantically motivated. This will be discussed further in Chapter 4.

2.4.4 The cognitive dimension

Van Valin & LaPolla (1997: 11) see RRG as adopting a “communication-and-cognition perspective” on language, and (1997: 15) commit themselves to a number of goals, including the explanation of “how speakers produce and understand language in real time” (1997: 4). There is, however, little indication of such explanations in the RRG literature so

far. However, as we shall see in §2.4.7, RRG does take a particular view of the cognitive processes involved in language acquisition.

2.4.5 Text and its relationship with context

RRG pays a great deal of attention to information structuring in the clause, and also to types of clause linkage, topic chains, switch reference, and the like.⁷ Indeed the goal of Foley & Van Valin's 1984 book was that of "uncovering some important aspects of the interaction between syntax and certain discourse processes" (1984: 1). Proponents of RRG have not, however, constructed a general sub-theory of discourse structure. Furthermore, work on text-context relations is not a priority: indeed, Van Valin & LaPolla (1997: 15) exclude explanation of "how speakers use language in different social situations" (1997: 3) as a primary goal of RRG. Nevertheless, Van Valin & Foley (1980: 333) state that one of the goals of RRG is "the development of a framework for grammatical analysis that will yield results directly relevant to sociolinguists and anthropological linguists who study language in the sociocultural world". The manner in which this is stated, however, is significant, and reminiscent of Dik's claims about FG: RRG is intended to provide descriptions which will be relevant to the work of socially-oriented linguists, rather than taking that work into account in the formulation of its own proposals.

2.4.6 Typological considerations

RRG places very great emphasis indeed on the typological adequacy of the grammar:

... the theory is greatly concerned with typological issues. In particular, it seeks to uncover those facets of clause structure which are found in all human languages
(Van Valin 1993b:4)

Indeed, Van Valin states that RRG arose out of an attempt to answer the question

... what would linguistic theory look like if it were based on the analysis of Lakhota, Tagalog and Dyirbal rather than on the analysis of English?
(Van Valin 1995:461, 1996:281)

This orientation is reflected in the wide range of language types which have been studied within RRG.

2.4.7 Language acquisition

RRG adopts a constructionist approach to language acquisition:

The RRG approach to language acquisition [...] rejects the position that grammar is radically arbitrary and hence unlearnable, and maintains that it is relatively motivated

7. These areas will be discussed in Part 2.

(in Saussure's sense) semantically and pragmatically. Accordingly, there is sufficient information available to the child in the speech to which it is exposed to enable it to construct a grammar, and therefore the kinds of autonomous linguistic structures posited by Chomsky are unnecessary. (Van Valin 1993b:2)

Van Valin and others have in fact presented detailed arguments for the learnability of various aspects of the grammar, as postulated in RRG (see e.g. Van Valin 1991a, 1994, 1998).⁸

2.4.8 Summary

The positions taken by RRG may be summarised as follows:

- it considers as central the fact that language is used primarily for communication in social and psychological contexts;
- it rejects the autonomy of the linguistic system, in favour of (partial) motivation by communicative factors – it is thus an integrative functional theory, in Croft's terms, though as in FG, the degree of integration attempted is less than in SFG and West Coast Functionalism;
- like FG, it rejects the autonomy of syntax, and is a 'moderate' functional grammar, claiming that function, form and the motivated relationships between the two, need to be accounted for – in other words, RRG is a 'structuralist-functionalist' approach, or, in Croft's terms, a mixed formal/functionalist theory (Croft 1995:502);
- it is attempting to characterise communicative competence;
- it places semantics and pragmatics at the heart of the model, but also has a (semantically-motivated) syntactic component;
- it gives considerable attention to matters such as information structure in the clause, clause connection and reference tracking in discourse, but so far lacks a wider theory of discourse structure;
- RRG makes a commitment to cognitively-oriented explanation, though this is not strongly reflected in work to date;
- RRG places a great deal of emphasis on typological adequacy;
- it takes a constructionist approach to language acquisition.

2.5 Systemic Functional Grammar

Halliday's work has its roots in the work of Firth, whose categories of system and structure, and characterisation of meaning as function in context, were particularly influential in Halliday's development of his teacher's ideas, as was also the work of Malinowski, the Prague School and Hjelmslev. Initially, Halliday's reshaping of these ideas gave rise to Scale and Category Grammar (see Halliday 1961). In the 1960s and 70s, this model developed

8. These and other approaches to language acquisition will be discussed in Chapter 5 of Part 2.

into what became known as Systemic Grammar, and later as Systemic Functional Grammar. The main developments came about through the progressive semanticisation of the grammar, through the introduction of new ways of looking at function in language, and through Halliday's suggestion that the fundamental aspects of linguistic patterning were paradigmatic (i.e. 'systemic', in Firth's sense of the term), being formalised as networks of closed 'systems' of options offered by the language under description. These characteristics of SFG will be discussed in more detail in later chapters. For detailed discussion of the historical development of SFG and a critical appraisal of the theory up to about 1984, see Butler (1985), and for overviews Butler (1989, 1995). For Halliday's own exposition of the theoretical aspects of SFG, see especially Halliday (1978, 1994a, also Halliday & Matthiessen 1999), and for a structural description of English Halliday (1985a, 1994b). Matthiessen (1995) provides a comprehensive paradigmatic (i.e. system-based) description of English, with brief comments on some other languages. Downing & Locke (1992 [2002]) offer a detailed SFG-based grammar intended for advanced students of English. Eggins (1994), Thompson (1996) and Morley (2000) are other recent introductions to various aspects of SFG, and Lock (1996) offers an SFG-based introduction to English grammar for second language teachers.⁹

2.5.1 Language as communication

Halliday makes it very clear that his theory is intended to give an account of linguistic communication:

... we want to understand *language in use*. Why? Partly in order to approach this question of how it is that ordinary everyday language transmits the essential patterns of the culture: systems of knowledge, value systems, the social structure and much else besides. (Halliday 1978:52, emphasis in original)

How do people decode the highly condensed utterances of everyday speech, and how do they use the social system for doing so? (Halliday 1978:108)

It is noteworthy that Halliday's focus here is on the social and cultural functions of communication: indeed, we shall see that this is a major characteristic of Halliday's approach, and is much more fully developed in SFG than in the other functional approaches considered here.

2.5.2 The rejection of the autonomy of the grammar, in favour of functional explanation

Halliday, in common with the other functionalists I have considered so far, believes that the form of language is explicable in terms of function:

9. At the time of writing, information on SFG is also available from <http://www.wagsoft.com/Systemics>, which has links to a number of other sites dedicated to this theory, including discussion lists.

The particular form taken by the grammatical system of language is closely related to the social and personal needs that language is required to serve. (Halliday 1970a: 142)

Language has evolved to satisfy human needs; and the way it is organized is functional with respect to these needs – it is not arbitrary. A functional grammar is essentially a ‘natural’ grammar, in the sense that everything in it can be explained, ultimately, by reference to how language is used. (Halliday 1994b: xiii)

... both the general kinds of grammatical pattern that have evolved in language, and the specific manifestations of each kind, bear a natural relation to the meanings they have evolved to express. (Halliday 1994b: xviii)

There are two particular points to note here. Firstly, as might be expected from the discussion in the previous section, the functional factors to which appeal is made are social and personal, rather than psychological or physiological. Secondly, Halliday takes a very strong stand on functional motivation in claiming that everything in the grammar can be explained in terms of use.

2.5.3 The centrality of semantics and pragmatics, and the motivation of syntax

There can be no doubt that meaning is absolutely central to Halliday’s conception of language, and so to SFG. Phenomena which most linguists would label as semantic or pragmatic are at the heart of this approach. The semantic basis of the grammar is made clear in Halliday’s own writings:

A systemic grammar is one of the class of **functional** grammars, which means (among other things) that it is semantically motivated, or “natural”. In contradistinction to **formal** grammars, which are autonomous, and therefore semantically arbitrary, in a systemic grammar every category (and “category” is used here in the general sense of an organizing theoretical concept, not in the narrower sense of ‘class’ as in formal grammars) is based on meaning: it has a semantic, as well as a formal, lexicogrammatical reactance. (Halliday & Matthiessen 1999: 3–4, emphasis in original)

... there is no clear line between semantics and grammar, and a functional grammar is one that is pushed in the direction of the semantics. (Halliday 1994b: xix)

We are dealing, then, with a grammar (or rather a lexicogrammar, since we shall see that in Halliday’s theory grammar and lexis cooperate in the realisation of meaning and are seen as forming a continuum rather than as sharply separated) which is highly semanticised. It is clear that Halliday does consider the (lexico)grammar to be an abstract system in the structuralist sense: for instance, he refers to grammar and semantics (to the extent that they can be separated) as “purely abstract systems of coding” (Halliday 1994b: xix). When he asserts that SFG “is not a ‘structural’ grammar (still less a ‘structuralist’ grammar in the American sense)” (Halliday 1994b: xxvii), what he is rejecting is grammars which are “syntagmatic, having structure as their main organizing concept, and bringing in special devices to relate one structure to another” (1994b: xxvii). As was

mentioned earlier, and as will be demonstrated in more detail in Chapter 5, SFG is a paradigmatically-based grammar.

2.5.4 The cognitive dimension

We saw earlier that Halliday's approach to language is centrally concerned with language as a social phenomenon. This orientation has been paralleled, at least until recently, by a relative lack of interest in the psychological or cognitive dimension. In replying to a question from Herman Parret about Chomsky's claim that linguistics is a branch of cognitive psychology, Halliday made the following observations:

I am not really interested in the boundaries between disciplines, but if you pressed me for one specific answer, I would have to say that for me linguistics is a branch of sociology. Language is a part of the social system, and there is no need to interpose a psychological level of interpretation. I am not saying this is not a relevant perspective, but it is not a necessary one for the exploration of language. (Halliday 1978: 38–39)

Recently, Halliday has given greater attention to the issue of the relationship between SFG and cognition. A recent major publication by Halliday & Matthiessen (1999) has the subtitle 'A language-based approach to cognition', and this is indicative both of Halliday's recognition of the need, in the current linguistic climate, to take account of cognitive aspects of language, and of his own approach, which is to turn the more usual position on its head:

Instead of explaining language by reference to cognitive processes, we explain cognition by reference to linguistic processes. (Halliday & Matthiessen 1999:x)

Under this view, cognition is "just a way of talking about language" (Halliday & Matthiessen 1999:x).

Finally, we may note that SFG fully recognises the inherent indeterminacy of language:

Indeterminacy is bound to arise in language because the grammar is constantly juggling with conflicting categorizations, accommodating them so as to construe a multidimensional meaning space, highly elastic and receptive to new meanings. (Halliday 1997:9)

... we take indeterminacy for granted, as a normal and necessary feature of an evolved and functioning semiotic system. Rather than being something that needs to be especially remarked on, it is something that should be built in to our ways of representing and interpreting language: part of the background, rather than the foreground, to our account of the construal of experience. (Halliday & Matthiessen 1999:547)

There is something very close to a reference to prototypes in the following passage from a discussion of types of 'process' (actions, mental processes, etc.) in English:

Like most linguistic categories, these are distinct enough at the centre but shade into one another at the edges. They do however show certain fairly clear distinguishing features. (Halliday in Kress 1976: 161)

2.5.5 Text and its relationship with context

Of the functional approaches to language, SFG is without doubt one of the most text-oriented. This orientation has its antecedents in Malinowski's (1923, 1935) work on texts in their cultural environment, and in Firth's insistence on the 'renewal of connection' between theoretical constructs and textual data (see Firth 1957). It is no coincidence that the work which would be regarded by most systemicists as the standard reference text on SFG, *An Introduction to Functional Grammar* (Halliday 1985a, 1994b) was written with application to text description specifically in mind. Halliday characterises the theoretical approach which underpins the book as follows:

In general, [...] the approach leans towards the applied rather than the pure, the rhetorical rather than the logical, the actual rather than the ideal, the functional rather than the formal, the text rather than the sentence. The emphasis is on text analysis as a mode of action, a theory of language as a means of getting things done.

(Halliday 1994b:xxvii)

However, Halliday warns against the rejection of grammar in the fashionable pursuit of text analysis:

The current preoccupation is with discourse analysis, or 'text linguistics'; and it is sometimes assumed that this can be carried on without grammar – or even that it is somehow an alternative to grammar. But this is an illusion. A discourse analysis that is not based on grammar is not an analysis at all, but simply a running commentary on a text ... (Halliday 1994b:xvi)

SFG is also very much concerned with the relationships between texts and the contexts in which they are produced and received. It is the only functional approach which has, as an integral component, a model of context (in terms of values of the variables field, tenor and mode) and a set of specific hypotheses regarding the relationships between kinds of meaning and features of context.¹⁰

2.5.6 Typological considerations

Typological concerns have not played a major part in the development of SFG. For many years, almost all of the central figures in SFG worked on English, though it should be remembered that Halliday's initial work (1956, 1959) was on Chinese. Three of the most authoritative accounts of SFG (Halliday 1994b; Matthiessen 1995; Martin 1992a) are based very largely on English, though with occasional comments about other languages. The most recent extended work from the Sydney grammarians (Halliday & Matthiessen 1999) devotes one chapter to Chinese, with occasional mention of various other languages. As we shall see at various points in the present book, these facts have had important effects on the form of 'mainstream' systemic linguistics, despite the fact that Halliday himself has warned of the need for care to be taken in this area:

10. SFG proposals in this area will be discussed in Chapter 4 of Part 2.

Modern linguistics, with its universalist ideology, has been distressingly ethnocentric, making all other languages look like imperfect copies of English.
(Halliday 1994b:xxx)

There has been more work on languages other than English in recent years, though we shall see that the stance taken on typological matters is very different from that of FG or RRG.

2.5.7 Language acquisition

The title of Halliday's (1975) book, *Learning How to Mean*, succinctly captures the essence of the SFG approach: language acquisition is seen, not in terms of the development of structure in its own right, but as the expansion of the range of meanings which the child can express (by means of structure, but also lexis and intonation), and whose growth is conditioned by the functional pressures on communication at different stages of the child's maturation.

2.5.8 Summary

The main underlying characteristics of SFG, in relation to the features of functional approaches I have proposed, may be summarised as follows:

- it is centrally concerned with language as communication;
- it rejects the autonomy of the linguistic system, and takes the strong view that everything in the grammar is functionally motivated; as in FG and RRG, function, form and the relationships between them all need to be accounted for, making this a structural-functional approach, but one which would be classified as clearly integrative within Croft's typology;
- Halliday rejects even the concept of communicative competence, because he does not wish to oppose knowledge of language to the use of language, but prefers to think in terms of a language potential, from which choices are constantly made in relation to the contexts in which language is used;
- meaning is central to SFG, which does not, however, make sharp distinctions between syntax, semantics and pragmatics, preferring to work with the concept of a semantically-oriented 'lexicogrammar';
- SFG is a text-oriented grammar, and builds in a model of context and of the relationships between text and context;
- indeterminacy in language is regarded as expected, rather than unusual, and many phenomena are seen as probabilistic in nature;
- cognition is interpreted in terms of language, rather than *vice versa*;
- there has been little explicit concern for typological adequacy in SFG, although an increasing number of languages are being studied, and suggestions have been made about what a typological research programme might look like;
- SFG adopts a thoroughly constructionist approach to language acquisition.

2.6 West Coast Functionalism

As was pointed out earlier, WCF is not a single theory, but a collection of work by various linguists, with some common features. It is therefore rather harder to pin down any essential, defining properties in the case of WCF, and indeed I suspect that some of the scholars whose work might be considered under this label would prefer not to be 'labelled' at all. Unsurprisingly, there is no single reference work which can be cited as representative. In what follows, I shall concentrate on the work of Givón (see especially Givón 1979, 1984a, 1984b, 1989, 1993a, 1993b, 1995, 2001a, 2001b), and on that of Hopper and Thompson (especially Hopper 1987, 1992; Hopper & Thompson 1980, 1984), as this will illustrate clearly both the similarities and the differences which are to be found within WCF.

2.6.1 Language as communication

The linguists I am considering as proponents of WCF are strongly committed to the view of language as primarily an instrument of communication, and to the importance of this in explaining why languages are as they are. For instance, when Givón begins his book *Functionalism and Grammar* (Givón 1995) with a number of quotations to illustrate the antecedents of his own thinking, we find that most of these are concerned with language as a tool for communication.

The 'emergent grammar' approach of Hopper and Thompson, which will be commented on below, emphasises even more strongly the importance of language as a communicative tool.

2.6.2 The rejection of the autonomy of the grammar, in favour of functional explanation

WCF linguists are vociferous in their condemnation of the Chomskyan claim that the grammar is autonomous. The following will serve to indicate Givón's stance:

If language is an instrument of communication, then it is bizarre to try and understand its structure without reference to communicative setting and communicative function. Therefore, grammatical constraints, rules of syntax, stylistic transformations, and the like are not there "because they are prewired into the genetic code of the organism". Nor are they there for no reason at all. Rather, they are there to serve highly specific communicative functions. (Givón 1979:31)

All functionalists subscribe to at least one fundamental assumption *sine qua non*, the non-autonomy postulate: that language (and grammar) can be neither described nor explained adequately as an autonomous system. To understand what grammar is, and how and why it comes to be this way, one must make reference to the natural parameters that shape language and grammar: cognition and communication, the brain and language processing, social interaction and culture, change and variation, acquisition and evolution. (Givón 1995: xv)

Givón's firm adherence to the principle of functional motivation of the grammar does not, however, lead him to reject formal structure as a reality of language:

The rise of grammar may be functionally motivated; but once there, formal structure assumes its own reality, communicatively, cognitively and neurologically.
(Givón 1995:11)

As we saw in §1.4.3, Givón's (1995:11) explanation for this is that in a complex biological system, where structures have evolved under functional, adaptive and often competing pressures, we often do not find a simple, one-to-one relationship between forms and functions.

The 'emergent grammar' position taken by Hopper and Thompson, on the other hand, is a much more radical one, in which grammar is seen as an epiphenomenon of discourse, in that it emerges as a consequence of discourse needs:

The notion of Emergent Grammar is meant to suggest that structure, or regularity, comes out of discourse and is shaped by discourse as much as it shapes discourse in an on-going process. Grammar is hence not to be understood as a pre-requisite for discourse, a prior possession attributable in identical form to both speaker and hearer. [...] Moreover, the term Emergent Grammar points to a grammar which is not abstractly formulated and abstractly represented, but always anchored in the specific concrete form of an utterance. (Hopper 1987:142)

... the concept of grammar as emergent suspends provision for fixed structure, and sees all structure as in a continual process of becoming, as epiphenomenal, and as secondary to the central fact of discourse. (Hopper 1992:366)

This view was already beginning to crystallise in the early work of Hopper & Thompson on transitivity (1980) and on word classes (1984), both seen as deriving from their characteristic discourse functions:

In general, then, we suggest that phrasocentric ('sentence-level' or sentence-internal) accounts of morphosyntax can have only a provisional and incomplete validity, and that a fully coherent theory of language must begin at (and not merely include) the level of discourse MOTIVATION for individual sentences.
(Hopper & Thompson 1980:295)

... far from being 'given' aprioristically for us to build sentences out of, the categories of N and V actually manifest themselves only when the discourse requires it. Such a perspective may help remind us that questions of the relationship between language and mind can be approached only by considering language in its natural functional context. (Hopper & Thompson 1984:747–748)

As Hopper (1992:366–367) points out, an important consequence of the emergent grammar viewpoint is that the study of grammar itself is no longer central to linguistics; rather, the core study would be that of the process of **grammaticalisation**, by which certain forms available in the service of discourse become, in Hopper's words, "‘sedimented’ through repeated use", so that they become recognised as 'grammatical' to varying degrees.

2.6.3 The centrality of semantics and pragmatics, and the motivation of syntax

The centrality of semantic and pragmatic/discoursal phenomena is abundantly clear on almost any page of works by Givón, Hopper or Thompson. For instance, Givón, in his two-volume work on syntax, organises his material in terms of the three ‘functional realms’ coded by syntax: lexical semantics, propositional semantics and discourse pragmatics (Givón 1984a:30). He refers (Givón 1984a:8–9) to his approach as “pragmatically-based”.¹¹ His book *Mind, Code and Context* (Givón 1989) is subtitled ‘Essays in Pragmatics’, and a considerable proportion of it is concerned with the coding of essentially pragmatic concepts such as definiteness, topicality, and propositional modalities. The emergent grammar view of Hopper and Thompson is clearly deeply rooted in discourse pragmatic phenomena.

2.6.4 The cognitive dimension

WCF linguists have paid a great deal of attention to the cognitive dimension of language. Givón nails his colours firmly to the mast in the following passage:¹²

We will continue to assume here that language and its notional/functional and structural organization is intimately bound up with and motivated by the structure of human cognition, perception and neuro-psychology. (Givón 1984a:11)

Givón is committed to “taking cognition and neurology seriously” (1995:16), and believes that if functional linguists are to invoke cognition in explanation of linguistic phenomena, they have a duty to familiarise themselves with the relevant cognitive literature. Very frequently, in Givón’s work, we find serious attempts to demonstrate the cognitive plausibility of communicative functions and their coding in language (see, for example, the discussion of the distribution of grammar in text, in Givón 1995:Chapter 7, or the cognitive interpretation of textual coherence in Chapter 8 of the same book).

Givón’s work faces head-on the fact that biological organisms have to process complex, multi-dimensional and often scalar input to their cognitive and perceptual systems through relatively discrete structural elements. In terms of language, this means that the organism has to code information from the continuous, multi-dimensional space of the functional domains referred to above, in terms of elements such as morphemes, particular constituent orders, and contrasting intonation patterns, which are either there or not

11. In the second, very substantially revised edition of *Syntax*, Givón (2001a, 2001b) deliberately pays much more attention to accounting explicitly for the more formal aspects of syntactic structure as well as functional motivation and typological diversity. Nevertheless, he still distinguishes three concentrically-arranged levels, those of the conceptual lexicon, propositional information and multi-propositional discourse, and writes of “the realization that the bulk of the machinery of grammar was deployed in the service of discourse pragmatics” (2001a:7).

12. In the second edition of *Syntax*, Givón (2001a) distinguishes the two subsystems of human communication as the cognitive representation system and the communicative coding system, thus still underlining his commitment to the centrality of cognition.

there, and are relatively discrete (Givón 1984a:36). In order to account for the ability of human beings to solve this dilemma, Givón makes considerable use of the concept of prototype, as developed by Rosch and others.

Hopper and Thompson's emergent grammar view also appeals to the concept of prototype:

It is clear that the concept of prototypicality (the centrality vs. peripherality of instances which are assigned to the same category) plays an important role in the study of grammar. (Hopper & Thompson 1984:707)

For instance, in discussing the property of transitivity, they claim that it

is a continuum along which various points cluster and tend strongly to co-occur. (Hopper & Thompson 1980:294)

and in their work on lexical categories, they interpret the notion of categoriality as "the property of being a prototypical instance of the grammatical category" (Hopper & Thompson 1984:710).

2.6.5 Text and its relationship with context

It will be clear from the discussion in the foregoing sections that WCF linguists are centrally concerned with text/discourse phenomena. Chapter 7 of Givón's (1995) *Functionalism and Grammar*, for example, is a useful discussion of the necessity, but also the dangers, of a methodology which involves the study of communicative use via the distribution of grammatical features in texts. A particularly prominent example of this type of work can be found in the numerous discussions of topic continuity and referent tracking in texts which occur in the work of Givón and his colleagues (see e.g. Givón 1983). Hopper and Thompson's emergent grammar, of course, takes discourse as central in explaining why certain forms become grammaticalised.

2.6.6 Typological considerations

Givón's work has a strongly typological orientation: the subtitle of his *Syntax* (1984a, 1984b) is 'A functional-typological introduction'.¹³ He articulates a clear position on typological diversity and language universals:

While recognizing cross-language typological diversity, most functionalists remain committed to the existence of language universals, presumably both of meaning/function and grammatical structure. But the universals we propose, at whatever level, must be based on a study of representative diversity of types. (Givón 1995:17).

and sets out a programme for a functionalist approach to grammatical typology.

13. The subtitle of the 2001 version of *Syntax* is simply 'An introduction'; however, the centrality of functional and typological issues is clear in the title of the first chapter of Volume I ('The functional approach to language and the typological approach to grammar') and continues to be evident throughout the work.

The work of Hopper and Thompson has also raised typological issues. In their work on transitivity and on word classes they based their claims on the analysis of a wide variety of language types, and so were able to propose a high degree of general validity for their claims, as well as showing how the motivation of grammar by discourse works in languages of various types.

Other linguists such as Haiman and Croft are, as we saw in Chapter 1, strongly typological in their orientation.

2.6.7 Language acquisition

In the first version of his *Syntax*, Givón is scathing in his condemnation of Chomsky's innateness theory:¹⁴

... the actual facts of language acquisition were not approached with even a hint of empirical integrity. It was assumed from the start that input – linguistic, functional, pragmatic – played a minimal role in the emergent language system. Equally, communicative function was disregarded as a variable in language acquisition, as were the socio-cultural-pragmatic context and “generalized cognitive capacities”. What remained was an impoverished caricature of the acquisition of “formal structures” guided deterministically by an in-built genetic-neural structure referred to as “universal grammar”. (Givón 1984a:8–9).

He himself takes a constructionist stance in relation to language acquisition:

... a more careful analysis of the early stages of first language acquisition [...] suggests that children do not first acquire “syntax” in Chomsky's sense, but rather a *communicative system* of a much more rudimentary sort; and only later they modify it, gradually, into “syntax”. (Givón 1979:22, emphasis in original)

A viewpoint similar to that of the proponents of emergent grammar has recently been expressed by MacWhinney (1998, 1999) in relation to language acquisition. MacWhinney explores how linguistic form emerges, not from the requirements of discourse, but from the action of neural networks. The implication, however, is similar to that of Hopper and Thompson's work, namely that grammar can be seen as a type of organisation which, rather than being essentially innate, emerges from more general functional pressures.

2.6.8 Summary

The positions taken up by WCF linguists, as represented by Givón and by Hopper and Thompson, can be summarised as follows:

- there is a strong commitment to the study of language as communication;
- the autonomy of the linguistic system is decisively rejected, in favour of competing functional motivations – in Croft's terms, WCF linguists are integrative functionalists;

14. Interestingly, the 2001 version of *Syntax* makes no reference to language acquisition.

- the degree to which syntactic form is motivated by semantic and discourse function varies from one linguist to another: scholars such as Hopper and Thompson are in favour of an approach in which grammar is not treated as a structural system but is claimed to emerge from the requirements of discourse; Givón, on the other hand, still believes firmly in the reality of formal structure;
- text/discourse is central to WCF approaches;
- the importance of cognitive phenomena is a major feature of these approaches;
- typological considerations are high on the WCF agenda;
- a constructionist approach to language acquisition is taken.

2.7 Cognitive Grammar

The approach chosen here to represent the wider field of ‘cognitive linguistics’ (see e.g. Ungerer & Schmid 1996) is Cognitive Grammar, as put forward by Langacker (1987, 1990[2002], 1991, 1999), which explicitly identifies itself as an approach to grammar as such, and has been worked out in considerable detail, building on much other work in cognitive linguistics.

2.7.1 Language as communication

Langacker (1987:46) states that CG is “a **usage-based theory**” (emphasis in original). A particular instance of language usage is envisaged by Langacker (1987:65) in terms of the task of finding appropriate linguistic expression for a conceptualisation. This task is subject to a number of constraints, including the amount of detail required, the wish to emphasise particular aspects of the conceptualisation, the social relationship between addressor and addressee, assessment of the addressee’s state of knowledge about what is to be communicated, the relationship of what is to be communicated with what has already gone on in the discourse, the intended effect on the addressee, and toleration of deviation from linguistic convention.

2.7.2 The rejection of the autonomy of the grammar, in favour of functional explanation

CG decisively rejects the claim that the linguistic system is autonomous. Not surprisingly, in view of the explicitly cognitive nature of the grammar, the kinds of functional explanation to which Langacker refers are primarily cognitive rather than social:

Cognitive grammar [...] asserts that linguistic structure can only be understood and characterized in the context of a broader account of cognitive functioning. (Langacker 1987:64)

2.7.3 The centrality of semantics and pragmatics, and the motivation of syntax

CG is fundamentally opposed to the autonomy of syntax:

Grammar (or syntax) does not constitute an autonomous formal level of representation. Instead, grammar is symbolic in nature, consisting in the conventional symbolization of semantic structure. (Langacker 1987:2)

For CG, meaning is central:

From the symbolic nature of language follows the centrality of meaning to virtually all linguistic concerns. Meaning is what language is all about; the analyst who ignores it to concentrate solely on matters of form severely impoverishes the natural and necessary subject matter of the discipline and ultimately distorts the character of the phenomena described. (Langacker 1987: 12)

Langacker (1987:34–40) points out that many phenomena which are of little or no interest to a formal grammarian are central to CG. Chief among such phenomena are matters of figurative language and conventionalised expressions such as idioms, formulaic expressions and frequent collocations. Cognitive linguists, particularly Lakoff and his colleagues, have demonstrated that metaphor, far from being peripheral, is all-pervasive in language (see e.g. Lakoff & Johnson 1980). In CG, no clear distinction is drawn between literal and figurative language, or between idiomatic and non-idiomatic expressions: all are claimed to be accounted for naturally in terms of a theory within which lexical units, morphological elements and syntax are viewed as a continuum of symbolic units which are available for the structuring of conceptualisations. Furthermore, CG claims that much of grammar itself is figurative, in that it structures the ‘content’ in particular ways corresponding to different viewpoints, or ‘images’. For instance, the English active/passive alternation, or ‘dative shift’ in sentences such as *He sent a letter to Susan* and *He sent Susan a letter* (Langacker’s (13a, b), 1987:39), present different images of the ‘scene’ concerned.

As CG is a usage-based grammar, it is necessarily the case that phenomena of a pragmatic nature are important to it. Indeed, Langacker (1987:157) makes it clear that what he calls “the semantic pole of a usage event” is the contextual meaning of an expression, which includes everything that is relevant in the situation of use. Thus Langacker does not wish to postulate a separation between semantics and pragmatics, or between linguistic and extralinguistic knowledge, preferring an encyclopedic view of meaning (1987:154–158).

2.7.4 The cognitive dimension

As we have seen, CG takes the cognitive dimension as paramount. This inevitably means acceptance of non-discreteness in language:

Much in language is a matter of degree. Linguistic relationships are not invariably all-or-nothing affairs, nor are linguistic categories always sharply defined and never fuzzy around the edges. (Langacker 1987:14)

Langacker favours a prototype model of non-discreteness, believing that it “has considerable linguistic and cognitive plausibility” (1987: 17).

2.7.5 Text and its relationship with context

There is little in Langacker’s work, or in that of others working within the CG framework, to suggest an interest in the description of text as such, or in formulating models of the structure of discourse. This is unfortunate, given the fact that CG is a usage-based theory, and that context-dependent meaning is specified as the semantic pole of a symbolic structure. CG is, however, concerned with the importance of the ‘deictic centre’, itself a contextual element, as well as with the relationship between meaning and contextually-identified domains.

2.7.6 Typological considerations

CG does not explicitly stress typological adequacy as an aim. It tends to stress the differences rather than the similarities between languages, believing that the lexical and grammatical resources for the expression of conventional imagery differ widely among languages (Langacker 1987: 47). It is, however, claimed that CG can reveal universal aspects of linguistic organisation.

2.7.7 Language acquisition

Langacker has rather little to say in general terms about language acquisition, although he does, at various points, illustrate how CG might provide a reasonable explanation of the acquisition of particular aspects of the linguistic system (see e.g. 1987: 349–350, 373–375, 382–383). A constructionist approach would clearly be most consistent with the tenets of the theory.

2.7.8 Summary

The position of Cognitive Grammar in relation to the points under discussion may be summarised as below:

- it is a usage-based theory, and so is concerned with language as communication, and in fact gives a great deal of emphasis to certain communicative devices, such as metaphor, which are peripheral to most other approaches;
- it rejects the claim that the linguistic system is autonomous, and postulates underlying motivating factors of a largely cognitive nature – it is integrative, in Croft’s terms;
- it firmly rejects the claim that syntax forms an autonomous level, regarding it as the symbolic link between semantics and phonology;
- meaning is central to CG, though any clear distinction between semantics and pragmatics is rejected;

- CG has not given much attention, as yet, to the structuring of text or to text/context relationships;
- cognitivism is a fundamental aspect of the approach;
- CG does not stress typological adequacy;
- CG does not build in a theory of language acquisition, though some evidence is presented that the claims of CG provide plausible explanations for the acquisition of particular linguistic phenomena.

2.8 Summary: towards a characterisation of structural-functional grammars

Table 2.1 below summarises my own assessment of where each approach stands in terms of the seven factors listed earlier in this section.

Generative Functionalism differs radically from the other approaches in its acceptance of autonomous grammar, and it is not clear that the central aim is to explain how languages are structured in order to achieve inter-human communication, although generative functionalists do pay some attention to certain aspects of text structuring, such as anaphoric relations.

Hopper and Thompson's emergent grammar approach differs from the others in that it denies the importance of a fixed formal structure, seeing this as an epiphenomenon of discourse.

CG differs from all the other approaches in that it is based entirely on cognitive principles.¹⁵ Indeed, Langacker defines the grammar of a language as

... those aspects of cognitive organization in which resides a speaker's grasp of established linguistic convention (Langacker 1987: 57).

Furthermore, although cognitive linguistics shares many of the underlying principles of functionalism, cognitivists tend to see their work as rather different in orientation from that of functionalists. For instance, Langacker himself, while recognising the close link, es-

15. This is even more clearly so for Lamb's 'neurocognitive linguistics' (Lamb 1999), which he opposes to 'analytical linguistics', under which heading he includes many approaches which have styled themselves as 'cognitive' but which, according to Lamb (1999: 13), live up to that label only in that they deal with conceptual or semantic information, while neurocognitive linguistics has as its aim the unravelling of the mental structures responsible for the external phenomena studied in analytical linguistics. It is interesting to note, however, that Lamb's purely relational model, which, as a model of language, used to be known as 'stratificational linguistics' (see e.g. Lamb 1966; Lockwood 1972), a label still used by some of its adherents, has much in common with Halliday's Systemic Grammar, a fact that is readily recognised by the two leading exponents of the theories (see e.g. Lamb 1999: 383; Halliday 1978: 51). The stratificational approach to language itself would thus make an interesting object of comparison with SFG, at least: however, the strongly neurocognitive direction in which the theory has recently been taken by Lamb distances it considerably from SFG. Similarities of aims between CG and SFG have been suggested by Lemmens (1998: 13–14).

Table 2.1. Six approaches to language rated on seven properties

Approach	Language as communication	Rejection of autonomy of linguistic system, in favour of functional explanation	Centrality of semantics/pragmatics; rejection of autonomy of syntax	Centrality of text/context	Centrality of cognitive dimension/non-discreteness	Centrality of typological considerations	Constructivist approach to language acquisition
Generative functionalism	–	–	–	*	–	?–	–
FG	***	***	***	** ^(a)	** ^(b)	***	**
RRG	***	***	***	*	*	***	***
SFG	***	***	*** ^(c)	***	* ^(d)	*	***
WCF	***	*** ^(e)	***	***	***	***	**
CG	***	***	***	*	***	*	*

Key:

- *** This property is absolutely central to the approach.
- ** This property is stated as a tenet of the approach, but little work has yet been done in this area **and/or** the work which has been done is very recent.
- * This property is present in some work within the approach but not all or is implicit rather than explicit in the approach.
- This property is not at all central to the approach.
- (a) Models of discourse have only recently been incorporated into FG, but are fast gaining importance.
- (b) Non-discreteness is addressed only in some very recent work in FG; similarly, attempts to increase psychological adequacy by taking account of processing considerations are only just coming to the fore.
- (c) SFG tends to merge properties which other approaches would regard as syntactic, semantic and pragmatic, but matters of meaning are paramount for this approach.
- (d) Indeterminacy is seen as basic to language, but because of this is not foregrounded in the theory. There is little reference to cognitive principles in explaining linguistic phenomena: rather, cognition is approached through language.
- (e) Functional explanation is taken to extremes in the ‘emergent grammar’ approach of Hopper and Thompson.

pecially with West Coast functionalism, differentiates clearly between ‘cognitive grammar’ and ‘functional studies’:¹⁶

If cognitive grammar provides a unified way of describing the complete spectrum of linguistic structures, functional studies allow us to determine and explain their relative prototypicality. (Langacker 1987:4)

Van Valin also draws a distinction between cognitivism and functionalism:

Cognitivism and functionalism represent complementary approaches to the study of language, each with a rather different focus: all functionalists are concerned with the impact of pragmatics (however it is conceived) on grammar, while cognitivists strive to show that grammatical phenomena are reflections of deeper cognitive and conceptual processes. (Van Valin 1991b:6)

Rispoli (1999:221–222), defining the difference between functionalism and formalism exclusively in terms of the integral nature of semantic and pragmatic constructs in explicating and explaining the grammar in functionalism, as opposed to the extraneous nature of these constructs in formalism, states that under these definitions “cognitive approaches cannot be classified as functionalist”, presumably on the grounds that although cognitive linguistics does indeed consider meaning and use crucial, the ultimate underlying explanatory principle is the structure and functioning of human cognition.

We may conclude, then, that cognitive theories, while compatible with functional approaches, are different enough from them to be excluded here. This is in no sense intended to marginalise cognitive approaches: indeed, as we have seen, one of the properties which I have pointed to as present to varying degrees in functional approaches is attention to the cognitive dimension of language. Furthermore, Langacker himself (1987:6) lists, among the linguists whose work he considers to be basically compatible with CG, scholars from both Generative Functionalism and WCF. The exclusion of cognitively-based approaches from detailed consideration in the present book is based on the differences outlined above, and also on the practical impossibility of dealing with more than a very few theories in one work. A detailed comparison of cognitive and functional approaches would be a welcome addition to the literature, as noted above in relation to Lamb’s stratificationally-based neurocognitive model.

Leaving CG out of account, we may place the other approaches on a scale from ‘most like formalist grammars’ to ‘radical functionalist’ roughly as in Figure 2.1 below.^{17,18} Ar-

16. Despite this, Croft (1999:88) appears to wish to classify Cognitive Grammar as a functional theory.

17. It is interesting to note how different surveys of functionalism, written from different viewpoints, include or exclude particular approaches: for instance, Tomlin (1994), associated with WCF, does not mention RRG, while Rispoli (1999), who uses RRG in his own work on language acquisition, makes no reference whatever to the work of Halliday.

18. Van Valin (2000:331–332), who includes in his discussion all four of the approaches labelled as structural-functional in Figure 2.1, regards SFG as falling between moderate and extreme functionalism,

Most like formalist grammars	<i>Structural-functional approaches</i>				Radical functionalism
Generative Functionalism	RRG	FG	SFG	Givón	Hopper/Thompson

Figure 2.1. A scale of functionalism

guably, FG, RRG, Givonian WCF and SFG can be seen as a central core, with a number of shared properties:

- a central concern with language as communication;
- the rejection of the claim that the linguistic system is autonomous with respect to external function;
- acceptance of the importance of grammatical form – in other words, they are structural-functional approaches, as indicated in Figure 2.1;
- the centrality of semantic/pragmatic phenomena and the motivatedness (to varying degrees in different approaches) of syntax;
- a constructionist approach to language acquisition.

Note, however, the following differences:

- The four approaches differ considerably in their commitment to a cognitive orientation: work within WCF such as that of Givón makes this commitment strongly; FG has begun to take cognitive matters seriously; RRG makes a theoretical commitment to cognitive adequacy which so far has not come through strongly in practice; and mainstream SFG, while treating indeterminacy as a natural feature of language, for this very reason does not foreground it. Furthermore, in SFG cognition is explained in terms of language, rather than *vice versa*.
- The four approaches also differ in their commitment to a functional account of text structure and text/context relations: here, SFG has the strongest commitment; that of WCF is also strong; recent work in FG has begun to build models of discourse structure; while RRG, although very much concerned with, for example, clause linkage, has no submodel of discourse and is not concerned with relationships between text and social context.
- FG, RRG and WCF have a strong commitment to typological adequacy, but this has not been a priority for SFG during most of its development, although there have been recent indications of greater interest.

There is, however, one further factor which is crucial to the selection of approaches for detailed consideration in this book. FG, RRG and SFG are all generative grammars, in the

in view of its strongly discourse-oriented nature. He recognises, however, that this theory does not deny the reality of structure. Overall, then, his position is not incompatible with that represented in Figure 2.1.

sense that they provide (at least potentially) an explicit framework of rules and principles, linked in specified ways, by means of which the structure and interpretation of linguistic expressions can, in principle, be exhaustively described.¹⁹ Of course, we are not yet in a position to claim that we can describe text fragments of any language exhaustively under any of these approaches. Nevertheless, each provides an (incomplete and provisional) integrated framework for linguistic description and, crucially, they provide explicit rules, formalised to varying degrees, linking meanings with forms.²⁰ This is not, however, the case for Givón's functional approach, and the reasons for this are clear from the following quotation from Volume I of the original version of Givón's *Syntax: A Functional-Typological Introduction*:²¹

I have been accused in the past of not presenting a “complete framework” for syntactic description [...]. “Framework”, “format”, “theory” and “Grammar” are words that have been much maligned in the past three decades in linguistics. Ever since the Bloomfieldians, such labels have meant, more likely than not, the closing of one's horizons and the wedding of oneself to a restrictive, counter-empirical and anti-explanatory formalism. Such formalisms foster the illusion of science by downgrading its open-ended, tentative and ongoing nature. My own bias has been, for many years, that such premature closure, completeness, consistency and formalization are both unnecessary and unwise. (Givón 1984a:25)

There is much in this view which would be congenial to Halliday also; nevertheless, unlike Givón, Halliday does present, in his Systemic Functional Grammar, an apparatus which, while not perhaps being as heavily formalised as that of FG or RRG, does allow the generation of full sentence structures.²² Furthermore, he makes it clear that his intention is to construct a grammar, in the sense of a fully explicit generative device:

The grammar needs to be explicit, if it is to go on being useful: it must be possible to generate wordings from the most abstract grammatical categories by some explicit set of intermediate steps. (Halliday 1994b:xix)

19. Note that I am not using the term ‘generative’ here in the sense of ‘production-oriented’: any adequate functional grammar will have to take into account both production and understanding. Neither am I using it purely in the sense of ‘explicit’, important as this criterion is: as McGregor (1997:9) observes, “[p]resumably a quality all theories aspire to is that they be as precise and explicit as possible”. The crucial criterion is that the explicitness must be such as to allow us to map all the various aspects of both structure and function and their relationships by means of a clearly stated set of interlinked rules and principles.

20. As we shall see, there is much more divergence in these approaches with regard to their ability to specify discourse structures.

21. The heavily revised second edition of *Syntax* does not include any statement of this kind: indeed, Givón (2001a:27–29) makes it very clear that he does indeed accept that language is rule-governed, though not 100%. Nevertheless, he does not provide an integrated set of rules of the kind which characterise a grammar in the sense intended here.

22. Indeed, as will be described in Chapter 5 of Part 2, SFG has been implemented in computer systems for natural language generation and parsing.

Whatever the merits of Givón's position, it characterises his work as an approach to linguistic theory and description, rather than a grammar in the sense intended here. This makes his work rather difficult to compare directly with that in FG, RRG and SFG.²³

In the remainder of this book, then, in the interests of consistency and manageability, I shall concentrate on FG, RRG and SFG, as the three outstanding examples of **structural-functional grammars** which have given rise to substantial bodies of work. I shall, however, refer occasionally to other approaches, where it is helpful to relate structural-functional grammars to functionalism as more widely conceived.

The next three chapters begin our exploration of these three approaches by looking in rather more detail at their underlying aims and assumptions and then examining how each theory specifies the structure of the simplex clause. This will involve us in the exploration of answers to the following questions:

- what relationship (if any) between semantic, syntactic, morphological, lexical and prosodic patterning is postulated?
- what are the mechanisms for specifying clause structures?
- are any layers/levels of structure proposed?
- what information (if any) about structural functions (syntactic, semantic, pragmatic) is built into the structures proposed?

By and large, these three chapters will be concerned with exposition rather than with critical evaluation of the three approaches (except where such criticism has come from within the theory itself), critical comparison being reserved for Chapter 6.

23. It is worth noting that Lamb's current relational network model (though perhaps less the Stratificational Grammar of the 1960s) might also be excluded here, not only on the basis of the nature of its primary aim (to construct a model of the human cognitive system), but also because it also does not offer a grammar in the sense intended in this discussion. Similarly, Langacker (1987:64) states that Cognitive Grammar "does not consider the grammar a **constructive device**" (emphasis in original), and this is a further reason for excluding it from the range of theories discussed in the present book. Two other approaches worthy of mention here are McGregor's Semiotic Grammar and the Communication Linguistics of Gregory and his colleagues: both are explicitly non-generative, and would therefore not qualify for the set of grammars considered in detail in this book. Nevertheless, as both arose out of SFG and are still closely linked to that theory in many ways, they are allocated short sections of their own in Chapter 5.

CHAPTER 3

The clause in Functional Grammar

An introduction

This chapter has two aims: firstly, to provide a somewhat more detailed account of the underlying goals of FG, in terms of the criteria of adequacy which underpin the theory, as sketched briefly in Chapter 2; and secondly, to present a preliminary survey of the proposals which have been made for the structure and meaning of the simplex clause in FG. This latter part of the chapter will begin with the account given by Dik (mainly Dik 1997a). I shall then discuss more briefly a number of areas in which proposals have been made which differ significantly from, but are still closely related to, Dik's model. Some of these are very recent, and are likely to prove influential in making substantial changes to some of the key assumptions and claims of FG.

3.1 Underlying goals

Dik states:

... the highest aim of a functional grammar of a particular language is to give a complete and adequate account of the grammatical organization of connected discourse in that language. Such a grammar should be able to specify all the linguistic expressions of a language by means of a system of rules and principles in which the most significant generalizations about the language are incorporated. Thus a functional grammar should conform to the standards of adequacy (in particular, descriptive adequacy) such as have been formulated for transformational grammars by Chomsky (e.g., 1965). (Dik 1997a: 12–13)

He goes on to say, however, that there will be differences between Chomskyan and functional approaches in the interpretation of what has been called **explanatory adequacy**, concerned with criteria which will allow us to decide which of a set of descriptively adequate grammars is to be preferred. We saw in §2.3 that FG is committed to three types of criteria of explanatory adequacy: pragmatic, psychological and typological. In this section, I shall examine these criteria in rather more detail than has so far been necessary.

3.1.1 Pragmatic adequacy

In Dik's work, we find two rather different kinds of statement about pragmatic adequacy. A strong position on this issue is suggested by the following statements, in which italics have been added to indicate sections which are particularly relevant to this point:

Since a natural language is an instrument used for communicative purposes, there is little point in considering its properties in abstraction from the functional uses to which it is put. The system underlying the construction of linguistic expressions is a functional system. *From the very start, it must be studied within the framework of the rules, principles, and strategies which govern its natural communicative use.* In other words, the question of how a language is organized cannot be profitably studied in abstraction from the question of why it is organized the way it is, given the communicative functions which it fulfils.

This means that linguistic expressions can be understood properly *only when they are considered as functioning in settings, the properties of which are codetermined by the contextual and situational information available to speakers and addressees.* Language does not function in isolation: it is an integrated part of a living human (psychological and social) reality." (Dik 1997a:6)

... the basic requirement of the functional paradigm is that linguistic expressions should be described and explained *in terms of the general framework provided by the pragmatic system of verbal interaction.* (Dik 1997a:4)

... we must not think of linguistic expressions as isolated objects, but as instruments which are used by a Speaker in order to evoke some intended interpretation in the Addressee, *within a context defined by preceding expressions, and within a setting defined by the essential parameters of the speech situation.* (Dik 1997a:13)

A careful reading of Dik's book, however, reveals that this strong position is not consistently adopted. First, Dik separates pragmatics from the grammars of languages by proposing two distinct sets of rules, one of which is concerned with the specification of the make-up of linguistic expressions, the other with "patterns of verbal interaction":

From the functional point of view, then, linguistics has to deal with two types of rule systems, both ratified by social convention:

- (i) the rules which govern the constitution of linguistic expressions (semantic, syntactic, morphological, and phonological rules);
- (ii) the rules which govern the patterns of verbal interaction in which these linguistic expressions are used (pragmatic rules). (Dik 1997a:3–4)

Dik then goes on to present a much weaker version of pragmatic adequacy than that which I have interpreted from the quotations given earlier. In the following, the italics are again my own:

... although in itself a theory of linguistic expressions is not the same as a theory of verbal interaction, it is natural to require that it be *devised in such a way that it*

can most easily and realistically be incorporated into a wider pragmatic theory of verbal interaction. (Dik 1997a: 4)

We saw above that a functional grammar must be conceptualized as being embedded within a wider pragmatic theory of verbal interaction. Ultimately, it would have to be capable of being integrated into a model of NLU [the Natural Language User (CSB)]. *We shall say that the degree of pragmatic adequacy of a functional grammar is higher to the extent that it fits in more easily with such a wider, pragmatic theory.* (Dik 1997a: 13)

Here, the ‘pragmatic theory of verbal interaction’ is not seen as determining the shape of the theory of linguistic expressions, but as providing a framework with which the theory of expressions should be compatible. In practice, as we shall see in later chapters of this book, it is the second of these views which Dik adopts in *TFG1* and *TFG2*.

At the beginning of *TFG1* (Dik 1997a: 1–2), there is a list of the various capacities which are necessary for the user of language to be able to communicate successfully, and which Dik incorporates into his Model of the Natural Language User (MNLU), described further in Dik (1987, 1988, 1989b, 1989c, 1990a, 1990b).¹ This model includes not only the linguistic capacity modelled in FG itself, but also an epistemic capacity concerned with the creation, maintenance and exploitation of a knowledge base: a logical capacity concerned with inference; a perceptual capacity concerned with the acquisition and use of information from perception of the environment; and a social capacity, underlying the language user’s ability to use language appropriately in particular communicative situations. We shall see, in the course of the two volumes of the present work, that while certain of these capacities have been explored to some extent, others remain virtually uncharted territory. We shall also see that there is a recent trend towards the idea that a separate pragmatic/discoursal module might be responsible not only for aspects of language use so far relegated to the ‘pragmatic theory of verbal interaction’, but also for some phenomena currently handled within the grammar itself.²

3.1.2 Psychological adequacy

In §2.3.4 we saw that Dik’s commitment to **psychological adequacy** is expressed in the following terms:

... such a grammar must also aim at *psychological adequacy*, in the sense that it must relate as closely as possible to psychological models of linguistic competence and linguistic behaviour. (Dik 1997a: 13)

Note that as with the *de facto* interpretation of pragmatic adequacy, the criterion is that the theory should be compatible with what is known about the actual processing of language, rather than that it should be formulated on the basis of our psycholinguistic knowledge.

1. See also §3.6. The computational implementation of this model will be discussed in Chapter 5 of Part 2.

2. See Part 2, especially Chapter 1.

In constructing his model of the Natural Language User, referred to above, Dik hypothesises that conceptual knowledge should be represented in the same format as underlying predications in language:

- (H1) Underlying linguistic structures, pieces of non-perceptual knowledge, and logical forms can be expressed in one and the same unified cognitive representation language.
- (H2) The representation language used for underlying predications in FG is a good approximation to this cognitive representation language. (Dik 1990b:234)

As we shall see in §3.6, this claim has been the subject of severe criticism, largely by Nuyts (1990, 1992a, 2001a) and Hesp (1990a, 1990b).

An area which has received considerable attention from cognitively-oriented linguists is the inherent non-discreteness of many linguistic categories, which is claimed to have its basis in the properties of human cognition. Despite the commitment of FG to psychological adequacy, there is virtually nothing about this in Dik's own work, and even Nuyts' (1992a) 'cognitive pragmatic theory of language', which he calls Functional Procedural Grammar,³ contains no references to work on prototypes or other models of non-discreteness. In other respects, however, Nuyts fully takes on board the commitment to cognitive adequacy:

The cognitive and the pragmatic or functional dimensions of language are not just two separate issues, however. They are two faces of one phenomenon, which must be mutually interrelated and interdependent. The cognitive-pragmatic perspective takes this observation to heart: it assumes that an adequate account of language in general, or of any linguistic phenomenon in particular, has to do full justice to both dimensions simultaneously, in an integrative way. That is, understanding language means 'unearthing' the cognitive infrastructure responsible for producing and perceiving linguistic acts of communication. Ultimately, we do not need different theoretical models explaining different dimensions of this, but one model which coherently integrates both in one encompassing account. That is, ultimately, the functional and the cognitive traditions in language research will have to join hands and agree upon a common explanatory framework. (Nuyts 2001a: 3)

Nuyts (2001a: 7) also notes the general lack of concern with matters of conceptualisation in mainstream FG (apart from a small amount of work by Dik himself), RRG and SFG.

Suggestions have, however, been made for the importation of prototype theory into FG in the areas of reference (see Chapter 7), representing situations (states of affairs: see Chapter 8) and illocution (see Chapter 1 of Part 2).

3.1.3 Typological adequacy

As we shall see later, the commitment to pragmatic and psychological adequacy made by Dik has been seen by some as somewhat limited, since it requires only **compatibility** be-

3. See §3.6.

tween the grammar, what is known of the mechanisms of production and understanding, and the ‘theory of verbal interaction’. The commitment to typological adequacy, on the other hand, shows much less reserve: throughout Dik’s own work and that of many of his colleagues there is an ever-present concern for the specification of the grammar in terms which will allow discussion of similarities and differences across a very wide range of language types. In addition to work on individual languages from an FG perspective, there is a considerable number of studies, especially by scholars such as Hengeveld, Rijkhoff, Bakker and Siewierska, in which particular areas of the grammar are studied in relation to a set of languages selected to be representative of a wide typological range.

3.1.4 A note on recent proposals in relation to standards of adequacy

Boland (1999: 12–13) has suggested the addition of a fourth standard, that of acquisitional adequacy, on the grounds that acquisition involves both psychological and pragmatic factors.⁴ She goes on to make an interesting proposal for a division of the four standards into two sets, claiming that pragmatic and psychological criteria restrict possible models of language, while typological and acquisitional criteria act as testbeds for the output of the theory. Boland postulates a link between typological and acquisitional standards in that the psychological complexity of linguistic phenomena should be related to both: psychologically simpler phenomena should be more frequent across the world’s languages and would also be expected to appear before more complex phenomena during language acquisition. Similarly, it is expected that implicational hierarchies will be valid not only across languages, but also in terms of sequencing in acquisition.⁵

Hengeveld & Pérez Quintero (2001: 104), building on Boland’s ideas, suggest that psychological and pragmatic standards are extralinguistic and explanatory, restricting possible theories of grammar in terms of cognitive and socio-communicative factors respectively, while typological and acquisitional standards are intralinguistic and descriptive, being concerned with the evaluation of a grammatical theory in terms of its ability to make correct descriptions of synchronic and diachronic facts in single languages and across languages. As Hengeveld & Pérez Quintero observe, such a position entails that the descriptions of a wide range of linguistic facts, from various languages, different varieties of language, language pathologies, etc. should all be compatible, in that all would be subject to the same set of restrictions. Note that these proposals have the effect of shifting the role of typological adequacy from an explanatory to a descriptive criterion.

4. A very similar proposal is also made, in relation to structural-functional grammars in general, in Butler (1991b: 63–64).

5. Boland’s work on language acquisition within the framework of FG will be described in Chapter 5 of Part 2.

3.2 The simplex clause in Dik's account of Functional Grammar

3.2.1 Within and outside the simple clause

A distinction is made, in FG, between clauses proper and extraclausal constituents, which are more loosely connected to the clause, initially, medially or finally. They are distinguished from clause constituents by always being non-essential, by being set off from the clause by "pause-like inflections in the prosodic contour", and by not being sensitive to grammatical rules operating within the clause, although they may be linked to the clause by rules involving coreference, parallelism and antithesis (Dik 1997b:381). Several types of extraclausal constituents are mentioned by Dik in *TFG1* (1997a:49, 311), and this account is modified and expanded considerably in *TFG2* (1997b:Chapter 17), where the classification in Fig. 3.1 is proposed and elaborated upon.⁶

A few examples from English are given below:

- (1) *Well, Mr Kendall, thank you for your time.* (BNC ADY 2374)
 Response Address
 Initiator
- (2) *As for the Normandy campaign, I wouldn't have missed it for the world.*
 ←———— Theme —————→ (BNC A61 2466)
- (3) *Anything is better than starving, isn't it.* (BNC CKD 1106)
 Tag
- (4) *She's good, this girl, ...* (BNC CLF 2050)
 Tail

FG contains an explicit model of clause structure, which is presented in terms of a quasi-productive, bottom-up mode in which the full complexity of clause structure is gradually built up from the simplest elements. This mode of presentation is chosen because, as Dik (1997a:56–57) points out, the higher levels of organisation presuppose the lower levels, so making it difficult to start with the most complex structures and work downwards to their component elements. Dik recognises, however, that there are complexities, both within the grammar itself and also in the mechanisms for the actual production and understanding of language, which mean that the relationship between the grammar and language processing is an indirect one.

Firstly, there are both top-down and bottom-up dependencies within the grammar: for example, as Dik (1997a:56) points out, the choice of an imperative clause (which, as we shall see, occurs at a relatively high level in the model for clause structure) constrains the choice of a State of Affairs type for that clause (a lower level choice), since it must be a controllable State of Affairs in which the Addressee occupies the first argument position. Looking at it the other way round, if we choose, as the nucleus for our clause, a predicate

6. Extraclausal constituents will be discussed in more detail at appropriate points in this book and also in Part 2, where I deal with matters related to information structuring.

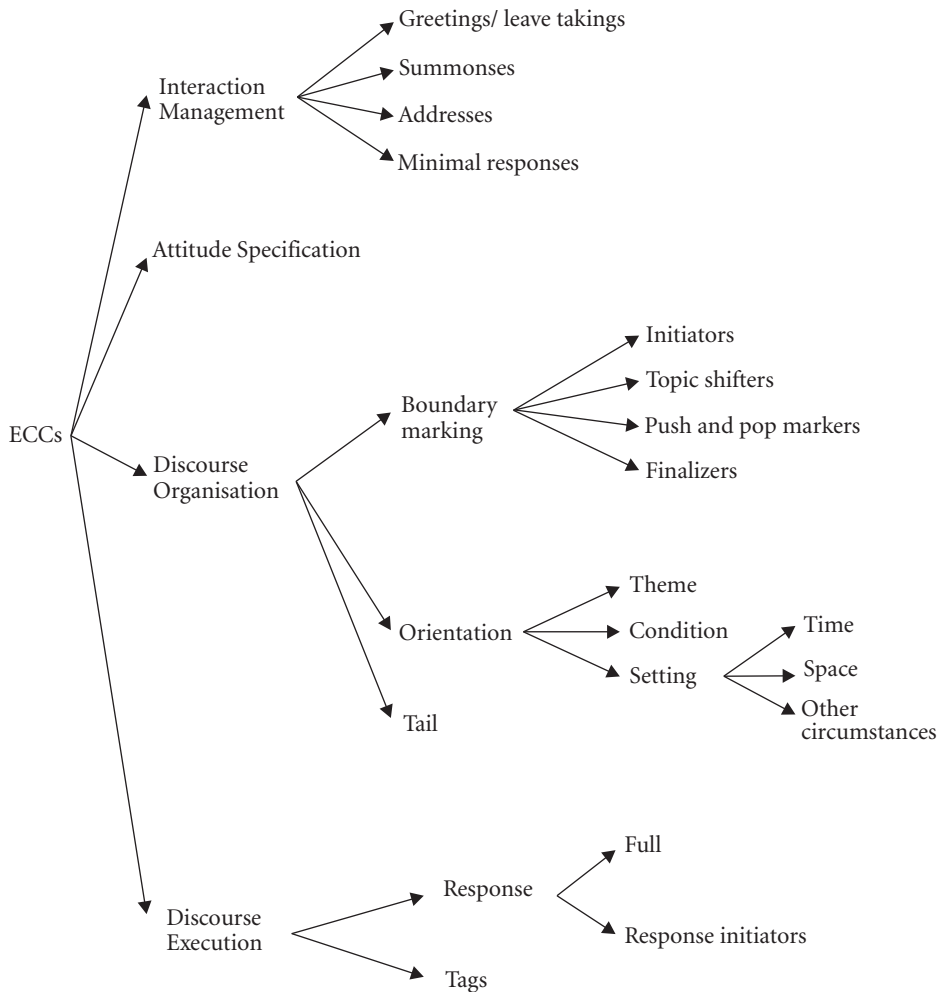


Figure 3.1. Classification of Extraclausal Constituents according to Dik (1997b:Chapter 17)

representing a non-controllable State of Affairs, then we are barred from choosing imperative as an illocutionary force. Secondly, any psychologically adequate model will have to serve for both production and understanding of natural language.

Dik (1997a:57) makes it clear that the mode of presentation is only **quasi-productive**, in that the order of presentation is not claimed to mirror the actual sequence of operations which occurs in language production by a speaker. A totally adequate model for actual production would need to contain both a knowledge base and an expression generator, together with an interface between the two. Furthermore, Dik believes that there may be more than one possible sequence of operations for actual generation: a speaker might start with a predicate, or with one or more arguments of the eventual predicate, and fill

in the rest accordingly. There is also the possibility of parallel processing in sentence generation. The relationship between the grammar and online processing is expressed by Dik as follows:

In a sense we could say that the theory defines a complex instrument, and that additional psycholinguistic theories of text production and interpretation are required in order to specify in what different ways natural language users can play on that instrument. (Dik 1997a:58)

The process of generating the full structure of the clause (see Dik 1997a:49) has two main parts. First, the underlying clause structure (UCS) is generated. This is an unordered, basically semantic structure, though with some syntactic and pragmatic functional information included. The UCS is then subjected to a set of expression rules, which translate it into the final clause structure, by specifying the form of constituents, their ordering, and the appropriate prosodic patterns (accentuation, intonation).

An important property of the UCS is that it is built up in layers, which are motivated in terms of the different types of phenomena they are concerned with, and in terms of scope relations. The following summary is based on Dik (1997a:50):

predicate	represents	property/relation
term	represents	entity
nuclear predication	represents	state of affairs
core predication	represents	qualified state of affairs
extended predication	represents	located, qualified state of affairs
proposition	represents	possible fact
clause	represents	speech act

3.2.2 Generating the underlying clause structure

3.2.2.1 *Predicates and predicate frames*

The basic elements of the schema for generating the UCS are described in Chapter 3 of Dik (1997a), on which the following account is based. The process begins with the selection of a **predicate**.⁷ Predicates, which as we saw above designate properties or relations, may be verbal, nominal or adjectival. Basic predicates are those which must be known by a language user in order to be deployed appropriately (e.g. *arrive, window, large*); derived predicates are those which can be formed from basic predicates by means of productive predicate formation rules (e.g. the Agent Noun Formation rule which derives nouns such as *writer, holder* from verbs (*write, hold*) (Dik 1997b:3)). All predicates are lexical items of the language.⁸ Each predicate can be applied to an appropriate number of **terms**, which refer to entities in the mental (rather than physical) world. A typology of entities is pre-

7. For a clear and detailed survey of FG views of the predicate, see Mackenzie (2002).

8. These may include multi-word items such as idiom chunks, etc.

sented by Dik (1997a: 136–147). Terms, like predicates, can be basic or derived. Basic terms can be used only as terms, and need to be known by the speaker if they are to be used correctly. Proper names and personal pronouns are thus basic terms. Most terms, however, are derived through the application of productive term formation rules (see Chapter 7) which may generate fairly simple term structures (e.g. *the boy*) or complex ones (e.g. *the boy over there in the red sweater* or *anyone in the university who thinks functional linguistics is too boring to be worth studying*). Basic predicates and basic terms are listed in the **lexicon**; predicates and terms, both basic and derived, together constitute the **fund**.

Predicates are not listed in the lexicon in total isolation, but as **predicate frames**, which specify the syntactic category, or ‘Type’ (V, N, A) of the predicate, the number of arguments (quantitative valency), their semantic functions (qualitative valency) and any semantic selection restrictions imposed on those arguments in non-metaphorical usage.⁹ Some examples from Dik (1997a) are given below:¹⁰

- (5) *eat* [V] (x_1 : <anim>)_{Ag} (x_2 : <food>)_{Go} (Dik 1997a: 95)
 (6) *give* [V] (x_1 : <anim>)_{Ag} (x_2)_{Go} (x_3 : <anim>)_{Rec} (Dik 1997a: 91)
 (7) *die* [V] (x_1 : <anim>)_{Proc} (Dik 1997a: 101)
 (8) *pretty* [A] (x_1 : <fem>)_∅ (Dik 1997a: 96)

Expressed in ordinary English, (5) tells us that *eat* is a verbal predicate with two arguments, the first of which must be animate, and acts as the Agent, while the second acts as the Goal¹¹ of the action of eating, and must be an item of food. (6) tells us that the verbal predicate *give* has three arguments: an animate Agent, a Goal, and an animate Recipient. (7) gives the information that *die* is a verbal predicate with a single animate argument, with the semantic function Processed. (8) shows that *pretty* is an adjectival predicate, with a single argument which has Zero semantic function and must (in one meaning of the predicate) refer to a female entity.¹²

The specifications in (5)–(8) are in fact simplified forms of representations which include a **predicate variable**, symbolised as ‘f’.¹³ The full representation for (8) is shown in (9):

- (9) (f_i : *pretty*) [A] (x_1 : <fem>)_∅

9. Dik (1997a: 94–95) claims that certain types of metaphorical interpretation can be accounted for in terms of the relaxation of selection restrictions.

10. Dik (1997a: 86) contemplates the inclusion of other, partially redundant information within the Type specification, for certain purposes. I shall not go further into these matters here.

11. Goal, as used by Dik, is what is referred to as Patient in many other approaches: indeed, in Dutch writings, Dik uses the term *Patients*.

12. The semantic functions postulated in FG (such as Agent, Goal, Recipient, Processed, Zero) will be discussed in Chapter 8.

13. The concept of the predicate variable was introduced by Dik (1989a: 50), and then developed by Hengeveld (1992a) and Keizer (1992a).

The need for a predicate variable is shown by the possibility of referring anaphorically to the predicate, as in the Spanish example in (10), where the *lo* in bold type refers back to the predicate *moderno*, so that the structure would have the ‘f’ variable for the adjectival predicate *moderno* as the content of the anaphor.

- (10) ... *yo no sé si mi padre es moderno, pero desde luego si no **lo** es, lo siento mucho por él*
 I NEG know-PRES.1SG if my father be-PRES.3SG modern but
 of course if not it be-PRES.3SG it feel-PRES.1SG much for him
 ‘...I don’t know if my father is modern, but of course if he isn’t, I’m very sorry about it for him.’ (HCM 19, 356)

Dik (1997a: 83) remarks that in most cases, the simplified form of representation, without the ‘f’ variable being shown, is adequate. I shall follow this practice here.

Also accompanying the predicate frame is a set of **meaning postulates** which, taken together, provide a meaning specification for the predicate in terms of entailment relations. For instance, Dik (1997a: 97) proposes the following meaning postulate to account for part of the meaning of the word *bachelor*:

- (11) (= Dik’s (44)) *bachelor(x) → not (married(x))*

Note that meaning postulates relate one predicate to another, being expressed entirely in terms of predicates existing in the language. Thus this classical version of FG postulates no abstract semantic primitives such as the components of componential analysis. Dik points out that meaning postulates cannot be expected to provide complete meaning definitions in all cases. He gives the example of the word *geranium*, where what differentiates a geranium from other plants is something which the average user of the word would probably be unable to explain technically. Dik (1997a: 98) suggests that in such cases we may operate with a mental image which may allow us to differentiate between that particular type of object and other types. In cases where complete definitions can be provided, they take the form of bilateral entailment (equivalence):

- (12) (= Dik’s (45)) *bachelor(x) ↔ unmarried man(x)* (Dik 1997a: 98)

The predicates involved in the definition are, however, themselves complex, in that both *unmarried* and *man* can be further defined as ‘not having a spouse’ and ‘adult male person’ respectively. Semantic specification in FG follows the principle of **stepwise lexical decomposition**, discussed extensively in Dik (1978b), according to which each predicate is defined in terms of the ‘highest’ available predicate of the language. Dik (1997a: 100) illustrates this principle with definitions for the predicates *assassinate*, *murder*, *kill* and *die*:

- (13) (= Dik’s (54))
- | | |
|----------------------|----------------------------------|
| <i>assassinate</i> : | murder in a treacherous way |
| <i>murder</i> : | kill a human being intentionally |
| <i>kill</i> : | cause an animate being to die |
| <i>die</i> : | become dead |

3.2.2.2 Building the nuclear predication

Insertion of terms into the argument slot(s) of the predicate frame, in accordance with any selection restrictions, produces a **nuclear predication**. (14) and (16), with analyses in (15) and (17) respectively, show examples with the predicate *give* (note that we are not concerned here with the internal structure of terms, covered in Chapter 7, nor with tense, which is discussed briefly in §3.2.2.4 and in much more detail in Chapter 9):

- (14) *So they gave him milk ...* (BNC CJT 55)
 (15) *give* [V] (*they*)_{Ag} (*milk*)_{Go} (*he*)_{Rec}¹⁴
 (16) *Richard Gere gives money to Tibetan refugees ...* (BNC HJS 800)
 (17) *give* [V] (*Richard Gere*)_{Ag} (*money*)_{Go} (*Tibetan refugees*)_{Rec}

As dictated by the predicate frame given in (6), a term referring to an animate entity has been substituted for the x_1 variable (*they*, *Richard Gere*) to act as Agent, a term has also been inserted into the x_2 slot (*milk*, *money*) to act as Goal, and finally a term representing an animate entity has been substituted for the x_3 variable (*he*, *Tibetan refugees*) to act as Recipient. Note that there is no specification of the order in the final clause of the noun phrases acting as arguments, nor is there any indication that if the Recipient NP comes after the Goal NP, it must be marked by a preposition (in this case, *to*): these are matters for the expression rules, not for the UCS.

The nuclear predication designates a **State of Affairs (SoA)**, that is, “the conception of something which can be the case in some world” (Dik 1997a: 105). Note that SoAs are not real-world but mental entities, as also are the entities designated by predicates and terms. The classification of SoAs will be discussed in Chapter 8.

3.2.2.3 Operators and satellites: from nuclear to core predication (Level¹⁵ 1)

The nuclear predication has no specification of properties like tense and aspect. The next stage is to specify the predication further by means of **predicate operators** (Dik 1997a: 219–225) and **predicate satellites** (Dik 1997a: 225–232). Operators are used for those phenomena which get expressed **grammatically**, while satellites are used where the expression is **lexical**. Predicate operators further define the internal structure of the SoA, and include, for example, phasal aspect distinctions such as progressive in English, as exemplified in (18) below:¹⁶

- (18) *What are you doing?* (BNC GUK 630)

Satellites differ from arguments (although the borderline is fuzzy) in that they are always optional, and are thus not required by the semantics of the predicate. Examples of satellites

14. The personal pronouns in this clause would actually be given a more abstract representation in a full FG structure: see §7.2.1.4 for details.

15. Although Dik writes of layers in the structure of the clause, he uses the term ‘level’ when referring to the stages in the build-up of the clause. But see also §3.3.

16. For discussion of aspect in FG, see Chapter 9.

which can get added at this stage, because they modify the State of Affairs itself, are those which specify Manner, Speed or Instrument. The relevant satellites are highlighted in the examples given below:

- (19) *I wandered **aimlessly** around the National Gallery just for something to do and then went home.* (BNC A0F 911)
- (20) *The answer **quickly** became apparent: ...* (BNC A15 1383)
- (21) *When dry, remove grease by wiping with a **fluff-free cloth dipped in methylated spirit**.* (BNC C8A 1214)

L1 satellites also include those of Direction ('place to/towards which'), Source ('place from which') and Path ('place through which'), as well as optional participants in the SoA, such as Beneficiary ('person/institution for whose benefit something is done') and Company ('entity together with whom/which'). Finally, Dik also locates at L1 those modality distinctions which reflect inherent characteristics of a participant such as willingness or ability. The result of adding operators and/or satellites at the predicate level (Level 1 in the hierarchy) is a **core predication**.

3.2.2.4 From core to extended predication (Level 2)

The core predication is now supplied with a variable, symbolised as *e*, representing the SoA whose nature is specified by that predication. This variable is needed for a number of reasons (Dik 1997a: 232–236). Firstly, we need to be able to disambiguate sentences such as (22), where both *the drawing of it* and *his drawing* could theoretically refer to an entity (the product of drawing, symbolised by *x* in the FG representation) or to a State of Affairs (the act of drawing, symbolised by *e*), though the context disposes us, in this particular example, to treat the former expression as referring to a State of Affairs and the latter as referring to an entity:

- (22) *A child will learn far more about a dandelion if he has to draw it because to draw it he must observe it very carefully and **the drawing of it** will implant the shape and colour and texture firmly in his mind, even though **his drawing** may not be very good or life-like.* (BNC EVH 822)

Secondly, nominals which on the surface appear to represent entities may in fact be used to represent States of Affairs, as in (23):

- (23) *The following year, Jasper Johns began his series of American flags and targets: ...* (BNC A7M 184)

Here, *his series of American flags and targets* represents the activity of the painter Jasper Johns in painting pictures representing flags and targets, and so encodes a SoA, requiring the *e* variable.

Another argument for the SoA variable is that we may need to refer anaphorically to an SoA:

- (24) *And he's crafty; you can see **it** in his face.* (BNC CFY 456)

Here, if, as seems reasonable, *see* is interpreted in its visual sense, then *it* refers to the SoA encoded as *he's crafty*.

The core predication is expanded into an **extended predication** by means of **predication operators** and further **satellites**, operating at Level 2 (Dik 1997a:232–245). The difference between the operators and satellites at L1 and L2 is that the L1 add further details to the SoA itself, whereas the L2 leave the SoA intact, but situate it with respect to time, space and cognitive co-ordinates. So tense operators such as Past work at L2, as do temporal satellites:

- (25) *Individual colleges then presented their proposals to SCOTVEC at the end of February...* (BNC HBN 991)

Satellites encoding spatial Location, Circumstance (concurrence of two SoAs), Result, Purpose, Reason and Cause are also located at L2. Some examples follow:

- (26) *In London an increasing amount of space is being mothballed ...* (BNC AHJ 593) (Location)
- (27) *... this gradually fed through into more academic forms of research, virtually fed through into popular consciousness so that erm you end up with, particularly in the late eighties early nineties, erm a great deal of interest in the media, a great deal of interest among professionals in [s] child sex abuse and child abuse generally.* (BNC KGW 22) (Result)
- (28) *Tom wouldn't wear rain gear because he couldn't find a set to really fit his 6ft 3in frame, ...* (BNC ASA 1138) (Reason)

Also at L2 are quantificational aspect operators which deal primarily with frequency (e.g. whether the SoA occurs once, several times, many times, etc.), and perspectival aspect operators, concerned with whether an SoA is presented prospectively (e.g. as signalled by *going to* in English) or retrospectively (e.g. Perfect Aspect in English, signalled by *have + past participle*).

Dik also locates at Level 2 those 'objective' modalities which express speakers' assessments of the likelihood of occurrence of the SoA, in terms of their knowledge of SoAs in general (epistemic modality) or of a prevailing system of norms (deontic modality). Polarity distinctions are seen as the logical extremes of epistemic objective modality.¹⁷

It is important to note that operators at Level 2 have scope over those at Level 1: indeed, more generally, we can say that an operator at any given level has scope over those at lower levels (see Dik 1997a:381, based on the proposals in Hengeveld (1989)).

3.2.2.5 *Perspectivising the SoA: Subject and Object assignment*

In FG, the assignment of the syntactic functions Subject and Object is seen in terms of alternative perspectives or 'vantage points' on the SoA (Dik 1997a:Chapter 10). Consider again Example (16), repeated for convenience as (29) below:

17. Modality and polarity distinctions in FG will be discussed in more detail in Chapter 9.

- (29) *Richard Gere gives money to Tibetan refugees.* (BNC HSJ 800)
S O

To this active structure correspond the two passives in (30) and (31):

- (30) *Money is given by Richard Gere to Tibetan refugees.*
S
(31) *Tibetan refugees are given money by Richard Gere.*
S

In (29), the assignment of Subject function to the Agent *Richard Gere* means that the SoA ‘give (*Richard Gere*_{Ag}, *money*_{Go}, *Tibetan refugees*_{Rec})’ is presented from the standpoint of the Agent, while in (30) the Goal is chosen as the participant from whose standpoint the SoA is presented, and in (31) the Recipient.

Consider now (32):

- (32) *Richard Gere gives Tibetan refugees money.*
S O

Whereas in (29) the Object function is assigned to the Goal *money*, in (32) it is assigned to the Recipient *Tibetan refugees*. This is seen in FG as a secondary perspectivisation of the SoA, once the primary perspective has been fixed in terms of Subject assignment.

It is important to realise that this is not the only kind of perspectivisation which is imposed on the clause: later, we shall see that there is an additional set of **pragmatic functions** which offer further options for perspectivisation, but this time in terms of the overall informational status (topicality, focality) of the referents in relation to the discourse context.

Dik (1997a:252–253) presents a number of reasons why a speaker might want to perspectivise an SoA in a particular way: empathy with a particular entity; the preference of some languages for definiteness in Subjects; the desire to leave an entity unspecified (e.g. omitting *by Richard Gere* in (30) or (31)); restrictions on the formation of relative clauses in some languages, necessitating the reformulation of a clause into a form in which the constituent to be relativised is in Subject position; politeness conventions barring direct address of the Addressee in directives and so leading to preference for passive forms.

Dik (1997a:254–257) demonstrates that the syntactic functions Subject and Object cannot be reduced to (combinations of) semantic or pragmatic functions. The whole point of syntactic function assignment is that Subject or Object function can be applied to different semantic functions – e.g. Subject to the Agent in (29), the Goal in (30) and the Recipient in (31); Object to the Goal in (29) and the Recipient in (32). And although, as we shall see later, there are unmarked correspondences between Subject and particular options within the area of pragmatic function (Topic and/or Focus), independent choice is nevertheless possible; furthermore, S/O assignment has to do with perspectivising the

SoA itself, while Topic/Focus assignment is concerned with matching the information presented in the clause with the discourse context.¹⁸

It should be noted that the FG treatment of Subject and Object differs from the traditional account, and from the approach in many other grammars, in that a given language may have Subject assignment, Subject and Object assignment, or neither. Further, the function Object is not assigned to items such as *to Tibetan refugees* in (29) or (30), which in some traditional accounts would be treated as Indirect Object.¹⁹ The criterion for assignment of Subject is that the language must exhibit at least one active/passive distinction, where

- the passive expresses the same content as the active but in an alternative way;
- the passive contains a non-first argument which shares coding properties with the first argument of the corresponding active (e.g. in English, occurrence in Subject position, absence of a preposition, nominative case if a pronoun, person and number agreement with the finite verb);
- this non-first argument also shares behavioural properties with the first argument of the corresponding active, i.e. where Subjects control such processes as reflexivisation, relativisation, raising, etc.

Similarly, Object assignment is relevant to a language only if that language has at least one active/passive distinction in which the identity of the SoA is preserved, and a non-second argument in the passive shares relevant coding and behavioural properties with the second argument of the active (e.g. in English, position just after the verb – as for *Tibetan refugees* in (32), but not in (29)).

Finally, note that accessibility of various constituents to Subject and Object assignment differs across languages. In some languages, such as Dutch, only the Agent or the Goal can have Subject function; in others, such as English and Japanese, the Recipient may also get Subject function, and in yet others, such as the Philippine language Cebuano, even locative and temporal satellites may be converted into Subjects. Multiple possibilities for Subject assignment (e.g. in Philippine languages) may give rise to voice systems which are much more complex than that of English and other familiar Indo-European languages. Building on earlier work, Dik (1997a: 266, example (41)) postulates a **Semantic Function Hierarchy** which restricts possible language systems in terms of a set of implicational universals. The hypothesis is that if, in a particular language, Subject function can combine with a particular semantic function in the hierarchy in Fig. 3.2, it will also combine with all the semantic functions further left in the hierarchy, and similarly for Object.

This basic hierarchy is modified during later discussion in *TFG1* (Dik 1997a: Chapter 11). Space precludes detailed discussion here: basically, the arguments presented by Dik lead to the following refinements:

18. Of course, choices in the perspectivisation of the SoA itself, by S/O assignment, may themselves also be ultimately related to the discourse context.

19. See, however, Martín Arista (1994), where it is argued that a distinction between Direct and Indirect Objects can be motivated pragmatically and semantically as well as syntactically.

	Ag	>	Go	>	Rec	>	Ben	>	Instr	>	Loc	>	Temp
Subj	+	>	+	>	+	>	+	>	+	>	+	>	+
Obj			+	>	+	>	+	>	+	>	+	>	+

Figure 3.2. The Semantic Function Hierarchy

- Subject assignment to Loc and Temp is reconsidered. As Dik (1997a:271–272) points out, the quality of the SoA is defined only by arguments and Level 1 satellites, and we would therefore expect that the SFH should affect only these. Loc and Temp, however, are normally Level 2 satellites. Dik (1997a:272–275) argues that the cross-linguistic evidence for Subject assignment to Temp is very weak, and that assignment to Loc may be confined to ‘inner locatives’ of Source, Path or Direction, which are very close in status to arguments.
- Agent and Goal functions are replaced by the more general ‘first argument’ (A1) and ‘second argument’ (A2) functions and a ‘third argument’ (A3) position is also recognised (see also Dik (1997a:119–120)).²⁰
- Dik develops a multi-factor approach which recognises that accessibility may be conditioned not only by the hierarchy A1 > A2 > A3 > Level 1 satellites, but also by other factors such as preference for definite over indefinite Subjects, for 1st and 2nd persons over 3rd, for human over other animate and then inanimate entities, for concrete over abstract, for first order over second order, and for terms from the same predication over those from a subordinate predication.

Further discussion of the Semantic Function Hierarchy can be found in *TFG2* (Dik 1997b:365–376).

3.2.2.6 From predication to proposition (Level 3)

So far, we have seen how an extended predication can be built up by means of the following steps:

- selection of a **predicate**;
- selection of terms to fill the arguments slots of the predicate frame, in accordance with the selection restrictions imposed, so giving a **nuclear predication**;

20. For more detail on these semantic functions see Chapter 8. Mention of ‘first argument’, ‘second argument’, etc, should not, of course, be taken to imply linear ordering of the elements of the predicate frame. As we have seen, the underlying representation of the clause is unordered, matters of ordering being the province of the expression rules, so allowing statements of considerable cross-linguistic validity to be made at the underlying level, language-(group) specific matters of sequence being separately dealt with in the expression component. Ordering in the predicate frame reflects a hierarchy of importance of semantic functions within the predication, Agents being more central than Goals, and these in turn more central than, say, Recipients (Dik 1997a:80).

- expansion of the nuclear predication into a **core predication** by means of **Level 1 operators and satellites**;
- further expansion into an **extended predication** by means of **Level 2 operators and satellites**.

We have also seen how, once the SoA itself has been completely specified, it can be perspectivised by means of the assignment of Subject and Object syntactic functions.

The next step in the construction of underlying semantic structure of the clause is the conversion of the extended predication into a **propositional structure**, at **Level 3** in the hierarchy. The difference between a predication and a proposition, in Dik's model, is that:

- a **predication** represents a **State of Affairs**, which occurs in time, space, etc. and can be seen, heard, etc.;
- a **proposition** represents a **possible fact**, which can be known, remembered, believed, etc.

Consider the following examples:

(33) *We knew that they were testing them ...* (BNC KCN 1858)

(34) *We saw them testing them ...*

(35) *We saw that they were testing them ...*

In (34), what is seen is the physical situation represented by the SoA, viz. someone testing something: the complement of *saw* here is a predication. However, in the original sentence from which the others are adapted, (33), the complement clause represents a situation which is conceptualised as a fact, and so is at the propositional level. We can now see that (35) is ambiguous: if *saw* represents a visual process, then the complement clause is predicational; if it represents a cognitive process, roughly equivalent to 'realise' or 'understand', then the complement clause is at the propositional level.

Just as there is a variable, *e*, representing the SoA at the predicational level, so there is a variable, *X*, which represents the propositional content. This is necessary because we can refer anaphorically to this content, as in (36):

(36) *They were testing them, and he knew it.*

Here, *it* refers anaphorically to 'what he knew', i.e. the fact that 'they were testing them'.

Just as operators and satellites at Levels 1 and 2 modify the SoA, so operators and satellites at Level 3 modify the proposition, providing details of the speaker's attitude towards the propositional content. Here belong subjective and evidential types of modality, evaluations of the content in terms of its wisdom, expectedness, and so on. These may be expressed grammatically (i.e. by means of operators), lexically (as satellites) or both, according to the language. Some examples from English are given below:

(37) *She was seventeen or eighteen and **certainly** pretty.* (BNC J2G 206)

(38) ***In my opinion**, we have not seen the last of this matter.* (BNC GVP 238)

(39) ***But apparently** it was stolen last week.* (BNC KB8 11152)

3.2.2.7 From proposition to clause (Level 4)

The final level in Dik's account of the underlying structure of the clause is Level 4, at which the proposition is converted into a full clause, representing a speech act. An illocutionary variable, E, is needed in order to account for the ability to refer anaphorically to the speech act, as in (40) below, where *that* in B's comment could be interpreted as relating to the whole of A's speech act:

- (40) A. *That was just plain bloody-minded of you.*
 B. *Coming from you, that's ridiculous.* (BNC AB9 690)

Dik's analysis of illocution, summarised briefly in *TFG1* (Dik 1997a:300–307) and discussed in much more detail in *TFG2* (Dik 1997b: Chapters 11 and 12), is confined to illocution as encoded in linguistic expressions, leaving to pragmatic interpretation any mismatches between coded illocutionary force and the force intended by the speaker, or understood by the hearer.²¹ Starting from the fact that certain types of illocution are widely coded in the world's languages, Dik proposes four illocutionary operators: Decl(arative), Int(errogative), Imp(erative) and Excl(amative). These basic illocutions, Dik proposes, can undergo a process of 'illocutionary conversion', which may be pragmatic (i.e. purely in terms of intention and interpretation, and so handled by a wider theory of verbal interaction rather than by the grammar itself), lexical (the use of explicit performatives),²² or grammatical (e.g. tag questions on declaratives in English).

Illocutionary (Level 4) satellites allow the speaker to comment lexically on the speech act. Compare (41), with *frankly* as a Level 4 satellite, with (42), where *frankly* is a manner satellite at Level 1, forming part of the SoA itself:

- (41) *Frankly it's rather monotonous.* (BNC EEL 723)
 (42) *"It's more than possible," Doreen admitted frankly.* (BNC HHB 2262)

3.2.2.8 Pragmatic function assignment

Consider the following stretch of dialogue:

- (43) A. *What is a wok?*
 B. *A wok is one of those big Chinese frying pans ...* (LLC 2 7 1299–1300)

Theoretically, there are various ways in which B's reply could be delivered, differing in intonation placing and contours, among which are the following, in which underlining is intended to mark the intonational nucleus:

- (44) *a wok is one of those big Chinese frying pans*
 (45) *a wok is one of those big Chinese frying pans*

21. FG approaches to illocution will be discussed in detail in Chapter 1 of Part 2.

22. We shall see in Chapter 1 of Part 2 that Dik in fact drops the category of lexical illocutionary conversion in *TFG2*.

(46) *a wok is one of those big Chinese frying pans*

Note that in the context of the exchange in (43), only (44) is appropriate: (45) is inappropriate because it appears to contrast big Chinese frying pans with smaller ones, rather than to define a wok as a frying pan of some kind; (46) is odd because *wok* is singled out for focus, although this word conveys information which, after A's question, forms part of the negotiated background to the discourse at this point.

Now consider (47) and (48):

(47) *There came a muffled exclamation and a curse.* (BNC B20 2780)

(48) *A muffled exclamation and a curse came.*

The original version, (47), is very much more acceptable than the alternative (48). When a new referent (in this case the double referent, a muffled exclamation and a curse) is introduced into the discourse, in English and in many other languages, it typically takes up a late position in the clause, which is salient in processing terms. (47) uses the existential *there* construction as a device for ensuring the late placement of such material; (48), on the other hand, places the expression encoding the new referent in the normal, early Subject position.

What is at issue in these examples is the way in which the information encoded in the clause is presented, in relation to the ongoing discourse context. For a rather different kind of example, we may turn to Hannay's (1993) discussion of sentences from his corpus of English as produced by advanced Dutch learners. One of the examples he presents is given below:

(49) (= Hannay's 19a) *In unruptured tubal pregnancies, frequently a single MTX course results in a resolution of the ectopic pregnancy.*

(50) (= Hannay's 19b) *In unruptured tubal pregnancies, a single MTX course frequently results in a resolution of the ectopic pregnancy.*

As Hannay points out, the second (rewritten) version is to preferred over the first (which actually appeared in his learner corpus), and Hannay interprets this in relation to the informational function of satellites in pre-Subject position in such examples, which can be seen as that of providing a setting for interpreting the core of the proposition. In (49), there are two such settings, and this leads to a confusing effect on the reader, while in (50) there is a single setting, the frequency adverbial being placed later in the clause.

In FG, matters concerned with alternative presentations of information in the clause, in relation to the discourse context, are handled by means of a set of **pragmatic functions** assigned right at the end of the process for building underlying clause structure. Distinctions such as those in (44)–(46) are concerned with the allocation of the pragmatic function Focus; (47) and (48) are concerned with the introduction of material bearing the pragmatic function New Topic; and the distinctions in (49) and (50) are handled by Hannay in terms of a pragmatic function which he calls Setting.

Note that these pragmatic functions represent a further perspectivisation of the information in the clause, additional to the perspective on the SoA provided by the assignment of the syntactic functions Subject and Object.²³

Dik's preliminary account of pragmatic functions in *TFG1* (Dik 1997a:Chapter 13) is greatly amplified in *TFG2* (Dik 1997b: Chapters 13 and 14). In addition to clause-internal functions (different types of Topic and Focus), Dik postulates a number of pragmatic functions relating to extracausal constituents (1997b:Chapter 17). FG approaches to pragmatic functions will be discussed in more detail in Chapter 2 of Part 2.

3.2.2.9 An example derivation

For purposes of illustration, I shall now present a skeleton derivation (omitting details of term structure, which will be discussed in Chapter 7) of the underlying structure of the clause in (51), taken from (39) with the omission of the linking conjunction *but*:

(51) *apparently it was stolen last week* (BNC KB8 11152)

The predicate *steal* may be taken to have the predicate frame in (52):

(52) *steal* [V] (x_1 : <anim>)_{Ag} (x_2)_{Go} (x_3 : <anim>)_{So}

Although no Agent or Source is overtly expressed in the clause, there is still an underlying Agent and Source in the semantics. We can insert *it* into the Goal slot, giving the nuclear predication in (53):

(53) *steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{Go} (x_3 : <anim>)_{So}

There are no Level 1 operators or satellites, so we provide the SoA with its *e* variable and proceed to add the Level 2 Past Tense operator and the temporal satellite, showing the nuclear predication by bracketing:²⁴

(54) Past *e*_i: [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{Go} (x_3 : <anim>)_{So}] (*last week*)_{Temp}

To generate the correct alignment of semantic and syntactic functions in the passive, we assign Subject function to the Goal constituent:

(55) Past *e*_i: [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{GoSubj} (x_3 : <anim>)_{So}] (*last week*)_{Temp}

We can now add the variable, *X*, for the propositional content, and also the Level 3 inferential satellite *apparently*:

(56) *X*_i: [Past *e*_i: [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{GoSubj} (x_3 : <anim>)_{So}] (*last week*)_{Temp}] (*apparently*)_{Inferential}

23. Note, however, that Haberland & Nedergaard Thomsen (1994) and Martín Arista (2001:125) consider the concept of perspectivisation which underlies the syntactic functions to be motivated by information structural considerations.

24. Many representations in this book, as in Dik's work, will be simplified by omission of detailed bracketing where this is unlikely to lead to misinterpretation.

The speech act variable E is added, and also the Decl illocutionary operator at Level 4:

- (57) E_i : [Decl [X_i : [Past e_i : [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{GoSubj} (x_3 : <anim>)_{So}] (*last week*)_{Temp}] (*apparently*)_{Inferential}]]

Finally, we can add the pragmatic functions Topic and Focus. We shall assume that the pronominal Goal *it* is likely to be Topic (in fact, the subtype of Topic labelled Given Topic, since it carries already negotiated information). We shall also assume that the clause arises in discourse as a reply to a question about when the item was stolen, so that *last week* is Focus, in fact the type which Dik calls Compleitive Focus.

- (58) E_i : [Decl [X_i : [Past e_i : [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{GoSubjGivTop} (x_3 : <anim>)_{So}] (*last week*)_{TempFoc}] (*apparently*)_{Inferential}]]

The underlying structure in (58) would then form the input to the expression rule component, to which I now turn.

3.2.3 Expression rules

As we have seen, FG is presented, in *TFG1*, in a quasi-productive mode, in which the underlying structure of the clause is input to a set of expression rules, which “determine the form, the order, and the intonation contour of the constituents, given their structural and functional status within the underlying structure of the clause” (Dik 1997a:339). Dik also observes that in a complete model of the Natural Language User, these rules should be able to work also in the reverse direction, working out the underlying structure from a given linguistic expression. Such two-way expression rules have been specified in the computational implementation of FG known as ProfGlot (see Dik 1992).²⁵ An important feature of FG is that no rule is allowed to change some ‘basic’ structure into a ‘derived’ structure,²⁶ or to delete already generated material, as is the case in Chomskyan grammars.

There are interactions between expression rules determining the form of constituents, the order of these constituents, and prosodic contours. In some cases, form may be independent of order, but in others certain aspects of form may be dependent on ordering, or *vice versa*, so that two types of expression rule may need to be interleaved.

A fundamental distinction is made in FG between forms which a native speaker of the language must learn in order to use them correctly, and those which can be predicted by a productive rule. For instance, the past tense of a regular verb in English is entirely predictable from the infinitive, but verbs such as *begin*, *know*, *bring* have past tense and past participle forms which are not predictable by any fully productive rule, even though there may be a small set of verbs which share a set of patterns. Forms which cannot be

25. For discussion of ProfGlot, see Chapter 5 of Part 2.

26. There is, as Dik (1997a:21) notes, one area of FG in which transformations of a kind are indeed postulated: that of predicate formation, which derives predicate frames from other such frames. Dik notes that this is confined to the Fund.

predicted by productive rules are listed in the lexical entry for a predicate, as in the entry shown in (60) for the predicate in (59):

(59) *swim* [V] (x_1 : <anim>)_{Ag}

(60) paradigm(*swim*, [Past=*swam*, PaP=*swum*])

In order to prevent regular rules from applying to such cases, the principle of **lexical priority** states that when a rule is encountered in which some modification to an item occurs (e.g. formation of the past tense form), the lexicon must first be checked to see if the relevant form of the item is stated there. If so, that form is used; if not, the regular rule is applied. This will prevent the incorrect formation of words such as **swimmed* as the past tense of *swim*, since the past tense expression rule will check and find that the form *swam* is already stated in the lexical entry, as shown above.

The general form of form-determining expression rules is as in (61):

(61) Operator[Operandum] = Value
if Condition(s)

As an example, Dik gives the rule for the formation of regular noun plurals in English:

(62) (= Dik's (22), 1997a: 351)

- a. pl [pred[N]] = pred-/iz/
if last phoneme of pred is sibilant.
Otherwise,
- b. pl [pred[N]] = pred-/s/
if last phoneme of pred is voiceless.
Otherwise,
- c. pl [pred[N]] = pred-/z/

This set of rules correctly predicts that the plural of *kiss* is /kiziz/, that of *cake* is /keiks/, and that of *nib* is /nibz/.

The operators which play a part in expression rules of this type are clearly different from those involved in determining the underlying structure of the clause: the morpho-syntactic operators involved in expression rules are known as μ -operators; those which specify underlying properties at the predicate, predication, proposition and clause level as π -operators; while operators involved in term structure (see Chapter 7) are Ω -operators. The full set of μ -operators includes the other two types.

Form-determining expression rules may effect various kinds of change in their operands (Dik 1997a: 352–353), including: full or partial reduplication of material; mutation of one or more segments, the introduction of an auxiliary form (such as an auxiliary verb or inflectible adposition²⁷) which is further processed by later expression rules; the introduction of a terminal form, which is not further processed by later rules, and may

27. The term 'adposition' covers prepositions and postpositions.

be an affix, particle or non-inflectible adposition; and the introduction of an auxiliary μ -operator, which will act as an operator in some later rule.

Dik (1997a:353) thus distinguishes between two types of μ -operators: primary μ -operators (those involved in underlying clause structure, including π - and Ω -operators, and also semantic, syntactic and pragmatic functions), which make a direct contribution to the meaning of the clause; and auxiliary μ -operators which, as we have just seen, are introduced by one expression rule in order to trigger later ones, and which themselves have no unitary semantic interpretation. Good examples of auxiliary μ -operators can be found in the case systems of many languages. Dik (1997a:354–355) gives examples from Latin; here I shall illustrate from Finnish.²⁸ The adessive case in Finnish is indicated by the ending *-lla/-llä*²⁹ on the noun. This case has a wide range of semantic interpretations, including position in space, certain types of location in time, an activity in which someone is engaged, weather conditions under which something occurs, mental states in which we find ourselves, the means or instrument with which something is accomplished, or to indicate possession. This case is thus very far from having a unified semantic import, and cannot occur in underlying clause structure. Since, however, the allocation of adessive case has a predictable effect on the form of the noun, irrespective of semantic function, economy of generalisation demands that we map the various underlying semantic functions on to the auxiliary μ -operator Adessive, and then allow this operator to determine the form of the noun, rather than linking the varying underlying semantic functions directly to the form.

More than one μ -operator can apply to a given operandum, and the application may be sequential or simultaneous. For instance, in both Finnish and Russian, the form of a noun is determined by number (singular/plural) as well as case, but the application of the relevant operators differs because Finnish is an agglutinative language, with an accumulation of separate morphs for each grammatical property, whereas Russian is an inflecting language, in which more than one grammatical property may be fused into a single realisation. As an example, the Finnish noun *talo* (house) has the form *talolla* in the adessive singular, but *taloilla* in the adessive plural. The plural is thus marked by *-i-* and the adessive case by *-lla*, and in order to generate the correct form for the adessive plural, the operator for plural must apply before that for adessive case. On the other hand, in Russian, the genitive singular of *дом* (house) is *дома* and the genitive plural *домов*, so that the two properties, genitive case and number, are fused into one realisation rather than independently expressed. In this case, the case and number operators apply simultaneously to produce the correct output.

Space precludes the further discussion of form-determining expression rules here: interested readers should consult *TFG1* (Dik 1997a:Chapter 15), in which Dik discusses how expression rules affect the forms of predicates, terms and the clause as a whole.

28. See Whitney (1956:89).

29. The alternative forms arise because of the phenomenon of vowel harmony in Finnish.

I turn now to a brief consideration of expression rules involved in the ordering of constituents in the clause, presented and argued for in much greater detail in Chapters 16 and 17 of *TFGI*.³⁰ This type of expression rule specifies the placement of constituents, but the ban on transformation-like changes in FG means that they are not allowed to specify movement of a constituent from a previously determined position. So, for example, the ordering differences between declaratives and polar interrogatives in English are captured, not by generating a 'basic' declarative word order and then moving a constituent to arrive at the interrogative order, but rather by alternative placements dictated by differences in the underlying semantic structure of the clause. It follows that constituent order is seen not as a 'deep' property of languages, but as one of a number of devices for the expression of underlying relationships. No single basic word order for a given language need be postulated, and no 'deep' division is made between languages with relatively fixed and relatively free word order patterns. Finally, no language has absolutely free word order, since there are always some permutations of orderings which do not occur, and those which do occur normally signal communicative differences of some kind.

Dik proposes a multifunctional theory of constituent ordering, in which ordering is the product of a number of interacting principles, each of which can be functionally motivated, and which may reinforce each other or be in competition. Competing principles may lead to tensions in the constituent ordering system of a particular synchronic state of a language, and changes in the priority accorded to particular principles during the evolution of a language may lead to important changes in constituent ordering. Below are summarised the main general principles put forward by Dik (1997a: 399–404).

- **The Principle of Iconic Ordering** applies whenever constituent ordering reflects semantic content. For instance, if a main clause in English is ordered before a temporal clause with *before*, then the ordering reflects iconically the sequence of events, while the reverse ordering inverts the 'natural' sequence.
- **The Principle of Linear Ordering** applies when the linear order of constituents is fixed, wherever they may be in relation to the head of the construction: that is, we find orders such as xyzH, xyHz, xHyz, Hxyz.
- **The Principle of Centripetal Orientation** applies when ordering is determined by relative distance from the head, with the possibility of mirror image ordering around the head, so that we may get orders such as zyxH, zyHx, yxHz, zxHy, zHxy, yHxz, xHyz, Hxyz.
- **The Principle of Domain Integrity** applies when constituents prefer to remain within a particular domain (e.g. the clause as a whole, the term phrase, the adjectival phrase), not interrupted by constituents from other domains.
- **The Principle of Head Proximity** applies when the constituent ordering rules are such as to keep the heads of different domains as close together as possible.
- **The Principle of Functional Stability** applies when constituents with the same functional specification are put in the same position.

30. For a review of Dik's work on linearisation rules, see Siewierska (1988: Chapter 3).

- **The Principle of Pragmatic Highlighting** applies when constituents with particular pragmatic functions are placed in clause-initial position or in other special positions.
- **The Principle of Cross-domain Harmony** applies when there is consistency, in a language, between a preference for pre-head ('Prefield') or post-head ('Postfield') ordering in different ordering domains.

Dik (1997a:405–416) also argues for a number of more specific principles:

- Languages tend to have either Prefield or Postfield ordering with respect to the heads of various types of construction.
- Subjects tend to precede Objects.
- Relators (such as conjunctions, adpositions or case markers) prefer to be between the two elements they relate, or, if they form a constituent with one of the two elements, then at the periphery of this element.
- Clause-initial (P1) position is used for special purposes, including the placement of Topics and Focus-bearing constituents.
- As Subject is often also Topic, it will also often be in P1.
- There is usually less complexity in the Prefield than in the Postfield, and this will lead to strategies, in Prefield languages, for reducing this complexity.
- Constituents will, *ceteris paribus*, prefer placement in order of increasing complexity. Clitics normally come before pronouns, and these before noun phrases, then adpositional phrases and finally subordinate clauses. This is referred to as the 'Language-Independent Preferred Order of Constituents' (LIPOC).
- π -operators prefer to be expressed in the Postfield in Prefield languages, and in the Prefield in Postfield languages, or in second position in the clause.
- There is a tendency for expression of π -operators to reflect iconically their scope differences, by showing a centripetal kind of organisation: $\pi_4 \pi_3 \pi_2 \pi_1$ [stem] $\pi_1 \pi_2 \pi_3 \pi_4$.
- Term operators prefer to be expressed in the Prefield.
- Relative constructions prefer the Postfield.

Dik (1997a:Chapter 17) also discusses a number of further complications with respect to constituent ordering, which I cannot go into here. Some of these, however, will be discussed in Chapter 2 of Part 2 in relation to pragmatic functions.

Before we leave the constituent ordering rules, it should be noted that Bakker (Bakker & Siewierska 1993, Bakker 1994) has systematised and expanded Dik's list of general and specific ordering principles. He postulates (1994:145) that they can be accounted for by four types of force: iconicity, cross-level consistency, general processing principles and frequency. These four forces are used as the starting points for a hierarchy (see Bakker's Figure 17, 1994:146) in which Dik's principles are located, together with other related principles derived from the typological literature. The elements of the hierarchy are linked by two types of relation: 'is a type of' and 'is explained by': for instance, cross-domain harmony is a type of consistency, while the phenomenon of grammaticalisation is taken to be explained by frequency.

Iconicity gives rise to the principles of centrality, scope, domain integrity, head proximity and the relator principle. Centrality, not itself one of Dik's categories, is "the set of principles that determine closeness to the speaker, physical, temporal, social or cultural" (Bakker 1994: 148), and in turn gives rise to more specific principles of orientation towards speaker or hearer, pragmatic highlighting, syntactic perspectivising (i.e. Subject/Object patterns) and the role of semantic factors such as animacy, humanness, person, definiteness and specificity. The factor of scope gives rise to the principle of centripetality, preferred orderings of components of the noun phrase, and the ordering of π operators. Domain integrity is the source of additional principles concerned with discontinuity, extraposition, raising, and left and right dislocation. The general principle of consistency is the one which underlies cross-domain harmony and the tendency of certain elements to be located in characteristic positions in the clause. In turn, cross-domain harmony underlies the distinction between prefield and postfield languages, type of adposition and affix, the location of arguments in relation to the verb, and that of term modifiers in relation to the head of the term; while the principle of fixed positions gives rise to more specific principles concerned with positions for clitics, expressions of tense/mood/aspect and elements with specific syntactic, semantic or pragmatic functions. Processing constraints are the source of principles relating to the planning of the clause during language production, the reconstruction of underlying clause structures during comprehension, and principles concerning ordering according to structural complexity, including LIPOC, which in turn is taken as the basis of a number of principles to do with the placement of elements in the prefield or postfield. Finally, processing factors are seen as resulting in correspondences of particular ordering patterns with the medium of language expression, and also with the text type for written texts. Bakker's hierarchy of principles has been implemented in a computer program, the Explanatory Network Processor, which is able to test the hypotheses represented, against a database of observations on a number of languages. In a study using about 200 word order variables in a sample of 84 languages, processing was found to be more important than iconicity, and iconicity much more important than centrality, in accounting for word order.

I turn now to expression rules specifying the prosodic contours of expressions (tone in so-called tone languages, accent, and intonation): for further detail, see Dik (1997a: Chapter 18).

Dik (1997a: 452–454) distinguishes between two fundamental types of function for prosody: it may serve to distinguish between segmentally identical words (e.g. in tone languages, or where the position of the main accent distinguishes one word from another, as in English *up'set* vs. *'upset*); or it may serve a characterising function, in that any given predicate may have a characteristic accent position (e.g. on the first syllable in the English word *comfortable*, on the second in *ridiculous*). If there is a fully productive relationship between segmentally identical pairs of words with distinct prosody (e.g. if in a given language all verbs consisting of two syllables X and Y, with the main accent on X, correspond to nouns with accent on Y), then we may postulate a predicate formation rule to capture the regularity. More usually, however, such regularities are not fully productive, and so the characteristic accent position must be included in the lexical entry for the predicate.

Dik (1997a:455–464) goes on to outline very briefly the contribution of prosody to the expression of pragmatic functions (the various kinds of Topic and Focus),³¹ the ‘articulation’ of the clause into segments by means of prosodic subcontours (e.g. between the clauses in a compound or complex clause, or between Subject and Predicate), and the expression of illocutionary operators. He also comments on the elusive nature of certain other effects which may be expressed prosodically, such as politeness, irony, sarcasm, anger or disappointment.

Dik (1997a:464–466) also sets out, even more programmatically, the procedure he envisages for the generation of prosodic contours. Basically, this consists in: the determination of the characteristic accent positions of predicates, from the lexicon itself or from predicate formation or inflectional expression rules; mapping of rises and falls in intonation on to the characteristic accent positions of constituents bearing particular intonationally-expressed pragmatic functions; the placing of internal intonational movements to reflect clausal ‘articulation’; the determination of an overall pitch range, which may be conditioned by conventionalised pragmatic effects or emotional colouring; the mapping of the structure generated up to this stage into the pitch range; and finally the insertion of pitch lines to connect the previously determined intonational movements. Dik himself comments that “it is much easier to formulate some procedure such as the above than to actually implement it in a satisfactory way” (1997a:466).

Finally, I shall sketch informally the expression rules needed to convert the underlying clause structure of example (51) to its final realisation. The underlying structure developed earlier (see (58)) is repeated for convenience below:

(63) E_i : [Decl [X_i : [Past e_i : [*steal* [V] (x_1 : <anim>)_{Ag} (*it*)_{GoSubjGivTop} (x_3 : <anim>)_{So}] (*last week*)_{TempFoc}] (*apparently*)_{Inferential}]]

As the Subject is not a first argument, the expression component assigns the auxiliary operator Pass(ive) to the predicate *steal*. The rule in (64) is then invoked:

(64) Pass[Pred[V]] = [*be* [V]] PaP[Pred[V]]

The normal rule for formation of the past participle is:

(65) PaP[Pred[V]] = pred-ed

However, the principle of lexical priority states that we must check in the lexicon to see if the relevant form of the predicate *steal* is listed. It is indeed listed, as *stolen*, so this is chosen and the regular rule does not apply.

In order to effect the proper agreement of Subject and finite verb, the person and number of the Subject (3rd singular) is copied to the predicate. The tense operator would normally trigger the following rule:

31. Keijsper (1990) feels that FG needs a clearer account of the semantic contributions made by prosody (and also by word order) to the expression of pragmatic functions, and Gebruers (1994:138) also wonders “whether FG has not actually missed a chance to make a more substantial contribution in the area of prosody and its relation to grammatical structuring”.

(66) Past[Pred[V]] = pred-ed

But once again the principle of lexical priority prevails, since the past tense of *be* in the 3rd person singular is listed in the lexicon as *was*. We therefore get *was stolen* in the output.

The pronoun *it* is Given Topic and Subject, and this, as we have seen, will normally put it at the beginning of the clause. So far, then, we have *it was stolen*. The principle of increasing complexity in the linear ordering of the clause predicts that the adverbial phrase *last week* will come late in the clause. The attitudinal adverbial *apparently* is more of a problem, since it can occur initially, medially or finally: Dik's presentation does not make it clear how these possibilities would be distinguished. Assuming that some expression rule places it initially, in front of the Subject, we now have the final segmental form of the clause: *apparently it was stolen last week*.

The characteristic accent positions for the lexical items are attached to their entries in the lexicon, so that we get a default accentuation pattern of the following kind:

(67) *ap'parently it was 'stolen 'last 'week*

The placement of an attitudinal adverbial in initial position will trigger a rule giving it a separate intonational subcontour, and the Completive Focus function of *last week* will assign intonational prominence to the head of this constituent. The declarative illocutionary operator will be expressed as falling intonation on this constituent, while the internal nature of the break between *apparently* and the rest of the clause will trigger a 'non-final' type of intonation (a rise or fall-rise) on the initial adverbial.

3.3 Alternative proposals for the layering of underlying clause structure

Although most of the proposals made by Hengeveld (1987, 1988, 1989) were incorporated into Dik's model of the underlying structure of the clause, there is one important suggestion which is strikingly absent from Dik's account of the clause, though as we shall see in §4.2.3.1 of Part 2, it does appear in Dik's programmatic proposals for a functional grammar of discourse. Hengeveld (1989) uses the term **layer** to refer to what Dik has called levels of organisation, and proposes to group these layers into two **levels**: the predicate and predication layers form the **representational** level, while the proposition and clause layers form the **interpersonal** level. The difference between the two levels is explained as follows:

At the representational level a SoA is described in such a way that the addressee is able to understand what real or hypothesized situation is referred to. At the interpersonal level this situation is presented in such a way that the addressee is able to recognize the communicative intention of the speaker. Thus the representational level is concerned with the narrated event, the interpersonal level with the speech event ...

(Hengeveld 1989: 128)

This dual level analysis is seen in the representation of utterances shown in Figure 3.3, taken from Hengeveld (1990a: 3, Figure 1). The higher level in the structure represents the interpersonal level, the lower the representational.

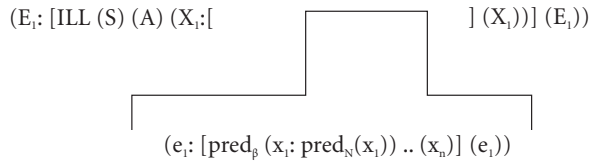


Figure 3.3. The layered representation of utterances

The representation of illocutionary force is in terms of an illocutionary frame, represented by ILL with specifications for Speaker and Addressee, rather than an illocutionary operator, as in Dik's model.³² In Hengeveld (1992b: 34) it is suggested that by analogy with variables assigned to concrete predicates, illocutionary predicates should also be restricted by a variable (F), so that the equivalent of Figure 3.3 would now read $(E_i : [(F_i : ILL (F_i)) (S) (A) \dots$

Hengeveld (1989: 151) also suggests a fifth type of satellite, σ_5 , the function of which is to allow the speaker to indicate how the utterance is situated within the context of the discourse as a whole. One type of σ_5 satellite is exemplified by adverbials such as *firstly*, *secondly*, *finally* which serve to enumerate points in a list.

Further modifications of the layering of underlying clause structure have been suggested in the work of Rijkhoff (1990, 1992, 2002), Vet (1992, 1997, 1998a), Moutaouakil (1996) Cuvalay (1995), Nuyts (1992a, 1993b, 1994, 2001a), Bolkestein (1992), Anstey (2002) and van der Auwera (1990a). In general, the modifications proposed tend in the direction of added complexity in terms of the number and type of layers recognised and/or types of element within layers. I can do no more here than outline the various proposals, especially as some of the issues will come up for discussion in Part 2: further research will no doubt lead to yet more suggestions, and it may be some time before we have available a model which does full justice to the complexity of the issues involved.

Rijkhoff (1990, 1992) presents an account in which parallels are drawn between the structure of predications and that of terms. These parallels lead him to propose three layers within the representational level rather than just two as in Hengeveld's scheme. As in the Hengeveld/Dik proposals, the layer closest to the predicate is concerned with qualitative properties of the SoA, such as certain aspectual features (Imperfective/Perfective, Ingressive, Egressive). There is also a layer at which the SoA is localised in time (by tense) and space, again in accordance with the former proposals. Between the two, however, Rijkhoff sites a separate layer concerned with Quantificational Aspect (Iterative, etc.), which Dik puts in the same layer as tense. Recently, Rijkhoff (2002) has modified and extended his model of the noun phrase and, in parallel, that of the clause. As these modifications arise from work on the noun phrase, they will be considered in Chapter 7.

Vet (1992), while retaining the four-layer hierarchy, also proposes additional quantifying elements at all but the lowest layer. He applies this proposal to the analysis of tense

32. Dik's reasons for rejecting the concept of an illocutionary frame will be discussed in Chapter 1 of Part 2.

and aspect (Vet 1992) and modality (Vet 1997) in French.³³ These are essentially operators, but are intended to modify the effects of the basic π -operators. For instance, while the π -operator at the outermost layer specifies the basic illocutionary force of the utterance, the corresponding quantifying element deals with mitigation of that force (e.g. softening of an imperative force).

The work of Bolkestein (1992) on direct and indirect speech complements of verbs of saying also presents challenges to the layering proposals of Hengeveld and Dik. Bolkestein (1992: 398–404) suggests that in English some extraclausal constituents (e.g. Themes in Dik's classification), style disjuncts (e.g. *frankly*) which are purportedly σ_4 , and even satellites giving the status of the utterance in the discourse (σ_5), can be included in indirect reported speech. This is clearly problematic for the view of such clauses as propositional entities (Hengeveld 1989: 147, Dik 1989a: 251), capable of including operators and satellites at the propositional layer or lower in the hierarchy, that is only up to σ_3 .

In later work, Dik has presented a somewhat confusing account of indirect speech complements. In the second edition of *TFG1* (Dik 1997a: 295) we have exactly the same situation as in the first edition, namely that the complement clause in *John didn't believe what Peter said* is regarded as having an underlying structure in which what was said by Peter is a propositional entity. In *TFG2*, however (Dik 1997b: 102), it is claimed that both direct and indirect speech are to be analysed as full clauses, the difference being that in direct speech the clause is an immediate complement to the matrix verb, whereas in indirect speech it is embedded in a clausal term functioning as complement to the matrix verb. However, no justification for the proposed difference is offered. If we accept Dik's later proposal, clearly the phenomena described by Bolkestein become less problematic.

However, Bolkestein (1992: 398–404) also makes the point that there are some elements (e.g. exclamations, certain biclausal constructions which seem to have a single illocutionary force, some discourse particles in Dutch and Latin, and extraclausal constituents such as Themes) which can appear in direct speech but not in indirect speech complements. This, clearly, is problematic for Dik's later proposals. Dik (1997b: 103–105) offers a partial response to Bolkestein's claims. He first warns against generalising too readily across languages or varieties of the same language. He then offers evidence that discourse particles and Themes in Dutch do indeed occur in indirect speech in spontaneous conversation. He recognises, however, that extraclausal constituents are harder to subordinate than intraclausal elements, and that elements involved in direct address (vocatives, certain politeness markers) are difficult to subordinate. His view is that even if there are differences in direct and indirect speech complements, this need not be taken as evidence against the claim that both are embedded speech acts.

Bolkestein (1992: 401–403) also points out that there are elements (such as the Latin implication-checking discourse marker *an*) which are difficult to locate at a particular layer, as they do not conform to the criteria for illocutionary conversion operators, illocution satellites or propositional satellites.

33. Vet's work on tense, aspect and modality is discussed further in Chapter 9.

Moutaouakil (1996) argues that sentence type and basic illocution, which are equated in Dik's model, have different properties and so should be distinguished. He offers two possibilities for incorporating this distinction into the underlying structure of the clause: the illocutionary operator can be split into two sub-operators, one for sentence type and the other for illocution; or a fifth layer of organisation can be postulated, at which the sentence type operator applies. Though appearing to favour the first solution as less disruptive to the model as a whole, Moutaouakil does not rule out the second. In addition, Moutaouakil argues that only declarative clauses contain a propositional layer,³⁴ and that there are also types of expression which do not have a predicational layer.

Cuvalay (1995) takes over many of the foregoing suggestions and builds them into a comprehensive model of underlying structure with six levels, corresponding to the predicate, core predication, extended predication, proposition, clause and expression. The term 'expression' here refers to a linguistic unit with a single illocutionary force, and includes any extracausal constituents which do not interfere with the illocution. The term 'clause' is then reserved for the expression minus the extracausal constituents.

Vet (1998a) has recently offered more far-reaching modifications of underlying structure. He argues that the Hengeveld/Dik proposals fail to account satisfactorily for reports of direct speech. Since direct speech consists of one or more clauses, as defined within the Hengeveld/Dik schemes, and since clauses refer to speech acts, it follows that direct speech should refer to one or more speech acts. However, in constructions involving direct speech, the speech act as such is referred to not by the direct speech itself but by the matrix clause (*X said/asked*, etc.). This leads Vet to propose that both the reports of speech acts and independent clauses should be regarded as utterances, i.e. as the products of speech acts. He also argues that the utterance itself should be separated from the pragmatic, communicative factors which result in the speaker producing the speech act. Vet therefore proposes two separate but interacting modules, one pragmatic and one grammatical. The pragmatic module contains the representation of the speech act itself and the type of speech act (e.g. REQUEST), together with variables for the speaker, addressee and message to be conveyed. The grammatical module specifies the illocutionary operator, which characterises an utterance content rather than a speech act. There is also an interface consisting of the speaker's unconscious or conscious decisions about how to link communicative intention to form.³⁵

The work of Nuyts (1992a:196–197, 1993b:956–965, 1994:174–181, 2001a:§6.5, §6.6) also presents some radical challenges. Nuyts has a number of objections to Hengeveld's stacked system of interpersonal and representational levels. Firstly, he claims that since the interpersonal level is seen as concerned with the utterance as speech event, it is essentially concerned with a 'role function', i.e. the role of the utterance in commu-

34. In Chapter 1 of Part 2, we shall see that Dik and Hengeveld postulate that imperatives lack the propositional layer, but that no parallel claim is made for interrogative or exclamative clauses.

35. The work of Vet and of Moutaouakil will be reviewed in more detail in Chapter 1 of Part 2, with regard to its relevance for the treatment of illocution in FG.

nication. On the other hand, representing an SoA is an ‘organic function’ of language.³⁶ This leads Nuyts to claim that Hengeveld is “using functional notions from two different and non-conjoinable dimensions to characterize two parts of one single structure” (Nuyts 1992a: 196). Related to this is the view that at the conceptual level, at least, the speech act has a rather different status from various qualifications of SoAs, in that illocution is concerned with the speaker’s intentions towards the hearer, whereas qualifications of the SoA are concerned with assessing the position of that SoA. Nuyts’ second objection is to the distinction drawn by Hengeveld between a speech event and a narrated event, or between a SoA and a potential fact, which is part of the basis for the interpersonal/representational split. His own view (Nuyts 1992a: 197, 1994: 175, 2001a: 349) is that a potential fact is itself a SoA, and *vice versa*, and that the representation of a potential fact is the same as the designation of a SoA, so that one does not need two levels here. Nuyts also demonstrates, in his work on modality (see especially Nuyts 1994, 2001a), that the layering system proposed in mainstream FG is too coarse to do justice to the linguistic facts in this area, a more gradual type of layering being needed. Goossens (1996) reaches the same conclusion on the basis of his study of the English modals. Detailed discussion of this area must wait until Chapter 9.

The recent work of Anstey (2002) also offers radical revisions of the layering model. Anstey sees two important problems with regard to layering. Firstly, there is a positional problem, in that different FG scholars distribute operators and satellites differently in the layered structure (e.g. what for Dik (1997a) are level 4 satellites in the normal satellite position are restrictors to an ILL predicate in Hengeveld’s (1990a) scheme); furthermore, some operators (e.g. the progressive) are located within different layers in different accounts. Secondly, we have what Anstey dubs the typological problem, which is that the theory does not show explicitly the conceptual similarity between operators and satellites in a particular semantic area (e.g. location in time); Anstey further observes that there are modes of expression which are neither wholly grammatical nor fully lexical, and which therefore fall between the categories of operator and satellite. Anstey argues that the positional problem is symptomatic of a fundamental flaw in the design of the FG layered structure, namely the combining of semantic and syntactic aspects of patterning.

Anstey illustrates the positional problem by presenting a useful tabular summary (Table 1, p. 3) of operator and satellite positions in eight FG publications. Although there are, of course, some obvious areas of agreement, there are also many disagreements. Anstey goes on to demonstrate the clear linkage, in Hengeveld’s (1989) original layering proposals, between semantics and syntax, claiming that “operators for Hengeveld are a minimal grammatical unit in a language representing a unitary semantic concept” (p. 5). He points out that this makes it difficult to explain syntactic phenomena which cannot be reduced to semantic effects, or to demonstrate the priority of semantics over syntax: indeed, too strict a linkage between levels can seriously undermine the claim for semantic priority, since there may well be a tendency to base semantic description on morphosyntactic realisations for a language. As a clear exception to this tendency, Anstey mentions Cuvalay-

36. For the concepts of role function and organic function, see §1.2.

Haak's (1996) dissertation on the Arabic verb, in which she describes the wide range of tense/mood/aspect distinctions which can be realised by just two basic verb forms.

In order to separate semantics and syntax more clearly, Anstey proposes to define operators and satellites (collectively labelled ' λ specifiers') in terms of the semantic domain they relate to, rather than the layer they modify or any grammatical category they correlate with. These semantic domains, however, do relate to the FG entity typology in that they are characterised by features of prototypical examples of this typology. For instance properties, corresponding to the λ_0 domain, are characterised by telicity, dynamicity, duration, degree, phasal aspect, directionality, etc. and objects/substances (λ_1) by shape, size, object quantification, etc., while events (λ_2) are characterised by time, objective modality, event quantification, (im)perfectivity, etc. The application, or scope, of such features is to denotations of the appropriate entity: λ_0 features are applied to properties, λ_1 to objects/substances, λ_2 to events, λ_3 to propositions and λ_4 to messages. Thus operators and satellites no longer have a particular semantico/syntactic element of clause structure as their scope, but rather a particular signification. This, according to Anstey, has two important consequences: firstly, there is, strictly speaking, no layered clause structure as such; secondly, because operators and satellites are defined purely according to the semantic domain (λ_n) to which they apply, they can appear only in one particular position in the semantic structure, so solving the positional problem. Anstey (Table 6, p. 9) reanalyses the various operators postulated in FG, according to his purely semantic criteria.

Anstey goes on to elaborate a layered semantic structure (LSS) by means of a bottom-up procedure, relying on Searle's (1998) idea that the construction of social reality works by means of the iterative application of a constitutive rule of the form 'X counts as Y in context C'. Anstey combines this rule with a general schema for denotation (in a rather wide sense of this term), consisting of a specification (λ_n) which has scope over the signification of an entity τ_n , with a particular content consisting of "the full inventory of meaning-contributing entities for that level: lexical, grammatical, and relational (such as X is an Agent in relationship to Y)" (p. 9). In other words, simpler denotations can count as more complex denotations in certain linguistic contexts. As an example, consider how individual words can contribute to the content of an event (p. 11). A zero order denotation consists of the application of a zero-level specifier to a predicate, with a word counting as the content, in the context of an utterance. Similarly, a first order denotation consists of the application of a first-level specifier to an object or substance. We can now say that, prototypically, one or more first order denotations combines with a zero-order denotation, to count as the content of an event, again in the context of an utterance. In a similar way we can build up the structure of propositions and then whole messages. Anstey develops a notation for his schemas and then goes on to discuss a number of extensions to his basic proposals: the structure of denotations involving restrictors of various orders, the distinction between arguments and satellites, the designation of non-first order entities, non-verbal predication, and complex structures. He also discusses the effect of varying the orders of designations which can contribute to the content of a predication, postulating a hierarchy of degrees of predicability for the various types.

After very brief comments on the ordering of operators within a layer, Anstey (pp. 20–28) extends his proposals by suggesting that the LSS is itself a reflection, or product, of an underlying layered cognitive structure (LCS), which converts communicative intentions into the LSS of a particular utterance, through the formulation of discourse moves containing speech acts, each of these typically containing a proposition. The LCS manipulates concepts, which are claimed not to constitute a universal metalanguage, but “stand for the sense of the lexical item that will be selected to represent them”, although they differ from words in that “we can not (and should not) assume that the individual’s inner language links up seamlessly with the speech community’s outer language” (p. 22). Provisionally, the layering of the LCS is assumed to mirror that of the LSS: cognition is seen as at the service of the semantics, just as semantics is at the service of syntax. Pragmatics can thus be seen primarily as “the translation from cognitive information to grammatical semantic information” (p. 24).

Anstey proceeds (pp. 24–28) to outline very briefly how he believes the postulation of the LCS can afford a more satisfactory treatment of three types of phenomena (head-marking vs. dependent-marking, semantic and syntactic functions, predicate formation) than has so far been achievable. I shall deal here only with the issue of functions. Anstey suggests that semantic functions should be assigned at the conceptual level, and that during the process of conversion from LCS to LSS the various specific semantic functions are channelled into a small number of generalised functions, along the lines of the macroroles of RRG (see §4.10).

Finally, Anstey (pp. 28–30) discusses briefly the relationship between his proposals and Hengeveld’s Functional Discourse Grammar, outlined in §3.7.1. He sees the LSS of his scheme as corresponding to the representational level of FDG, but goes on to argue that just as there is a cognitive structure underlying the LSS/representational level, so there is a cognitive precursor to the interpersonal level. His final model for the amalgamation of his proposals with FDG thus consists of four components: the grammar contains both a layered interpersonal structure (equivalent to Hengeveld’s interpersonal level) and a layered semantic structure (equivalent to the representational level of FDG), and the cognitive level contains cognitive precursors to both of these, the interface between the cognitive and the grammatical being what is involved in pragmatics. Such a model clearly leaves a number of questions for further investigation, and Anstey lists some of these in his conclusion.

In the course of his article, Anstey makes proposals for the assignment of operators and satellites to particular semantic domains, and I shall mention these at appropriate points in later chapters dealing with specific areas.

Finally, we should note work by van der Auwera (1990a: 19–30), which goes against the general trend, in proposing a model of layering which is rather simpler than the Hengeveld or Dik versions. His arguments are offered in the context of a discussion of the status of predicational terms such as the one in bold type in (68) (interpreted as direct perception) and of propositional terms such as that in (69).

(68) *McLeish saw that she was crying again, ...* (BNC AB9 137)

- (69) *And everyone knew that now it was time for Madame's famous song.*
(BNC AR2 602)

He suggests that we abandon the *e* and *X* variables, arguing that the terms in (68) and (69) both have the type of structure shown in generalised form in (70), where Ω represents one or more term operators.³⁷

- (70) $(\Omega x_1 : [\pi_2[\pi_1 \text{Pred}(x_2) \dots (y_1)(y_2) \dots]]) (x_1)$

Whether a structure such as that in (70) counts as a predicational or a propositional term depends solely on the slot which it fills in the higher structure of which it forms a part.

3.4 Other work on expression rules

Dik's own account of the expression component did not change substantially between the publication of the first edition of *TFG1* in 1989 and the second edition in 1997. There has, however, been work by other scholars in this area.

Connolly (1991) discusses FG expression rules with particular reference to word order, and suggests that since in certain languages the rules for the order of constituents are sensitive to syntactic function assignment, this latter could with advantage be included within the expression component.

Martín Arista (1999), basing his arguments to a large extent on an illuminating comparison of FG with Construction Grammar (see e.g. Goldberg 1995), suggests that the expression component should be constrained by two kinds of motivation, this term being used in the sense of relationships between constructions, or form/meaning pairings. The principle of internal motivation (Martín Arista 1999:211) states that expression phenomena require semantic or pragmatic motivation, the consequence of this being that they must correspond to some element(s) in the underlying structure of the clause. The principle of external motivation (1999:213) states that formal and semantic adjustments of prototypical patterns produce marked constructions. In connection with this principle, Martín Arista proposes to include in the expression component rules which relate unmarked and marked variants of constructions: for instance, extrapositional structures are seen as marked variants of the corresponding non-extraposited constructions, and existential *there* constructions as the marked equivalents of the corresponding plain constructions without *there*.

The most far-reaching revisions of the expression rule component of FG are those proposed by Bakker (Bakker 1994, 1999, 2001), who rightly notes that expression rules have not received the attention which has been paid to underlying structures, and remarks that "no fully worked out example of a complete expression may be found at all, not even of the simplest 'John gives a book to Mary' type" (1999:1). Bakker (1999:1–2, 2001:16) adduces a number of very cogent reasons for the rectification of this situation: FG aims

37. For discussion of term operators, see §7.2.1.3.

to be a complete theory of language, not just a semantic theory, so that it is important to work on all components of the model and the relationships between them; we need to be able to justify our underlying structures by showing that they trigger expression rules correctly; much knowledge about syntax is now available outside functional models, and needs to be taken into account in FG; the three-part division of FG expression rules into generation, linearisation and phonematisation is demonstrably unworkable; and finally, FG expression rules are basically ordering rules, and do not involve the postulation of any kind of syntactic structure as such, a position with which Bakker takes issue. Bakker's own approach attempts to redress the balance in the respects outlined above, and differs markedly from Dik's scheme in that the computation of forms and their linearisation are conflated, and in that a hierarchical syntactic structure is postulated.

In his critique of the current proposals for the expression component, Bakker (1999: 11–19, 2001: 24–30) makes a number of trenchant observations. Firstly, there are very few constraints on expression rules, compared with those on underlying structure: they are not permitted to involve deletion, and must operate on non-null elements which can be identified in the underlying representation of the clause. The rules are thus very powerful, and this would have effects on their acquisition, as well as on the potential for massive overgeneration of forms which are not attested in any language. Secondly, the expression rules also undergenerate, in that there are some structures which are quite frequently found in the world's languages, but which cannot be accounted for in terms of the current model.³⁸

In Bakker's own model (summarised in Bakker 1999: 19–21, 2001: 30–32; Bakker & Siewierska 2002, forthcoming), the concept of templates with functional positions is used, but the templates are hierarchically structured. If, say, a clause is being generated, then the appropriate template will have slots for all the elements that can occur in the clause: main predicate, its arguments, satellites and operators from the various layers of the underlying structure. Material is put into the correct slots in left-to-right order. Elements in slots may select templates for their own structure: for instance, a term might select a term template of category NP. Any auxiliary operators needed are generated as expression proceeds. Grammatical elements are inserted in response to local combinations of μ operators, and the process ends when all such operators have achieved their effect. In this way, a syntacto-morphological tree structure is built up.

The syntacto-morphological constituent structures are thus developed top-down and left-to right, in a depth-first fashion (i.e. if there are two adjacent slots, the left-hand one is developed fully before the right-hand one gets filled out). This mechanism is less costly on short-term memory than a breadth-first approach in which nodes are expanded simultaneously. Any node can, in principle, inherit features located on a path from that node to the top of the tree. Auxiliary operators may also percolate upwards to higher nodes. These characteristics of the model are intended to contribute to its psychological and typological

38. We might also add, as does Cornish (1994: 262), that the principles proposed by Dik in his multifunctional theory of word order are rather vaguely and generally formulated, and that their interaction to give the word orders actually found in particular languages is not systematically demonstrated.

adequacy. Bakker also discusses the nature of nodes in the tree structure and their branching, and the kinds of information which are associated with nodes. For details, the original papers should be consulted.

Before we leave Bakker's work, a further advantage of his model for the expression component should be mentioned. Bakker & Siewierska (2002) observe that the strict distinction in FG between open word class elements, which are in the lexicon, and closed class elements such as auxiliaries, adpositions and articles, which are assumed to arise purely as a result of expression phenomena, is problematic in a number of ways: auxiliaries behave like verbal predicates in many respects; adpositions share properties with nouns and verbs in many languages; and both auxiliaries and adpositions often arise from full open-class categories, over long periods of time, through a gradual process of grammaticalisation. Bakker & Siewierska point out that the new model of the expression component is consonant with the postulation of a more graded conception of lexical and grammatical elements, both in the synchronic description of a language and in its diachronic development. In particular, the vertical position of an element in the hierarchical tree structure correlates with its position on a cline from fully lexical to fully grammatical: fully specified lexical predicates of a language will be present in the underlying semantic structure of the clause before expression rules apply; fully grammatical elements such as past tense or plurality affixes occur right at the bottom of the tree, as components of templates; between the two extremes, we may find intermediate types which are specified for some of the kinds of information present for a full predicate, but not others. It is also postulated, in the interests of greater psychological adequacy, that not only all irregular forms, but also frequently used derived and inflected forms, which have been shown to be very rapidly retrieved during processing, are present in the lexicon, a clear deviation from the position taken by Dik. Bakker & Siewierska illustrate their proposals by means of an account of grammaticalisation processes as applied to adpositions.³⁹

We should also note that the work of van der Auwera (1990a), although not dealing with the nature of expression rules as such, discusses the relationships of both similarity and discrepancy between underlying structure and 'expression structure' (i.e. the formal structure of the expression realising the underlying structure), with specific reference to terms. Proposals for the expression of term structures have also been made by Connolly (1994, 1995) for temporal satellites in English and by Moutaouakil (1994) for Modern Standard Arabic.

3.5 The Functional Lexematic Model

As we have seen, the lexical component is fundamental to Dik's account of FG, in that the generation of the underlying structure of the clause begins with the selection of a predicate, in its predicate frame, from the lexicon. The potential of the lexicon was, however,

39. This work will be discussed again in relation to FG accounts of adpositions in §7.3.1.

never fully developed by Dik himself: in particular, Dik's writings do not exploit the meaning definitions associated with predicate frames, in order to give a principled account of the structure of the lexicon. This aspect of the theory has been developed largely by scholars working in Spain, initially under the leadership of Martín Mingorance, and has given rise to what is now known as the Functional Lexematic Model (FLM).

The development of the FLM is in line with the trend, in the 1990s, towards lexically-based grammars. Its basis is a synthesis of the FG of Dik with the lexematics of Coseriu, developed also by Geckeler (see especially Coseriu 1981). Lexematics, as an elaboration of the structural semantic model, provides what is lacking in Dik's account: a principled way of relating meaning definitions of predicates, in order to map the structure of the lexicon of a language in terms of lexical fields, or 'domains'. In Coseriu's model, the first task in linguistic analysis is a description of the paradigmatic patterning within the lexicon, the primary structures being lexical fields and lexical classes. Fields are structured in terms of lower level 'semes' and higher level 'clasemes', while 'dimensions' "lie halfway between minimal groups of lexemes and the lexical field proper" (Martín Mingorance 1990:236). The organisation of the lexicon is thus onomasiological rather than alphabetical, as in an ordinary paper dictionary. Once the paradigmatic structure has been discovered, the syntagmatic potential of each lexeme can be investigated, in terms of semantic and syntactic selection restrictions. Examples of such analyses can be found throughout the work of Martín Mingorance and his research group (see e.g. the collected papers of Martín Mingorance (1998)).

The FLM has been developed further, in recent years, by Faber & Mairal Usón (see especially Faber & Mairal Usón 1994, 1998a, 1998b, 1999; Mairal Usón 1994). They stress that the lexicon should not be conceived as a static entity, but rather as a "dynamic, text-oriented network of information about words and their contexts" (Faber & Mairal Usón 1999:57), serving as the basis for a speaker's mental lexicon, the lexical component of a language model, a component in Natural Language Processing, and a dictionary. In concordance with the ideas of Martín Mingorance, this dictionary is itself seen as a grammar, in that within it, words will be specified with all their syntactic, morphological, semantic and pragmatic properties.

Faber & Mairal Usón show that criteria for membership within a particular lexical field can be derived from the meaning definitions of lexemes themselves, so providing a principled way of structuring the vocabulary in accordance with the tenets of lexematics. Hierarchies are elaborated by extracting meaning components from entries in a range of monolingual dictionaries, so working upwards from individual lexemes to the fields of which they form a part. Lexical dimensions within a field are established by means of the contrasts found in the definitions for lexemes, so that all lexemes within a field are characterised by the same nuclear word, or *definiens*, while the various lexical dimensions isolated allow for differentiation among the lexemes (Faber & Mairal Usón 1999:61). This methodology is, of course, totally consonant with Dik's adoption of the principle of stepwise lexical decomposition.

An example of the type of analysis proposed is given in Figure 3.4, taken from Faber & Mairal Usón (1999:137–138). The overall domain to which this hierarchy belongs is that

To think carefully about something [COGNITION]

- | | | |
|----|--------------------|---|
| a. | consider | to think carefully about something in order to make a future decision. |
| | contemplate | to consider doing something in the future. |
| | meditate | to consider something carefully and seriously as a possible course of action. |
| | ponder | to consider something carefully, weighing it in one's mind. |
| | debate | to consider the arguments for and against doing something in the future. |
| b. | plan | to think about something (a method/way of doing something) carefully and deliberately in order to carry it out in the future. |
| | design | to plan something, making it a picture of it in one's mind. |
| | plot | to plan something secretly. |
| | conspire | to plot together secretly usually something illegal/harmful. |
| | connive | to plot secretly and dishonestly for something to happen. |
| | scheme | to plot something secretly in a devious way. |
| | intrigue | to plot something secretly to gain something for oneself/somebody else. |

Figure 3.4. Example of a lexical hierarchy from Faber & Mairal Usón (1999: 137–138)

of cognition, within which there is a subdomain 'to think about something in order to make a decision in the future'. Within this subdomain there are two superordinate terms, *consider* and *plan*, differing in that the latter is concerned with thinking about the best way to carry out a decision which has already been made. Within the *consider* group, all the other lexemes are defined in terms of *consider*; within the *plan* group, *design* and *plot* are defined in terms of *plan*, and *conspire/connive/scheme/intrigue* are in turn defined in terms of *plot*, so illustrating the principle of stepwise lexical decomposition. Lexemes at the same level are differentiated in terms of various parameters such as the manner of thinking and the nature of what is planned.

Faber & Mairal Usón's work develops in some detail two further aspects of the FLM: the syntagmatic patterning of lexemes, in terms of the form and meaning of complementation patterns; and the relationships between the paradigmatic and syntagmatic behaviour of lexemes, on the one hand, and the cognitive aspects of categorisation in the human mind, on the other. Faber & Mairal Usón demonstrate that the complementation patterns of lexemes are not arbitrary, but on the contrary are strongly motivated semantically (Mairal Usón 1994; Faber & Mairal Usón 1999: 121–140).

The first step in the codification of the syntagmatic axis is an analysis of the semantic potential of the complementation pattern/s of a given verb. This is necessary in order to be able to place the semantics of the complement phrase within the wider context of the lexical subdomain to which the lexeme belongs. With this information, it is then possi-

ble to establish explicit connections between the semantic hierarchies and the syntactic typology of each lexical subdomain (Faber & Mairal Usón 1999: 121). In discussing the semantics of complementation and its relationship with syntax, they take into account the obligatoriness of arguments, the form of the complement(s) and tense-aspect-modality distribution.

Faber & Mairal Usón demonstrate that lexemes within a given segment of the lexical hierarchy tend to share some basic complementation patterns, but more general lexemes (i.e. those further up the hierarchical structure) generally show a greater range of complementation patterns than the more specific lexemes (further down the hierarchy). This is the Principle of Lexical Iconicity, and is stated in more general terms as follows:

The greater the semantic coverage of a lexeme, the greater its syntactic variations.
(Faber & Mairal Usón 1994: 211, 1998a: 8)

As an example, let us consider again the *plan* part of the subdomain of the domain of cognition relevant to thinking about something in order to make a decision in the future. Faber & Mairal Usón (1999: 139) point out that whereas the superordinate lexeme *plan* can take zero complementation, a NP, an infinitive clause, a gerund clause, a finite *that*-clause or a prepositional phrase with *for/against*, the more specific members of the group have more restricted complementation patterns: *plot* and *scheme* take only zero, NP, infinitive clause and PP; while *conspire*, *connive* and *intrigue* are even more restricted, in that they cannot take a NP as complement. The lexeme *design*, on the other hand, can take only a NP.⁴⁰

In order to reflect the enrichment of the predicate frame inherent in their proposals, Faber & Mairal Usón set up the category of **predicate schema**, which is applicable to domains, subdomains and individual lexemes. The domain-level predicate schema is defined (after Langacker's (1987: 371) definition of the schema) as follows:

... a predicate schema can be defined as a modular, dynamic characterization that subsumes linguistic symbolic units obtained through the activation of lower-level schemas. These schemas are linguistically motivated and reflect our perceptions of reality. (Faber & Mairal Usón 1999: 213).

Two points are especially worthy of note here, in addition to the features of Faber & Mairal Usón's model already mentioned. Firstly, schemata are seen as dynamic rather than static, in the sense that they can change, and also set up connections with other schemata. Indeed, the authors outline what they term **semantic macronets** in which connections between schemata are made explicit: for instance, the domain of cognition can be shown to have links with change/perception (through the concept of 'becoming aware' of something), visual perception (in verbs such as *show*), light (*enlighten*, *illuminate*), possession (e.g. *grasp*), and so on. Secondly, as might be expected from the influence of the work

40. Note that since *design* is at the same level in the hierarchy as *plot*, one might, according to the general principle, expect it to have a similar range of complementation patterns, greater than those for *conspire*, etc. Clearly, the principle is just that: a tendency rather than an absolute rule.

Subdomain-level schema 1	Subdomain-level schema 2
Lexeme Schema	Lexeme Schema
Lexeme Schema	Lexeme Schema
Lexeme Schema	Lexeme Schema
Subdomain-level schema 3	Subdomain-level schema 4
Lexeme Schema	Lexeme Schema
Lexeme Schema	Lexeme Schema
Lexeme Schema	Lexeme Schema

Figure 3.5. Macrostructure of a lexical domain

of Langacker, predicate schemata are cognitively oriented structures, reflecting our understanding of reality. Indeed, Faber & Mairal Usón go so far as to claim that “predicate schemata establish a semantic network which can be called a sketch of the map of human thought” (Faber & Mairal Usón 1998a: 11).⁴¹

As can be seen from the quotation given above, subdomain-level schemata are obtained by the bottom-up process of factoring out those elements which are common to the lexemes within a subdomain. Similarly, factorisation of the elements of a group of subdomains gives rise to a domain level predicate schema. This gives the macrostructure for a lexical domain shown in Figure 3.5, from Faber & Mairal Usón (1999: 218). Subdomain-level predicate schemata are regarded as the most central to the lexicon, since they often represent metaphorical and metonymic processes, and are the vehicle for mapping conceptual/semantic values from a source domain to a target domain (Faber & Mairal Usón 1998a: 10, 1999: 228).

An example of a subdomain-level predicate schema, that for the subdomain ‘to think about something in order to make a future decision’ is shown in (71).

- (71) (= Faber & Mairal Usón’s (284), 1999: 250)
 Predicate schema: *consider, meditate, ponder, debate, contemplate*
 $[(x_1: \text{human})_{\text{Ag}} (e_1)_{\text{Go}}] \text{Activity} + \text{Cognition (VISION)}$
 $\text{df} = [\text{think[V]} (x_1: \text{prototyp. human})_{\text{Ag}} (e_1)_{\text{Go}} (\sigma_1: \text{carefully})_{\text{Manner}} (\sigma_2: [\text{make} (x_1)$
 $(e_2: \text{decision})_{\text{Go}} (\sigma_4: \text{future})_{\text{Time}}]_{\text{Purpose}}]$

This schema specifies that the verbs in the subdomain have an Agent who is carrying out a cognitive activity, with connections to the field of VISION. The semantics basic to all these verbs includes a prototypically human Agent who is thinking carefully for the purpose of making a decision at some future time.

Further detail of these proposals, with extensive exemplification, can be found in Faber & Mairal Usón (1999). We shall see in §6.2.2.3 that even more recent develop-

41. For further discussion of links between the FLM and the cognitive models of Langacker, Lakoff and others, see Sánchez García (1999).

ments in the FLM are leading the model further away from the mainstream FG position, in particular by questioning the validity of stepwise lexical decomposition.

Before we leave the FLM, a few words should be said about the approach to word formation in this model. A concise account of this area can be found in Mairal Usón (1999:88–96); for more detailed accounts, see Cortés Rodríguez (1994, 1997a, 1997b, 1997c, 1997d), Mairal Usón & Cortés Rodríguez (2000–2001). As Cortés Rodríguez (1997a:169–170, 1997b:82) observes, predicate formation, which is the component responsible for the productive formation of complex lexemes in Dik’s account of FG, imposes an unwarrantedly syntacticist perspective on word formation by assimilating it to other processes of a more regular nature, while also reducing the descriptive power of the grammar by not foregrounding the establishment of morpholexical relationships between different forms. Following a suggestion by Martín Mingorance (1985), the derived lexicon is seen in the FLM as a separate component, running parallel to the grammatical one, and having its own system of production and interpretation rules. This component formalises the concept of word formation as both grammaticalisation of the lexicon and lexicalisation of the analytic syntactic structures of the grammar. The FLM model of word formation invokes two procedures, one analytic, the other synthetic. In the analytic phase, the derivational schemas corresponding to different complex lexical units are drawn up; in the synthetic phase, these schemas for individual complex lexemes are reduced and generalised through rule application.

The word formation component of the model presupposes that the fund contains a lexicon of affixes, treated as lexical units which have their own morphophonological and lexico-semantic structure, their own constraints and combination rules. Also in the fund are the derivational schemas corresponding to each affix, representing the meanings of the classes of words they can be used to derive. From these sets of derivational schemas we can derive further schemas which relate to the various types of derived lexemes which are possible in a language. Finally, by a process of factorisation, we can arrive at a set of cognitive-conceptual schemas which underlie the complex lexical units of the language. The following example (cited in greater detail by Mairal Usón 1999:91–93) is taken from Cortés Rodríguez (1997a:200–203). The Spanish noun *recaudador* means ‘tax collector’, and its meaning definition can be stated as shown in (72) (Cortés Rodríguez 1997a:200, with translation of linguistic terminology from Spanish into English):

- (72) def = **recaudador**ⁱ_n [HACER (x_1^i : NP <+Hum> (x_1^i))_{Agent}
 (x_2 : [recaudar_V (x_1^i : NP <+Hum> (x_1^i))_{Agent}
 (x_3 : “impuestos” (x_3))_{Goal}]]_{Action} (x_2))_{Goal} (σ_1 : “repetidamente” (σ_1))_{Manner/Frequency}
 (σ_2 : “como ocupación” (σ_2))_{Manner}]]_{Action}

The essence of this formula is that it defines *recaudador* as referring to a human Agent who carries out the action of collecting (*recaudar*), the Goal of this action being taxes (*impuestos*); furthermore, the action occurs repeatedly (*repetidamente*) and as the occupation (*como ocupación*) of the human Agent under specification. By comparison of vari-

ous structures for derived nominals of this kind, a more general formula may be derived (Cortés Rodríguez 1997a:201), as shown in (73):⁴²

$$(73) \quad \Phi_n^i [\text{HACER } (x_1^i: \text{NP } \langle +\text{Hum} \rangle (x_1^i))_{\text{Agent}} \\ (x_2: [\Phi_V (x_1^i: \text{NP } \langle +\text{Hum} \rangle (x_1^i))_{\text{Agent}} \\ (x_3: |\text{Concrete}| (x_3))_{\text{Goal}}]]_{\text{Action}} (x_2))_{\text{Goal}} (\sigma_1: \text{“repetidamente” } (\sigma_1))_{\text{Manner/Frequency}} \\ (\sigma_2: \text{“como ocupación” } (\sigma_2))_{\text{Manner}}]]_{\text{Action}}$$

This general formula is the derivational schema which underlies a whole range of words such as *deshollinador* (chimney sweep), *pintor* (painter), *vendimiador* (grape harvester), and so on. Cortés Rodríguez (1997a:201–203) also proposes to add pragmatic functions to the formula, indicating topicality and focality of the material within the definition.

The analytic procedures summarised above are necessarily prior to the synthetic phase, whose object is to take the underlying structures permitted by a language, and to specify the steps which link these structures to the morphosyntactic patterns expressed by complex lexemes. As Cortés Rodríguez (1997a:180) observes, while the analytic perspective allows us to establish the various possibilities for the creation of complex lexical units, the synthetic perspective gives information on the syntactic correlates of such units, establishing a hierarchy of possibilities for the expression of a given schema. Martín Morillas (1984), aspects of whose work are summarised by both Cortés Rodríguez and Mairal Usón, presents a detailed account of how an underlying schema can be expanded and altered, in a series of steps, by insertion of elements which expand a predication or substitute lemmas for variables in the schema. For instance, the meaning structure of the Spanish verb *alfombrar* (meaning ‘to cover something with a carpet’) is derived from a basic causative formula through a series of stages from ‘cause X to have a carpet on top of it’, through to the final fully lexicalised verb.

3.6 Modelling the natural language user in Functional Grammar and Functional Procedural Grammar

As was mentioned briefly in §3.1.1, Dik (see especially 1987, 1988, 1989b, 1989c, 1990a, 1990b) attempts to go beyond the specification of a Functional Grammar, to develop a model of the natural language user:

A more ambitious aim for functional linguistics is to try and develop a model of the natural language user M[NLU] which describes and explains how NLUs go about in [*sic*] communicating with each other through linguistic means. The best M[NLU] is that model which most closely and ‘naturalistically’ approaches the communicative performance of ‘real’ NLUs. The best M[NL] is that model of the grammar of a language which fits in most easily with an adequate M[NLU]. (Dik 1990b:233)

42. The vertical bars around |Concrete| are intended to mean that the restriction to concrete entities is prototypical rather than absolute.

This model of the natural language user reflects the various capacities involved in linguistic communication: the ability to produce and interpret linguistic expressions correctly (**linguistic** capacity); the ability to set up and use a knowledge base (**epistemic** capacity); the ability to infer new information from that already available (**logical** capacity); the ability to derive knowledge from the world around us and to use this knowledge in communication (**perceptual** capacity); and the ability to adapt one's language to the social situation in order to attain communicative goals (**social** capacity) (Dik 1990a:204, 1990b:234). Dik's work concentrates on the first three of these capacities, and builds in a Functional Logic (Dik 1988, 1989b:21–23, 1990b:234–236, 1989c), which is a system for deriving new predications from sets of known predications by means of inferential rules. Functional Logic expressions are interpreted in terms of individual-dependent, dynamic, finite mental representations called **pictures**, which consist of perceptual representations (**images**) and conceptual representations.

Central to Dik's MNLU, as we saw in §3.1.2, are two hypotheses regarding conceptual representations:

- (H1) Underlying linguistic structures, pieces of non-perceptual knowledge, and logical forms can be expressed in one and the same unified cognitive representational language.
- (H2) The representation language used for underlying predications in FG is a good approximation to this cognitive representation language. (Dik 1990b:234)

Dik's reasons for postulating these hypotheses are, briefly, as follows:

- they lead to a much simpler system than one in which there are separate linguistic and conceptual representations;
- even when conceptualisation is discussed in putatively non-linguistic terms, people seem to have difficulty in freeing themselves from linguistic labels for the conceptual categories;
- a non-linguistic view of conceptualisation usually goes hand in hand with the idea that conceptualisations are to some extent universal, but this flies in the face of the large degree of variability between languages;
- connected with the previous point, if conceptualisation is language-dependent rather than universal, this corresponds to the strongly culture-bound nature of language and to the difficulty of translating between one language and another.

These arguments are succinctly summarised by Nuyts (1992a:224) who, however, argues convincingly against them. Nuyts' own model, which is still closely related to FG, is known as Functional Procedural Grammar (henceforth FPG), useful overviews of which are available in Nuyts (1994:159–164) and Nuyts (2001a:272–279), a somewhat fuller picture in Nuyts (1989), and a detailed treatment in Nuyts (1992a).

Nuyts' own proposals arise out of a conviction that a truly functional grammar must take very seriously its commitment to both pragmatic and psychological adequacy. He therefore develops a model which, as its name suggests, is concerned with the procedures involved in the production of utterances by speakers, not just with the linguistic

resources available for the formulation of such utterances. His model is “intended to provide a (rough) working hypothesis concerning the organization of the cognitive systems involved in a language user’s production of discourse” (Nuyts 1994: 159). It thus attempts to build in not only the way in which single utterances are constructed, but also the appropriate situation of these utterances within the discourse of which they are a part, and the ways in which they are adapted to their situation in discourse.

FPG also seeks to model the cognitive systems which act as a link between linguistic structure and a deeper level of conceptual structure which, unlike that in Dik’s model of the Natural Language User, is not assumed to have the same format as that used for the representation of predications. Nuyts (1990, 1992a: 223–236, 2001a: 290ff., forthcoming) presents detailed arguments in favour of his position as against Dik’s. Nuyts (1992a) points out that Dik’s proposal runs counter to the prevailing view in Artificial Intelligence, the psychology of language and semantics. He then summarises Dik’s own defence of his position and goes on to present a number of arguments against this position.

Firstly, Nuyts (1992a: 224–225) cites the fact that operators, realised by grammatical means, and satellites, realised lexically, often express meanings which are very similar, differing only in specificity, as, for example, in the expression of time, where tense conveys only general meanings (e.g. past relative to some orientation point), but further specification can be achieved by means of temporal satellites.⁴³ He suggests that such meanings, though appropriately treated as separate at the level of the predication, should be unified at a conceptual level which is ‘deeper’ than the linguistic level. Similarly, the various possible expression types for epistemic modality in Germanic languages require very different treatment in the grammar, but have an underlying unity at the conceptual level, the differences in expression being motivated by factors such as perspectivisation and information structure (Nuyts forthcoming).⁴⁴

Secondly, Nuyts (1992a: 225–229) mentions the way in which FG deals with situations where there are marked variants of more neutral constructions (e.g. passives versus actives, clefts, right dislocations, etc.). In all these cases, FG would have different representations for the unmarked and marked variants, despite their arguable unity at a deeper level. Again, an underlying conceptual level different from the linguistic representation would be a solution to the problem.

Nuyts (1992a: 229–230) also summarises the evidence showing that language users tend to remember the underlying meaning, rather than more precise verbal structure, of utterances, again suggesting that conceptualisation is not lexical in nature. A further argument (1992a: 230–231) comes from translation. While, as Dik points out, this is indeed both difficult and culture-bound, the fact that it is very often possible to find translations even where the target language does not lexicalise the concept in question suggests that there is some deeper level of conceptualisation beneath the purely linguistic.

43. A similar situation has been noted in more recent work on modality (Vet 1997); Kwee (1996:7) also remarks that the difference between operators and satellites in the theory “seems to be accidental, in fact just formal and superficial”.

44. For discussion of Nuyts’ account of modality within FPG, see §9.2.3.5.

Nuyts (1992a: 232–236) also rehearses a number of arguments against the relationship between conceptual and perceptual knowledge proposed by Dik.⁴⁵ He concludes:

It seems more reasonable to assume that conceptualization is a matter of developing a representational system which is not specifically determined by, and thus not biased toward, one specific mode of perception and behavior such as the linguistic or visual one, but which steers a path between the different channels ... (1992a: 234)

Nuyts' overall conclusion is that:

... it seems impossible to avoid a higher degree of abstractness in representing conceptualization than Dik would be willing to grant (1992a: 236).

This conclusion is also strongly supported by the work of Hesp (1990a, 1990b), who shows that a model such as Dik's makes predictions, about what people should and should not remember about an utterance, and about inferencing from simple and more complex sentences, which are not borne out by the psycholinguistic evidence. He also presents evidence (from the non-reportability of procedural knowledge, the lack of complete separation between the conceptual systems of bilinguals, the difficulty of making a clean separation between conceptual and perceptual knowledge, and the apparent universality of aspects of processing in certain semantic domains) that militates against the modified view that input sentences might be translated into more abstract, but still linguistic, structures before storage in memory and retrieval for reasoning processes.

The overall architecture of FPG is shown in Figure 3.6, from Nuyts (2001a: 273, Figure 6).⁴⁶ The 'universe of interpretation' (UI) for a speaker/hearer (S/H) is:

... the stock of world knowledge which is activated in the current communicative setting and which is an integral part of the speaker's encyclopedia (his/her entire 'inventory' of long term knowledge about the world, in its widest sense: the physical world, the social world, the psychological world, and any imaginary world).
(Nuyts 1994: 161)

The UI not only provides direct input for the construction of the message, but can also be consulted for information on any knowledge required, such as knowledge of social conventions and of one's social relationship with the hearer.

The first stage towards the production of the final (series of) utterance(s) is 'textualising', by which is meant the construction of a conceptual structure (the 'situational network' (SN)) which includes the information about the state of affairs (SoA) which

45. Bakker & Siewierska (forthcoming) also point out that there is no evidence for any difference in mental storage or processing between conceptual and perceptually-acquired information, or between declarative and procedural information. They also observe that there must be, at a prelinguistic stage in the development of human language capacities, some way of bootstrapping the brain into thinking and knowledge acquisition.

46. In Nuyts' schema, italics represent series of procedures resulting in particular kinds of representational structures, which are given in normal type. The dotted box at the bottom represents the limits of what is usually regarded as the grammar.

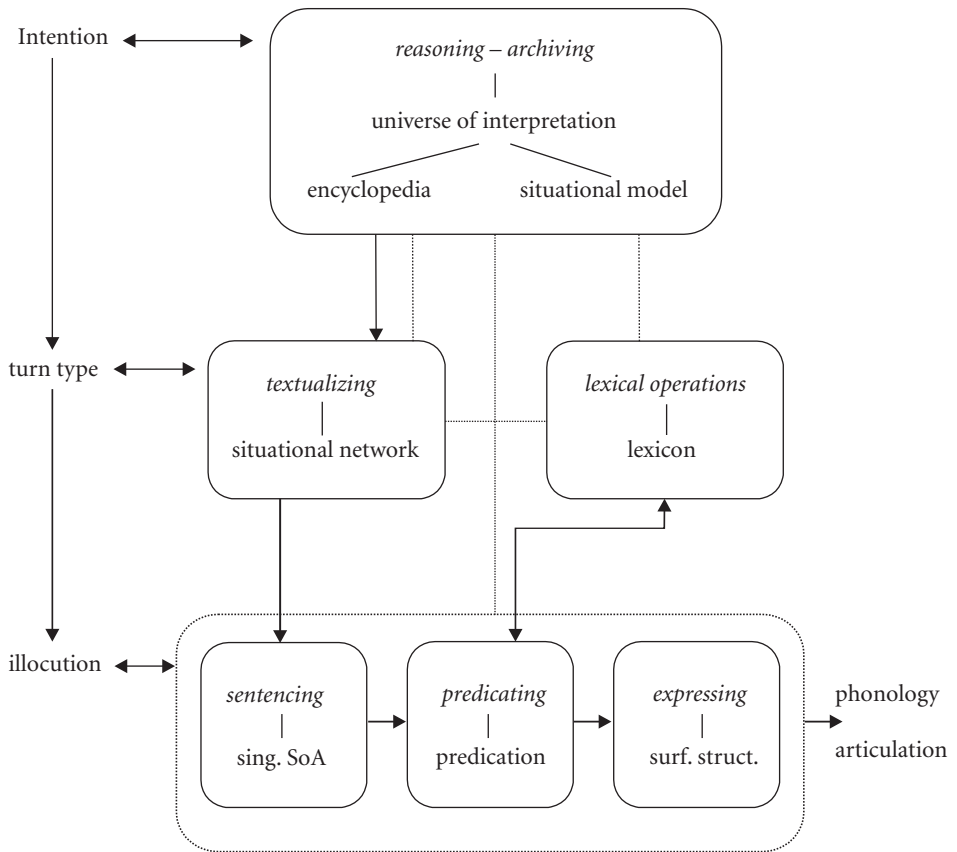


Figure 3.6. Outline of Functional Procedural Grammar (Nuyts 2001a: 273, Figure 6)

S/H considers may relevantly be communicated to the addressee within one turn in discourse. The SN may therefore contain more material than will eventually be packaged into one utterance, and its construction must include the planning of the discourse turn. The speaker's intention in contributing this particular turn, and his or her model of the hearer's knowledge in relation to the relevant SoAs, are important factors in SN construction.

Textualising involves at least two types of procedure. Firstly, appropriate material must be selected from the UI for encoding in the current turn, and the various pieces of information must be put together into a coherent conceptual structure, while maintaining an appropriate relationship with other information within or outside the discourse. This information may need to be qualified in terms of concepts relating to, for example, time, aspectual meanings, polarity, modality and purposive function. Secondly, the information structuring of the components of the turn must be decided on.

The conceptual representation in the SN is then converted into actual linguistic utterances in three further phases, as shown in Figure 3.6. Sentencing procedures involve

the isolation from the SN of conceptual information units (termed ‘singular SoAs’ (SSA)) which can be packaged as single utterances, and each of which has its own status within the turn. Each SSA needs to be organised both internally and in relation to other SSAs (e.g. by assignment of topic and focus), so that the resulting units will fit into the discourse, and the complex of SSAs needs to be appropriately sequenced. Predication procedures involve choosing a predicate and its arguments, determining predicate and term operators, selecting an appropriate pattern type, and assigning syntactic functions. Finally, expression procedures specify the surface output in terms of morphosyntactic form and intonation.

We are now in a position to compare Nuyts’ model with Dik’s in relation to their treatment of the simplex clause. Clearly, it is only when we get to the predication and expression procedures that we enter the realm of FG as conceived by Dik – and after that point, Nuyts assumes that FG is a broadly adequate basis. There are nevertheless some highly significant differences, in terms of the level in the overall system at which particular phenomena are to be accounted for. For instance, Nuyts (2001a: 8) argues that the selection restrictions imposed on predicates in FG should be accounted for not in the grammar itself, but in the conceptual system, as an aspect of our knowledge of the world. Another important difference is concerned with the stage at which pragmatic functional information, and also qualifications in terms of such things as time and modality, are introduced. In Nuyts’ model, in the interests of cognitive plausibility, decisions in these areas are, as we have seen, made at an early stage, during textualisation, which gives rise to the conceptual structure in the SN.⁴⁷ One of the consequences of this is that, according to Nuyts (1992a: 280, 1999: 183, 2001a: 320–321), pragmatic function assignment disappears from what in Dik’s model would be seen as the build-up of underlying clause structure (Nuyts’ predication procedures).

There is a further important difference between the two models, concerned with the concept of layering. As noted briefly in §3.3, Nuyts’ work on particular areas of conceptualisation and linguistic structure within the FPG model has led him to the conclusion that the layering scheme proposed by Hengeveld and taken over by Dik is too simple to account for the linguistic facts, which require a much more gradual layering system; in FPG, on the other hand, layering at the level of linguistic structure is likely to be rather simpler than assumed in current FG (see Nuyts 1998, 2001a: 334–366, forthcoming).⁴⁸ Indeed, as Nuyts’ (1992a: 258–260) observes, much complexity which is at present handled in the grammar itself in FG (e.g. that concerned with meaning definitions and selection restrictions) would be handled at the conceptual level in the FPG model.

47. For a similar view on the psychological implausibility of assigning pragmatic functions at a late stage, see Bakker (1994: 424), where it is also pointed out that the building up of clause structures starting from the predicate runs counter to the proposed direction of scoping of operators. Kwee (1997: 203) also argues, from the point of view of computational implementation, that assignment of pragmatic functions should precede that of syntactic functions. Junger (1987), too, suggests that pragmatic functions should be the first rather than the last type of function to be assigned.

48. For more detailed and critical comment see Chapter 6 and also the discussion of modality in Chapter 9.

3.7 Two recent proposals

Very recently, several quite radical proposals have been made within FG, making sweeping changes to the overall model. Certain of these involve the importation of ideas from Role and Reference Grammar, and so will be described in Chapter 6, where models are explicitly compared. Recent work by Hengeveld and by Mackenzie will be summarised briefly in what follows.

3.7.1 Recent proposals by Hengeveld

Hengeveld (1997a) presents a new model which extends the grammar upwards to accommodate discourse structures. As the innovations are largely concerned with the modelling of discourse, they will be described in more detail in Chapter 4 of Part 2. It will suffice to say here that a third level, the rhetorical, is added to the interpersonal and representational levels, and that a modification is made to the interpersonal level such that the underlying structure indicates which interactant in a dialogue is speaking at the time the utterance is formulated.

Hengeveld (forthcoming a) has recently put forward a model (Functional Discourse Grammar, FDG) which will be reviewed here because it makes important changes to his earlier layering proposals. An important difference between FDG and the earlier model is that the new model has a top-down rather than a bottom-up orientation: that is, it works from intention to articulation, while still retaining many of the essential properties of Dik's account. Hengeveld gives two connected reasons for this: firstly, in the model proposed by Levelt (1989), speech production is seen as a top-down process going from intention to articulation; secondly, in such a model, the ways in which underlying structures are generated, and especially the interfaces between levels, can be seen in terms of the decisions taken by the speaker in constructing an utterance.

From 'top' to 'bottom', the model distinguishes three interacting levels: the **interpersonal** level, concerned with language as communicational process; the **representational** level, concerned with language as a carrier of content; and the **expression** level, concerned with the way in which communicated content is represented at the surface of language. The three levels of the linguistic model interact with two other components of the overall model, the cognitive and communicative. The **cognitive** component is concerned with the long-term knowledge of the speaker (communicative and linguistic competence, knowledge of the world) while the **communicative** component is concerned with the short-term linguistic information available from the previous discourse and non-linguistic (perceptual) information derivable from the situation in which communication is occurring.

Within the linguistic component, mapping rules link the interpersonal level to the representational, in those situations in which communication involves the transmission of semantic content, and expression rules link both the representational and interpersonal levels to their realisation at the expression level, the latter link being needed in cases where only pragmatic information is conveyed, as with, for example, expletives such as *Damn!*

Each level of the linguistic component is organised hierarchically according to its own independent layering model. The interpersonal level has the schematic structure shown in (74):

$$(74) \quad (M_1: [(A_1: [ILL (P_1)_{Sp} (P_2)_{Addr} (C_1: [...(T_1) (R_1) \dots] (C_1))] (A_1))] (M_1))$$

where ‘M’ represents a move (a minimal free unit of discourse), ‘A’ a discourse act, ‘ILL’ the illocution encoded in the expression, ‘P’ a participant in the speech event (differentiated into speakers and addressees), ‘C’ the communicated content, ‘T’ an ascriptive act and ‘R’ a referential act. Here, I shall concentrate on the changes in the modelling of the underlying structure of the clause, leaving more discourse-oriented aspects for Chapter 4 of Part 2. One significant change from earlier accounts is the Searlian position taken with respect to the distinction between two kinds of interpersonal act, ascriptive and referential; another is the splitting of the erstwhile propositional variable ‘X’ into two components, one of which, that for the speaker-bound communicated content ‘C’, is included in the interpersonal structure. The other component is part of the representational level, whose schematic structure is shown in (75):

$$(75) \quad (p_1: [(e_1: [(f_1) (x_1)] (e_1))] (p_1))$$

Here, ‘p’ is the propositional content, ‘e’ the State of Affairs; as before, ‘f’ represents a property or relation, and ‘x’ an individual. Hengeveld notes that the distinction between ‘C’ at the interpersonal level and the entity type at the representational level allows for the possibility of communicating content simply by referring to, for instance, a first order entity rather than producing a full propositional structure. Similarly, ‘T’ at the interpersonal level allows for a distinction between the act of ascription by the speaker and the type of entity described, and ‘R’ for the distinction between an act of referring and the entity type referred to.

Finally, the expression level has the type of representation shown in (76), which is recognised to be an oversimplification, since different languages have different possibilities for expression, and a given language usually has a more complex set of possibilities than those shown here. Note that the expression model appears to be based on the written language, though no clear statement is made by Hengeveld to this effect.

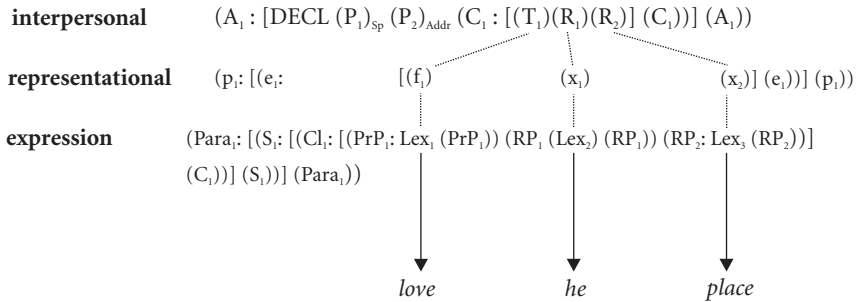
$$(76) \quad (Para_1: [(S_1: [(Cl_1: [(PrP_1: [(Lex_1)] (PrP_1)) (RP_1: [(Lex_2)] (RP_1))] (Cl_1))] (S_1))] (Para_1))$$

‘Para’ represents the paragraph, ‘S’ the sentence, ‘Cl’ the clause, ‘PrP’ the predicate phrase, ‘RP’ the referential phrase, and ‘Lex’ a lexeme.

Hengeveld suggests that referents from both the interpersonal and expression levels need to be copied into the representational level, via the communicative context, so that they can be referred to in the subsequent discourse. He shows that information from the interpersonal level is required, for example, to account for phenomena such as hedged performatives, while units from the expression level are required for reflexive language such as metalinguistic expressions and direct speech.

Below, I analyse one complete example and parts of a few others to show the kind of layered structure Hengeveld proposes. The boxed analyses in (78)–(80) refer to the constituents in bold type in each example.

(77) *He loves this place.* (BNC B1X 524)



(78) *I don't know whether I could afford all those leather jackets.* (BNC ARJ 1701)

interpersonal	$(A_1 : [\text{DECL } (P_1)_{\text{Sp}} (P_2)_{\text{Addr}} (C_1 : [(R_1)] (C_i))] (A_i))$
representational	(p_1)
expression	(Cl_1)

(79) *Hell!* (BNC AN7 2396)

interpersonal	$(A_1 : [\text{EXPR } (P_1)_{\text{Sp}} (P_2)_{\text{Addr}} (C_1)] (A_i))$
representational	—
expression	(Lex_1)

(80) *Andrea!* (BNC ARB 1744)

interpersonal	$(A_1 : [\text{VOC } (P_1)_{\text{Sp}} (P_2)_{\text{Addr}} (C_1 : [(R_1)] (C_i))] (A_i))$
representational	—
expression	(Lex_1)

The Functional Discourse Grammar model is further elaborated in Hengeveld (forthcoming b), in response to reactions to the original proposal, as represented by the various contributions to the volume edited by Mackenzie & Gómez-González (forthcoming). The model is now situated within a wider model of verbal interaction consisting of four components: the **conceptual** component which drives the creation of linguistic expressions; the **grammatical** component which subsumes the interpersonal and representational levels of the original version and incorporates a further structural level; the **acoustic** component (or, in different media, an orthographic or sign component) which subsumes the expression level; and the **contextual** component. The conceptual component drives the formation of both interpersonal and representational aspects of the grammatical component, and the underlying representation deriving from this process is then encoded at the structural level. The structural and interpersonal levels determine the expression proper-

ties (phonetic, graphic, etc.) of the utterance. The contextual component is in interaction with all levels and is also involved in developing new conceptualisations.

The system of levels is also relevant to the classification of functional information and of items in the fund. As noted by Anstey (forthcoming), the ordering of interpersonal, representational and structural levels reflects Dik's claim that the pragmatics should have priority over the semantics, and the semantics over the syntax. Following suggestions by Cornish (forthcoming) and Mackenzie (forthcoming), Hengeveld proposes that pragmatic functions are situated at the interpersonal level; semantic functions, on the other hand, are at the representational level as in earlier versions of FG, and syntactic functions at the structural level. Syntactic functions are thus seen in this model in purely grammatical terms, their perspectivising role arising from the pragmatic and semantic information which triggers their assignment.

As far as the fund is concerned, the position taken is that each level in the model contributes its own set of basic units. At both the interpersonal and representational levels, we have lexemes, operators and frames; in the case of the interpersonal level the frames are illocutionary, while at the representational level they are predication frames.⁴⁹ The structural level contributes templates and morphemes to the fund, while the acoustic level has sounds and prosodic patterns.

3.7.2 Mackenzie's Incremental Functional Grammar

Finally, we should note that Mackenzie (1998a, 2000, forthcoming) has recently proposed a model, referred to as Incremental Functional Grammar (IFG⁵⁰), which foregrounds the importance of what have often been considered incomplete or elliptical utterances, not only in children's speech but also in adult language, and expands on the suggestion in Dik (1997a: 329) that such utterances might be expanded into 'full' ones, rather than being derived from them by ellipsis.⁵¹ I shall refer to this model again at appropriate points in this book and in Part 2, but for now it will be sufficient to note certain key aspects which bear on clausal organisation. The following summary is based closely on Mackenzie (2000).

The aim of IFG is

to bring FG closer to work in the modelling of production and comprehension and thereby to increase its claim to psychological adequacy. (Mackenzie 2000: 34)

For this reason, Mackenzie claims it has a close relationship with Nuyts' Functional Procedural Grammar (see §3.6). The concept of temporal succession is central to the model, in that individual utterances, as well as larger stretches of discourse, are analysed as a succession of units in time. Every discourse act consists of a sequence of subacts, which may be

49. For discussion of the replacement of predicate frames by predication frames, see §6.2.2.3.

50. Not to be confused with (italicised) *IFG*, the abbreviation often used in this book for Halliday's *An Introduction to Functional Grammar*.

51. For further work on special utterance types needing a discourse sequence for their interpretation, see Ziv (1994).

concerned with reference, predication or the organisation of the discourse. These subacts are recognised functionally: although they have a rough correspondence with the main constituents of syntactic structure, there are some types (e.g. multi-word lexical units) which may not correspond with constituents in this way. The emphasis on left-to-right, temporally organised sequencing is seen as a development of Dik's earlier-to-later ordering of elements in structural templates, and also as consonant with Bakker's work on expression rules (see §3.4).

Mackenzie takes up the basic framework provided in Hengeveld's 1997 model as a way of representing holophrases and their expansions in FG. On the principle of including in the underlying representation of an utterance only that information which is necessary to allow the expression rules to produce that utterance, he proposes that holophrases lack layers for illocution, proposition and predication, since they do not manifest any features of these kinds. One example will suffice for the present. The holophrase in (81) is analysed as having the structure shown in (82), where 'M' stands for Move, 'P' for a participant in the interaction, 'U' for Utterance (cf. Mackenzie's example (7c), 1998a:277).

(81) *Coffee?* (BNC ASS 1867)

(82) (M₁: [OFFER (P₁)_{Sp} (P₂)_{Ad} (U₁: [(ix_i: coffee_N)_{Foc}])])

In Incremental Functional Grammar, then, holophrases such as the above are minimal utterances, often acting, for example, as answers to questions, greetings or calls, among many other functions. It is assumed that the P1 position (see §3.2.3) must be filled⁵² in any utterance in English, so that, trivially, a one-constituent holophrastic expression must be in this position. Furthermore, since it can be assumed that there is always some 'point' to an utterance, and since the most salient information is focal in the FG model, it also follows that the holophrase carries Focus. The model then postulates expansion of such holophrases by the filling of positions after P1 in the template, bringing with it the possibility of relocating the Focus, which, although it can still be placed in P1 according to the principle of 'task urgency' (Givón 1989) tends to take a late, often final, position in accordance with the principle that the most recently presented information is the most easily retained. In this way, IFG assigns particular importance to both first (P1) and late/last (focal) positions in an utterance.

3.8 Conclusion

I shall conclude by summarising, in relation to FG, the answers to the questions raised at the end of Chapter 2.

52. As we shall see in Chapter 2 of Part 2, this is a matter of controversy in FG at the present time.

3.8.1 The relationships between levels of linguistic patterning

As we have seen, the building up of the underlying structure of the clause in classical FG begins with the selection of a predicate from the lexicon. Lexical patterning is thus at the heart of FG, even in the Dik model, and even more so in the Functional Lexematic Model, with its concept of predicate schema. The underlying structure generated is fundamentally a semantic structure, with no specification of syntactic realisation. It is, however, enriched by the allocation, where appropriate, of syntactic functions (Subject, Object) and pragmatic functions (Topic, Focus, etc). The morphological form of items, the insertion of adpositions, the syntactic ordering of constituents, agreement phenomena, and prosodic contours are all introduced by the expression rule component.

3.8.2 Mechanisms for specifying clause structure

The model is generative, and the mechanism for generation is two-stage: the output of the procedure for generating the underlying structure of the clause is input to the expression rules, which produce the final output. In Functional Procedural Grammar the generation of underlying clause structure itself belongs to the predication procedures.

3.8.3 Layering

Dik postulates a layered underlying structure for the clause, consisting of predicate/term, predication, proposition and clause levels, each of which has its own operators (for grammatically expressed modifications) and satellites (for lexically expressed material). Operators at a given level have scope over those at lower, inner levels. Following Hengeveld, who in turn derives his idea from Halliday, present-day FG recognises the grouping of the predicate and predicational levels (which Hengeveld renames 'layers') into a representational level, and the propositional and clausal into an interpersonal level. A number of proposals for modification of the Hengeveld/Dik structure have been made: most involve extra layers and/or elements within layers; some, such as those of Nuyts, offer more radical challenges. The latest work by Hengeveld and Mackenzie, while preserving many of the principles and insights of earlier FG, also presents radically new perspectives, which have yet to be followed through in detail.

3.8.4 Syntactic, semantic and pragmatic functions

The semantic functions of the arguments of a predicate (e.g. Agent, Goal) are specified in the lexical entry for that predicate.

The syntactic function Subject may or may not be relevant in a particular language, depending on the availability of voice options in which the passive encodes the same representational content as the active, and has a non-first argument which shares at least some coding and behavioural properties with the first argument of the active. Subject assignment is seen in terms of the perspectivisation of the State of Affairs, and oper-

ates when all the representational information about the clause has been specified, i.e. at the end of Level 2. In languages which have Subject assignment, there may be a secondary perspectivisation, achieved by Object assignment. FG has no category of Indirect Object. Accessibility to Subject and Object assignment, if relevant, is conditioned by a set of hierarchies, concerned with semantic function, definiteness, animacy, person, etc. In Hengeveld's Functional Discourse Grammar syntactic function assignment is purely grammatical, its perspectivising role arising from the semantic and pragmatic factors which motivate it.

A variety of pragmatic functions is postulated in FG. The clause-internal pragmatic functions are the various types of Topic and Focus, which, in Dik's model, are assigned after the semantic properties at all four levels have been specified. In Hengeveld's latest model of a Functional Discourse Grammar pragmatic functions are assigned at the interpersonal level, while in Nuyts' FPG model, information structuring is decided upon at an earlier, conceptual stage in utterance generation.

CHAPTER 4

The clause in Role and Reference Grammar

An introduction

As in Chapter 3, this chapter will begin with a brief section summarising the underlying goals of the theory. The main part of the chapter then deals with structure and meaning in the simplex clause in RRG. Here I shall refer mainly to Van Valin & LaPolla (1997) and to Van Valin (1993b). This is because, unlike in FG and SFG, the basic components of the theory of RRG have not as yet undergone substantial modification through the work of other scholars, although such work has certainly contributed additional insights in certain areas and will be reflected, as appropriate, in later chapters. This is also the reason for this chapter being somewhat shorter than those devoted to FG and SFG.

4.1 Underlying goals

We saw in §2.4 that RRG is firmly committed to what Van Valin & LaPolla (1997: 11) refer to as the **communication-and-cognition perspective** on language. This means that language is seen as itself constituting an abstract system, but that this system is rooted in, and partially explicable in terms of, the functions which language fulfils in human communication and cognition. Van Valin & LaPolla (1997: 12) place RRG in the centre of a set of theories which are alike in rejecting the ‘syntactocentric’ view of Chomsky, while varying along a cline from SFG at the most ‘discourse-pragmatic’ end to Cognitive Grammar at the most cognitive end. They explicitly endorse Dik’s criterion of psychological adequacy, and the statement that

RRG is concerned not only with relations of cooccurrence and combination in strictly formal terms but also with semantic and pragmatic cooccurrence and combinatory relations. (Van Valin 1993b: 2, cited in Van Valin & LaPolla 1997: 13)

shows that the theory is also centrally concerned with modelling the relationship between semantics/pragmatics and form.

One of the most striking features of RRG, however, is the very high priority it gives to matters of typological adequacy. As we have seen, the theory originally arose out of a deliberate attempt to free linguistic theory and description from the anglocentric orienta-

tion which was so prevalent in the most influential theories at that time. At every point, RRG grammarians look to languages with characteristics very different from those of the familiar Indo-European languages, as a counterbalance to the tendency to base grammars on English. The result, as we shall see, is that in some key areas, such as those of syntactic function and clause combination, RRG makes proposals which are very different from those of other theories.

Summarising, we might say that RRG is very much a theory of syntactic and semantic relations in language, but one in which the account of form and meaning is informed by cognitive and discourse-pragmatic considerations, and especially by the desire to formulate a theory which will be just as adequate for (say) Lakhota, Dyirbal or Sama as for English, French or Russian.

4.2 The components of the model for the simple clause

In RRG, the non-relational aspects of clause structure (i.e. those which are not concerned with the relationship between predicates and arguments) are captured in the Layered Structure of the Clause (LSC) (see Van Valin 1993b:4–7; Van Valin & LaPolla 1997:25–31). The clause consists of **core** and **periphery** elements, which are syntactic, though motivated semantically, in that the core contains the predicate (within the **nucleus** of the core) and its syntactic arguments,¹ while the periphery contains non-arguments of the predicate. As we shall see below, the core and periphery, linked to the semantic units they contain, are represented by means of the **constituent projection** for a clause. Also part of the LSC are the **operators** which modify the syntactic units of the clause, in terms of aspect, tense, modality, illocution, and the like. These operators are shown in an **operator projection** which is distinct from, though linked to, the constituent projection. A third projection, not considered part of the clause structure itself, but closely related to it, is the **focus projection**, which represents the informational structure of the clause, in terms of Topic and Focus assignment.

RRG employs a system of **lexical representation** which is decompositional in nature. Semantic roles of arguments are, it is claimed, fully predictable from the class of predicate and the position of the argument in the decomposed lexical structure, known as the **logical structure** of the predicate. RRG also postulates two **macroroles** (Actor and Undergoer) which subsume a number of more specific semantic relations.

RRG does not operate with the traditional category of Subject, but with the concept of **Privileged Syntactic Argument**, which may or may not coincide with the Subject of a clause as assigned in other theories.

The theory proposes specific **linking algorithms** for getting from semantics (i.e. the logical structure of the predicate) to syntax, and *vice versa*.

1. Note that in RRG a distinction is made between the **semantic** arguments in the semantic representation of a predicate and the **syntactic** arguments within the core.

In what follows, I shall examine briefly each of these components of the clause model, and also their interaction in specifying clause structures and their associated informational structures.

4.3 Problems with Immediate Constituent approaches

RRG is, as we have seen, strongly committed to criteria of typological adequacy. The model of clause structure it adopts must, therefore, be capable of giving insightful accounts of the whole range of human languages, and must not be biased towards English and other familiar Indo-European languages, as is the case with many syntactic theories. Indeed, as we saw in §2.4.6, Van Valin comments that RRG emerged out of attempts to answer the question:

... what would linguistic theory look like if it were based on the analysis of Lakhota, Tagalog and Dyrirbal rather than on the analysis of English?
(Van Valin 1995:461, 1996:281)

RRG therefore imposes two very strict conditions on its theory of clause structure:

- a. A theory of clause structure should capture all of the universal features without imposing features on languages in which there is no evidence for them.
- b. A theory should represent comparable structures in different languages in comparable ways. (Van Valin & LaPolla 1997:22)

Van Valin & LaPolla (1997:23–25) argue that the most common way of approaching syntactic structure, through Immediate Constituent analysis, raises problems with respect to two types of language: those, such as Dyrirbal, in which constituent order is subject to very few constraints; and those, such as the Siouan language Lakhota, which mark predicate-argument relations on the head predicate, rather than on the dependents. In order to illustrate both of these types, I shall examine examples from Gooniyandi, an Australian Aboriginal language in which they combine. McGregor (1990a:3) states that the constituent order in Gooniyandi is free, in that changing it does not affect the representational (McGregor uses the terms ‘referential’ and, following Halliday, ‘experiential’) meaning of the clause, though it may well affect information structuring. Compare the following, taken from McGregor’s corpus of spoken Gooniyandi:²

- (1) (= McGregor’s 5–70, 1990a:325)
- | | | | | |
|---------------|--------------|----------------------|--------------------|-------------|
| <i>nganyi</i> | <i>-ngga</i> | <i>boolja/thadda</i> | <i>thoolnglimi</i> | <i>-nhi</i> |
| I | ERG | ball/dog | kicked-I.CL | at-it |
- ‘I kicked the ball/dog.’

2. Glosses, here and in other Gooniyandi examples, are slightly expanded from those provided by McGregor, in order to show greater detail of the structure. Note that Gooniyandi has classifiers in the verbal complex, here symbolised as CL. Note also that the colon in the gloss ‘hit-I:him.CL’ is intended to indicate that *-loo-* indicates both a 1st person singular Subject and a 3rd person singular Object.

- (2) (= McGregor's 5–241, 1990a:379)
gardiya gardlooni nganyi -ngga
 white-man hit-I:him.CL I ERG
 'It was the white man that I hit.'

The difference in constituent order here is due to differences in the information structuring chosen by the speaker, as indicated by the use of the cleft construction in the English translation. The unmarked equivalent, corresponding to 'I hit the white man', would be:

- (3) *nganyi- ngga gardiya gardlooni*
 I ERG white-man hit-I:him.CL
 'I hit the white man.'

These examples also demonstrate that nominal arguments are (obligatorily) cross-indexed on the verb: for instance, in (3), *gardlooni* not only encodes the predicate (*gard-*, hit), but also indicates that the Subject argument is 1st person singular and the Object 3rd person singular. Note that it is perfectly possible to omit the explicit nominal arguments: for example, *gardlooni* means 'I hit him' (McGregor 1990a:200).

We can now see why IC analysis is inappropriate, if we are to account for the underlying similarities between different types of language in our model of clause structure. A typical IC analysis of the English clause *I kicked the ball* would be as in Figure 4.1:

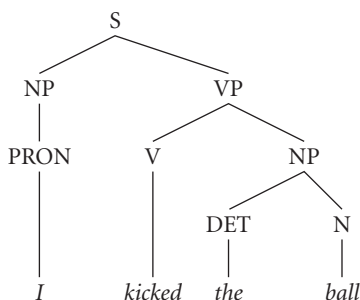


Figure 4.1. IC analysis

With the Gooniyandi clause, however, there are problems: apart from the fact that the V and Object NP constituents may not be adjacent, and so cannot form a continuous constituent, there will be as many different constituent structures as there are possible word orders. This, of course, violates the criterion that the theory should, for typological adequacy, be able to show the similarities across languages with respect to comparable constructions.³

3. Van Valin & LaPolla (1997:22–23) recognise that it is not always easy to know what constitutes a set of comparable structures in different languages. They nevertheless claim that the problem can be overcome in practice.

The head-marking nature of Gooniyandi also causes problems for IC analysis. In the case of, for instance, *gardlooni* ('I hit him'), standard IC analysis will treat this as a single word, labelled with the category V, without being able to go inside the structure of the word.

For these reasons, RRG postulates a different kind of analysis, which is claimed to be capable of fulfilling the two criteria stated above, namely those of representing universal aspects of structure without forcing inappropriate analyses on languages, and of representing comparable structures, in different languages, in comparable ways. The following sections outline the RRG proposals in this area.

4.4 Core, nucleus, periphery

The relationships between the syntactic elements core and periphery, and between nucleus, syntactic arguments and non-arguments, are illustrated in Figure 4.2 for the clause in (4) below.⁴

(4) *Janet gave it to Frank for Christmas.* (BNC KC7 475)

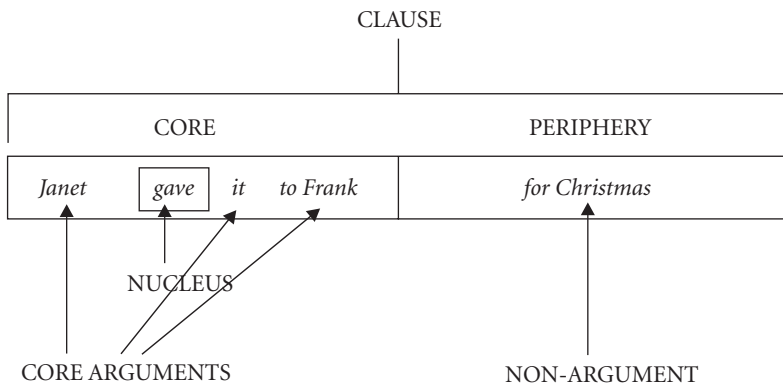


Figure 4.2. Layering of syntactic components in RRG

4. The relationship between core and periphery in current RRG differs in two respects from that in the original presentation of the theory (Foley & Van Valin 1984), which was based on the proposals made in Olson's (1981) analysis of the Papuan language Barai. Firstly, in the original model oblique arguments of the predicate were grouped together with non-arguments as peripheral, on the grounds of their oblique morphosyntactic coding. The current model, on the other hand, puts all arguments of the predicate in the core, however they are coded. Secondly, in the original model the periphery included the core, so that there were three concentric levels of organisation: periphery, core, nucleus. Later work showed that this arrangement led to incorrect predictions, as a result of which it was replaced by the current model with core and periphery in a sister relationship. For further discussion see Van Valin (1990: 194–196).

The distinctions made above are claimed to be universal: all languages are claimed to distinguish between core and periphery, and within the core between the nucleus and core arguments, and between syntactic arguments and non-arguments, often called adjuncts.

An important feature of this layered clause structure is that, in accordance with the criterion of typological adequacy, it is completely neutral as to the linear order of elements, and so is applicable not only to relatively fixed word order languages such as English, but also to languages with much freer ordering, such as many of the Australian Aboriginal languages, including Gooniyandi and Dyirbal. Furthermore, the LSC can be used to reveal underlying similarities in comparable structures across different language types. In order to demonstrate these points, we need to examine RRG proposals for the formal representation of the LSC.

4.5 Formal representation of the Layered Structure of the Clause: the constituent projection

The constituent projection shows, in the form of a tree diagram, the relationships among the syntactic constituents of the clause, as exemplified in the following projection for the clause in (4):

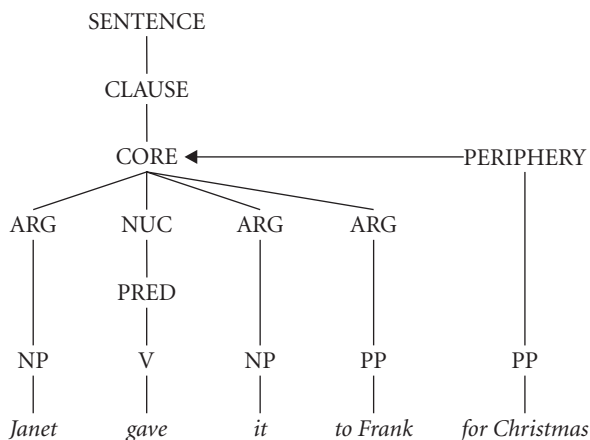


Figure 4.3. Constituent projection for example (4)

We can now see how an analysis in terms of core (with its nucleus) and periphery can show similarities across languages of different word order types, and between dependent-marking and head-marking languages. The constituent projections for the Gooniyandi

examples (2) and (3) and for the English translation of (3) are shown in Figures 4.4, 4.5 and 4.6.⁵

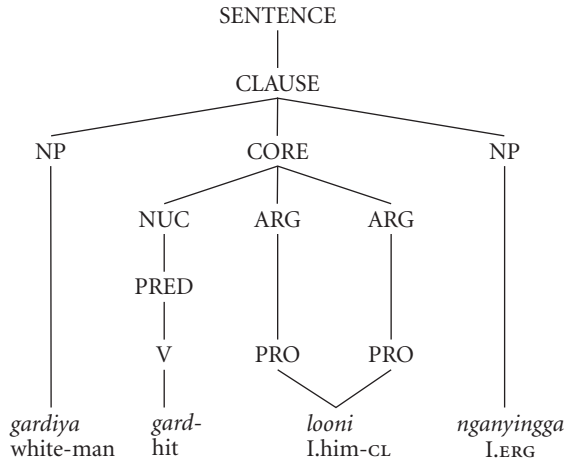


Figure 4.4. Constituent projection for example (2)

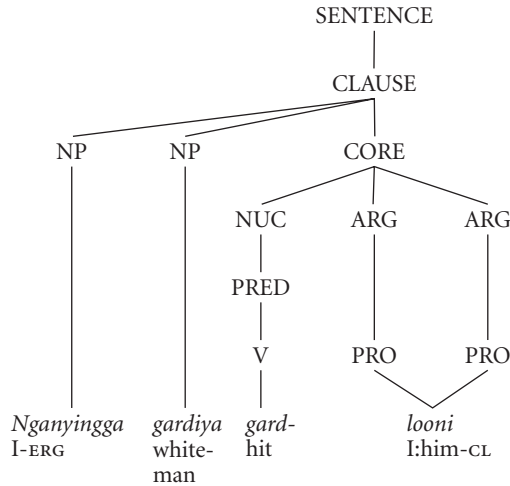


Figure 4.5. Constituent projection for example (3)

5. McGregor (1990a:200) states that *-looni* is underlyingly *-li* (the pronominal complex required for the appropriate classifier with 1st person singular nominative plus 3rd person singular accusative) and the classifier *-bini*. For the sake of simplicity, the classifier has been shown as part of the PRO.

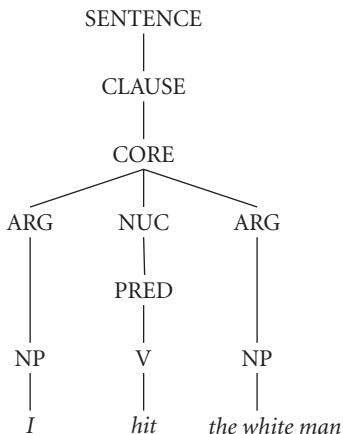


Figure 4.6. Constituent projection for English translation of example (3)

The constituent projection would, of course, be the same if the Object NP in English were pronominal: *I hit him*. Compare the Gooniyandi equivalent:

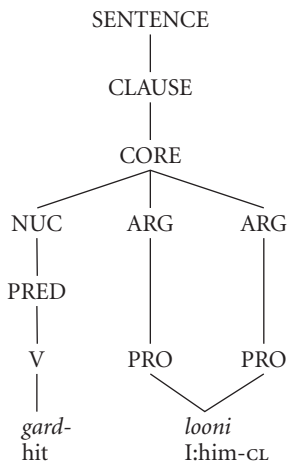


Figure 4.7. Constituent projection for Gooniyandi *gardlooni*

The Gooniyandi and English constituent projections above clearly demonstrate the similarity between the two structures (especially when it is borne in mind that the layers of the LSC are not dependent on linear ordering), while the projections for the more complex structures with full NPs show the same CORE/NUCLEUS/ARG relations, but also indicate

that in the Gooniyandi structure the core arguments are those affixed to the verb, the NPs being independent, though cross-indexed with the PRO elements of the core.⁶

4.6 Pre- and post-core slots, detached positions

The Layered Structure of the Clause is claimed to be universal. There are, however, other elements which may appear in the sentence, but are not universal, and which, unlike the LSC, are inherently associated with particular positions.

Outside the core, but still inside the clause, there may be a **pre-core slot** (PrCS), which contains question words (in languages where they do not occupy the same position as the phrases to which they correspond) and fronted elements. Outside the clause, but within a simple, single-clause sentence, may occur an element in the **left-detached position** (LDP). These elements are most commonly adverbials, and are claimed to be set off from the rest of the sentence by a pause. Below is an example containing elements in both the PrCS and the LDP from spoken Spanish, in which fronting is particularly common. Note that the orthography in the transcription of this corpus-derived example supports the claim that *ahora* ('now') is outside the clause proper: in Spanish the inverted question mark which signals the beginning of a question is placed at the beginning of the clause itself, after any introductory material; furthermore, in the transcription the initial phrase is marked off by a comma.⁷ Van Valin (1993b:13) makes the point that in examples such as the one given below, the element in the LDP position is not part of what is being questioned (in the present case, when the particular kind of life is being led is not at issue), and this is reflected by the fact that it lies outside the clause proper, and so outside the scope of the illocutionary operator (see below). The element in the PrCS, on the other hand, is the focus of the question itself, and must therefore lie within the clause.

- (5) (Y) *ahora, ¿qué vida hace* *usted?*
 (And) now, what life make-PRES.2 SG.POLITE you (HCM 15, 251)
 '(And) now, what kind of life do you lead?'

6. For further details of the arguments involved, see Van Valin & LaPolla (1997:33–34) and the references given there. I must emphasise that the analyses of Gooniyandi presented here are those which would be offered within the RRG framework: McGregor himself, working within the framework of his Semiotic Grammar, argues that participant roles must be realised by external NPs in Gooniyandi, the affixes in the verbal complex acting purely as cross-referencing devices (see McGregor 1997:105 and the references given there).

7. Note, however, that there are other examples which are more problematic from the point of view of the criteria proposed by RRG. For instance, in the common circumstance where a subject pronoun is preposed for emphasis, there is not necessarily any pause or intonation break, and this is reflected in the fact that many such examples in the HCM corpus are transcribed as having the pronoun inside the unit marked off by inverted and ordinary question marks, as in *¿Tú qué crees?* (What do **you** think?) (HCM 3, 48). Van Valin (personal communication), commenting on this example, observes that it must be possible to have either multiple pre-core slots or a multiply filled PrCS.

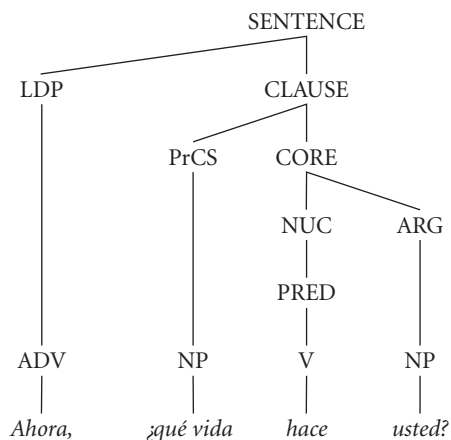


Figure 4.8. Constituent projection for example (5)

In Van Valin & LaPolla (1997:37), the LSC is extended to incorporate elements which are mirror images of the PrCS and LDP. Some languages, such as Japanese, have a **post-core slot** (PoCS) which, like the PrCS, is not set off from the clause proper, but which occurs at the end of the clause. Detached phrases may occur not only before but also after a clause, in the **right-detached position** (RDP), illustrated in (6).

(6) *She is cunning, that girl.* (BNC HTX 2807)

Van Valin (1993b:14–16) and Van Valin & LaPolla (1997:38–39) provide evidence from Icelandic for the distinction between the LDP and PrCS elements. Icelandic, in common with some other Germanic languages, has a constraint placing the verb in second position in the clause. In a *wh*-question, the *wh*-word appears in the PrCS, that is in first position in the clause, so in order for the verb to be in second position, the Subject must move to the position after the verb. The occurrence of an initial element set off by a pause or intonation break, however, does not force this change in position, suggesting that such elements lie outside the clause itself.

4.7 Operators

We saw earlier that RRG postulates a set of **operators** which are different in kind from the constituents of the LSC, in that they modify these constituents in various ways.⁸ Operators may be realised as individual grammatical words (often auxiliaries), and/or as bound morphemes, depending on the type of language. Particular operators modify particular levels within the LSC. The following summary closely follows Van Valin & LaPolla (1997:40–52).

8. For more on operators concerned with tense, aspect, modality and polarity in RRG see Chapter 9. For illocutionary operators, see Chapter 1 of Part 2.

4.7.1 Nuclear operators

Nuclear operators modify the predicate itself, without relation to its arguments. An example is **aspect** (e.g. progressive in English), which says something about the internal temporal make-up of whatever event is represented by the predicate within the nucleus. A further example is provided by those **directional** operators which, in languages such as Kewa (Papuan), indicate direction in relation to the predicate without any reference to the participants in the event. Negation can also act as a nuclear operator, where it negates the predicate directly, e.g. lexical derivations such as *happy/unhappy*, or the prefixation of the negative morpheme *an-* to the (non-auxiliary) verb in Korean (Han 1999).

4.7.2 Core operators

Core operators modify the properties of core arguments, or relationships between the nucleus and core arguments. An example of the former type is those **directionals** which tell us about the movement of a participant in the event (e.g. the prefixes *hin-* and *her-* on German verbs of motion, to indicate movement away from or towards a reference point). An example of a type of core operator which is concerned with relationships between nucleus and core arguments is **root modality**. In (7), *must* expresses a relationship of obligation between *we* and *be*:

- (7) *We must be careful with this argument because it is sometimes based on anatomical studies that have used insensitive methods or only a partial consideration of the data.* (BNC CMH 825)

Negation is a core operator where it has narrow scope, over just part of the core rather than over the entire proposition. An example from Spanish is given in (8):

- (8) ... *eso ya no es novela, sino que es ensayo*
 ... that no longer be-PRES.3SG novel but that be-PRES.3SG essay
 ‘... that isn’t really a novel, but an essay’ (HCM 17, 292)

Here, what is under the scope of negation is *novela*, just part of the core: neither *eso* nor *es* is negated.

4.7.3 Clausal operators

Negation can also be a clausal operator, where it has scope over the whole propositional content, and can be paraphrased as ‘It is not the case that ...’ Examples from English and Spanish which can be given this interpretation are given below:

- (9) *He didn’t seem angry with Philip for having hit him.* (BNC ABX 284)
 (10) ... *esto no tiene ninguna repercusión* (HCM 23, 431)
 ... this NEG have-PRES.3SG no repercussion
 ‘... this has no repercussion’

This type of negation (sometimes labelled ‘external’, in contrast with the ‘internal’ negation illustrated in §4.7.2) is seen in RRG as part of a wider set of operators concerned with **status**, and also including epistemic modality and realis/irrealis distinctions. Contrast (11) below with (7): the latter has a root modality *must* expressing a relationship between a core argument and the predicate; (11), on the other hand, is concerned with the speaker’s assessment of the probability of the temperature being ninety degrees, so that the modality has clausal scope.

(11) *It must be ninety degrees already!* (BNC JXW 3862)

Tense is also a clausal operator, since its basic function is to situate the whole state of affairs in time. Finally, **illocutionary force** is also a clausal operator, since it affects the whole clause.

4.7.4 Scope and ordering of operators

The scoping relations of the three basic groups of operators may be stated as: clausal > core > nuclear, and this is claimed to be reflected in the ordering of operator realisations, whether as bound morphemes or individual words, when these are on the same side of the predicate in a given language. Consider the English example in (12):

(12) *Will you be going to Elling on Friday?* (BNC AEA 252)

The interrogative illocutionary force is signalled by the core-initial position of the auxiliary, which also carries tense. Progressive aspect is carried by *be ... ing*. The order of realisation of operators is thus IF/tense > aspect, and this reflects the scoping of clausal operators over nuclear operators.

In English, the operators are realised partly by affixes (e.g. the *-ing* of the progressive aspect), partly by individual words; in agglutinative languages, they may be realised by accumulations of bound morphemes, but the same ordering principles apply. Van Valin & LaPolla (1997:44) give the following example from Turkish:

(13) *Gel- emi- yebil- ir- im* (= Van Valin & LaPolla’s 2.22d)
 come ABLE.NEG PSBL AORIST 1SG
 ‘I may be unable to come’

Here, we have the core modality operator, fused with negative, realised closest to the verb stem, followed by the possibility status operator and the aorist tense operator, both clausal in scope.

There are also scoping relations among operators modifying a given constituent: for instance, clausal operators show the pattern: illocutionary force > evidentials > tense/status. Again, scope is reflected cross-linguistically in the ordering of operator realisations: Van Valin & LaPolla (1997:43) give examples from the Papuan language Kewa:

(14) *Íra- a- ya* (= Van Valin & LaPolla’s 2.20d)
 cook 3SG.PAST unseem
 He cooked it (hearsay, I didn’t see it)

Here, the evidential marker is ordered further away from the verb stem than the tense marker, as predicted.

4.7.5 Integrating operator information with constituent information: the operator projection

Operators and the units which they modify are shown in a separate projection in the representation of the LSC, linked to the constituent projection via the nucleus. The constituent and operator projections for example (5), discussed earlier, are given in Figure 4.9. Note that the illocutionary force operator (IF) is linked to the predicate *hace* because in Spanish, as in English, illocutionary force can be indicated by the position of the tensed element within the core: in interrogatives, it is core-initial.

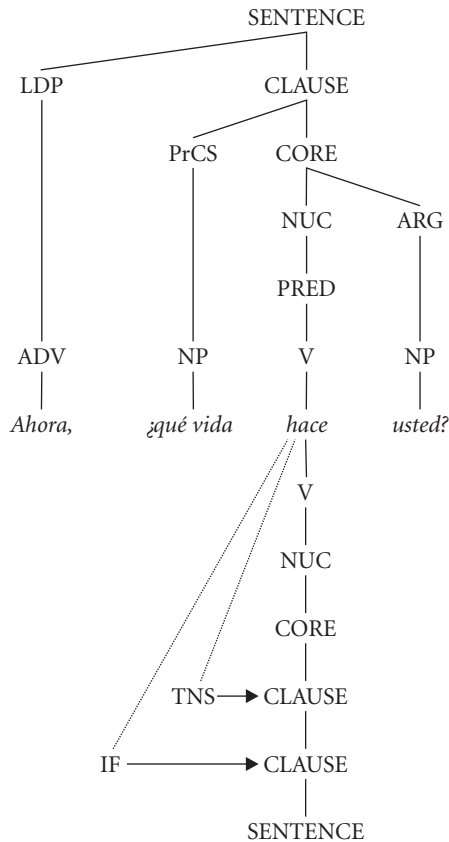


Figure 4.9. Constituent and operator projections for example (5)

4.8 Constructional templates

In the latest version of RRG, Van Valin & LaPolla (1997:73–75) propose an approach to the relationship between syntactic rules and the lexicon which in many ways resembles that of the Construction Grammar of Fillmore and his colleagues (see e.g. Fillmore 1988, Goldberg 1995). It is now proposed that the grammatical structures of a particular language are stored as the syntactic part of **constructional templates**, which are analogous to the ‘constructions’ of Construction Grammar. Van Valin & LaPolla (1997:431) cite the following characterisation of the concept of construction:

By *grammatical construction* we mean any syntactic pattern which is assigned one or more conventional functions in a language, together with whatever is linguistically conventionalized about its contribution to the meaning or the use of structures containing it.

On the level of syntax, we distinguish for any construction in a language its *external* and its *internal* properties. In speaking of the *external syntax* of a construction we refer to the properties of the construction as a whole, that is to say, anything speakers know about the construction that is relevant to the larger syntactic contexts in which it is welcome. By the *internal syntax* of a construction we have in mind a description of the construction’s make-up. (Fillmore 1988:36)

However, whereas Construction Grammar postulates that all information, including lexical, is integrated into the construction, RRG prefers to have two separate but interacting components: a **syntactic inventory** containing the syntactic templates, and a **lexicon** containing all kinds of lexical entities.

The syntactic part of a constructional template represents part of the structure of a possible sentence in the language concerned. Templates are based on the universal LSC, but also reflect the non-universal aspects of the structure of a particular language: for instance, for English or Spanish, they will reflect the fact that these languages have left and right-detached positions. Examples of syntactic templates for English would include those for the left and right-detached positions, a precore slot template, and various patterns representing different possible structures for the core. Simple templates may be combined into larger, more complex ones: for instance, a core template may be fitted into the core slot of the precore slot template, which is as in Figure 4.10, where XP stands for ‘some class of phrase’.

Constructional templates also contain morphological, semantic and pragmatic components (Van Valin & LaPolla 1997:432). The morphological component lists any morphological information which is specific to a particular construction. Under the semantic component, we have a representation of the meaning of the construction and of any particular semantic constraints associated with it. The pragmatic component gives information on any illocutionary and focus properties of the construction. Van Valin & LaPolla stress that at present, the characterisations in constructional templates, and especially those of meaning, are informal.

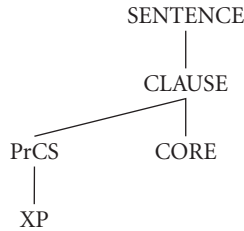


Figure 4.10. The precore slot template for English

4.9 Information structure: the focus projection

There is a third type of projection which, while separate from the constituent and operator projections of the LSC, interacts closely with these. This is the **focus projection**, which specifies the information structure associated with the clause. The RRG account of information structure will be discussed in more detail in Chapter 2 of Part 2; the following brief account is based closely on Van Valin (1993b:22–33) and Van Valin & LaPolla (1997:Chapter 5).

As the basis for its account of information structure, RRG takes the work of Lambrecht (see especially Lambrecht 1994). According to this approach, speakers create sentences in such a form that the hearer, with minimum processing effort, can construct the correct pragmatic context for interpretation; while hearers, assuming that sentences are constructed according to this principle, take as the default interpretation the first proposition, and the first set of contextual assumptions, which come to mind. Of vital importance to the appropriate formulation of a sentence, then, is its information structure. One important decision which the speaker must make is the cognitive state in the discourse of the referents which s/he needs to represent, that is, the degree of accessibility to the addressee which may be assumed for any given referent, ranging from ‘active: in the current focus of consciousness’ to ‘unidentifiable’. Different kinds of coding will be appropriate for referents at different points on this scale: for instance, an active referent may well be coded as zero, or perhaps an unstressed anaphoric pronoun, while an unidentifiable one will usually be coded as a full indefinite NP.

When speakers make statements, they normally assert some information which they want the hearer to become aware of. Most usually, this will involve the uttering of both ‘old’ and ‘new’ information. Old information includes the **topic**, information about whose referent the proposition is pragmatically interpreted as conveying. The referent of the topic must therefore be part of what Lambrecht calls the **pragmatic presupposition** of the sentence: that is, it must be part of what is under discussion. The new information will often be construed as a comment on the topic. What is informative about a sentence is the relationship between old and new information, and the **focus** of the assertion is that part of the propositional content which makes the difference between the pragmatic presupposition and the assertion itself. Consider example (15) below, in which the underlining represents the intonational nucleus of B’s reply:

- (15) A. *What is your function in AVU?*
 B. *I assist the research controller.* (LLC 2 2b 1100–1101)

The topic is established by A's *wh*-question as B's function in the organisation AVU, and is part of the pragmatic presupposition of B's reply. The focused information of B's assertion is *assist the research controller*, since this is the new information B is contributing as an answer to A's question.

What Lambrecht calls the **focus structure** is then the way in which a language conventionally associates the distribution of information with particular forms, which may include word order, particles and/or intonation patterns. In RRG Lambrecht's account is expanded to distinguish between the **actual focus domain** (AFD), which is the syntactic constituent (e.g. clause, core, NP) within which focus occurs in a particular sentence, and the **potential focus domain** (PFD), which specifies the limits within which the actual focus domain can occur, and is language-dependent: in English, it is the entire clause. The PFD must be within the scope of the illocutionary force operator: that is, nothing which falls outside the illocution can be focused. The PFD and AFD are shown in the **focus projection** associated with the constituent and operator projections in a full structure. All three projections for example (15) are shown in Figure 4.11, in which the dotted triangle represents the actual focus domain, and the open dotted lines the potential focus domain.

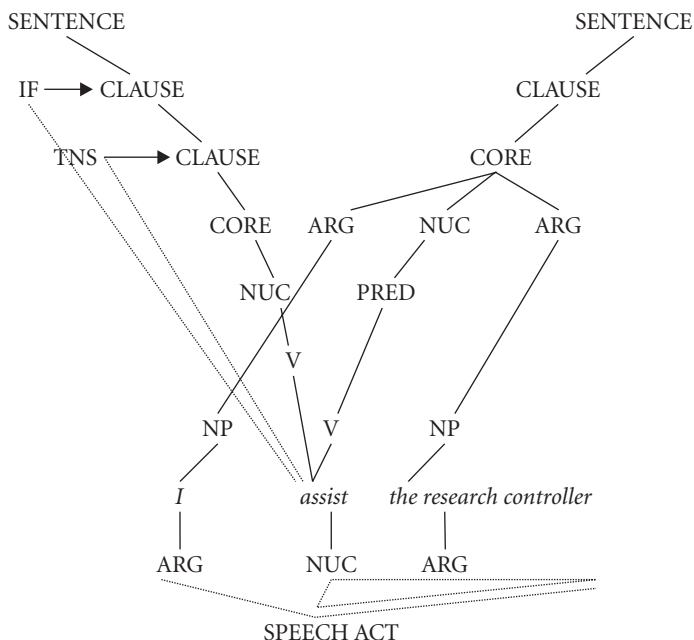


Figure 4.11. Constituent, operator and focus projections for 15 B

4.10 States of affairs, the logical structure of the predicate, thematic relations and semantic macroroles

The RRG account of ‘states of affairs’ will be discussed in some detail in Chapter 8. However, since a basic grasp of this area is needed in order to understand the RRG approach to semantic roles, I shall sketch the bare outlines here, basing the discussion on Van Valin & LaPolla (1997: Chapters 3 and 4), which contains some important modifications to the account presented in Van Valin (1993b:33–49).

In RRG, the term ‘state of affairs’ is used to refer to the phenomena in the world (or a possible, fictional world) which are represented in language. Following an Aristotelian model, four basic types of states of affairs are postulated: situations, events, processes and actions. To each of these corresponds one of the four basic Aktionsart categories originally proposed for the classification of verbs by Vendler (1967). Table 4.1 is based on information from Van Valin & LaPolla (1997:83, 92).

Each of the four types of SoA may be presented as spontaneous (e.g. snow melting) or induced (e.g. the sun melting snow). Similarly, for each of the above basic Aktionsart classes, there is a causative class which corresponds to induced states of affairs: e.g. in *The sun melted the snow* we have a Causative Accomplishment.

Table 4.1. States of Affairs and Aktionsart types in RRG

State of Affairs type	Gloss	Corresponding Aktionsart type	Examples
Situation	Static, non-dynamic, involving location or internal experience of participant	State	be sick, be dead, love, know, have
Event	Seem to happen instantly	Achievement	explode, collapse, shatter
Process	Involve change and take place over time	Accomplishment	melt, dry (intrans), learn
Action	Dynamic, involving a participant doing something	Activity	walk (intrans), swim, eat

Table 4.2. Lexical representations for the basic Aktionsart classes

Verb class	Logical structure
State	predicate' (x) or (x,y)
Activity	do' (x, [predicate' (x) or (x,y)])
Achievement	INGR predicate' (x) or (x,y), <i>or</i> INGR do' (x, [predicate' (x) or (x,y)])
Accomplishment	BECOME predicate' (x) or (x,y), <i>or</i> BECOME do' (x, [predicate' (x) or (x,y)])

For each basic Aktionsart type, there is a different **logical structure** constituting a lexical representation for verbs of that type, as shown in Table 4.2, which is a simplified version of Table 3.4 from Van Valin & LaPolla (1997: 109).

Note that State and Activity predicates are taken as basic, and Achievements and Accomplishments are derived from these by the addition of elements representing change (INGR for ‘ingressive’, BECOME). Examples are given in (16)–(19) below, with simplified representations showing just the predicate and its arguments:

- (16) *When the rice is **cooked**, gently mix in all other ingredients.* (BNC BPG 1851)
cooked' (rice)
- (17) *Jack **yelled**.* (BNC BPD 2928)
do' (Jack, [**yell**' (Jack)])
- (18) *A mortar bomb **exploded** some distance away.* (BNC ACE 3740)
 INGR **explode**' (bomb)
- (19) *She'd **learned** that many Glasgow pubs were far from desirable.* (BNC AN7 3715)
 BECOME **know**' (she, many Glasgow pubs far from desirable)

It is important to note that predicative elements in bold face with a prime after them are intended not as lexemes of any particular language, but as a kind of shorthand for a representation, yet to be fully worked out, in terms of a more detailed universal semantic metalanguage. This point will be taken up again in the comparison of theories in Chapter 6. Meanwhile, it will suffice to note that some tentative steps towards a more fine-grained semantic analysis are taken in Van Valin & Wilkins' (1993) treatment of verbs of remembering in English and the Australian language Mparntwe Arrernte (discussed in relation to the specification of states of affairs in Chapter 8), and also at a few points in Van Valin & LaPolla (1997), such as their brief analysis of verbs of saying (1997: 116–118), in which the general logical structure in (20) is proposed:

- (20) (= Van Valin & LaPolla's (3.34), 1997: 117)
do' (x, [**express**(α).**to**.(β).**in.language**.(γ)' (x,y)])

The new elements here are the **internal variables** α , β and γ , referring to the content of the utterance, the addressee and the language used, respectively. These variables take values covering the range of possibilities allowed by particular subtypes of verbs of saying. For instance, the second argument position of *speak* can be filled by a metalinguistic noun such as *word(s)* at α , an addressee at β (introduced by *to*: see below), or the name of a language at γ ; *say* can take a metalinguistic noun, or an indirect discourse complement (*that*-clause); *talk*, on the other hand, cannot take a metalinguistic noun (**He talked a few words*), though it can take an addressee or a language name; while *tell* can take an utterance noun such as *joke* at α , or an addressee at β , but not a language at γ (e.g. **He told French*). Furthermore, the internal variables can in some cases be realised by oblique core arguments (prepositional phrases), as in speaking a few words to someone, speaking to someone about something, and so on. Some examples are given below.

- (21) *I spoke a few introductory words ...* (BNC FPN 1146)
 [α = *a few introductory words*]
- (22) *We all spoke to her.* (BNC J10 3203)
 [β = *her*]
- (23) *The villagers spoke French; ...* (BNC CMP 27) [γ = *French*]
- (24) *He had said that he did not want a solicitor ...* (BNC ASB 653)
 [α = indirect discourse complement]
- (25) *In the name of controversy, Gedge told a few white lies in early interviews.*
 (BNC AT1 597) [α = utterance noun]

In RRG, a strict distinction is maintained between the **participant roles** of entities taking part in the state of affairs as a phenomenon in the world, and the **thematic relations** entered into by arguments of the predicate within a linguistic structure which represents that state of affairs.⁹ Consider (26) below:

- (26) ... *Mait watched with a building sense of joy ...* (BNC FSR 2152)

Mait is the AGENT who directed his gaze in the state of affairs represented by the clause. In terms of the semantics of the clause itself, the argument *Mait* needs to be interpreted as the controlling argument of the verb *watched*. Thematic relations, being linguistic entities, must be argued for on linguistic grounds. This, Van Valin & LaPolla (1997: 113–114) argue, is crucial, in view of the fact that the same state of affairs in the world may be represented in very different ways in different languages, so that it is not legitimate to conclude that because some state of affairs involves a particular type of participant role, there must be a particular thematic relation in the structure of the clause.

An extremely important claim of RRG is that thematic relations are entirely predictable from the positions of arguments in the logical structure corresponding to a particular Aktionsart type, the Aktionsart class itself being decidable in terms of a set of tests which will be discussed in Chapter 8. In other words, RRG claims (Van Valin 1993b:41; Van Valin & LaPolla 1997: 115–116) that thematic relations are not arbitrarily assigned, but are independently motivated, and have no separate status in the theory. As an example of how this works, let us consider the example in (27):

- (27) *Elizabeth's upbringing was certainly at the other end of the spectrum from Mary's.*
 (BNC AE4 947)

Tests for Aktionsart classes would classify *was* in (27) as a State verb. Since it has two arguments, the logical structure, from Table 4.2 above, must be **predicate'** (x,y), or substituting the actual values of expressions, we have the logical structure in (28):

- (28) **be-at'** (the other end of the spectrum from Mary's, Elizabeth's upbringing)

9. The same names are often used for participant roles and thematic relations. Confusion can be avoided by using capitals for thematic relations.

For any State verb expressing location, with two arguments, *x* and *y*, *x* is always LOCATION and *y* is THEME. Names for thematic roles are thus simply mnemonics for positions in the logical structure corresponding to some type or sub-type of Aktionsart.

A further important claim (Van Valin 1993b:43–49; Van Valin & LaPolla 1997:139–147) is that thematic relations or roles can be grouped into two **semantic macroroles**, labelled **Actor** and **Undergoer**, this distinction being motivated by the fact that cross-linguistically, these sets of thematic relations tend to be treated in a similar way in the grammar, so that Actor and Undergoer, rather than the more specific thematic relations, are what are referred to in the rules of the grammar. For instance, the Subject of an active clause in English can bear any of a number of thematic relations, and the Object any of a different set of relations; those roles which can be taken by the Object of the active are the same ones which can be the Subject of a passive, and those which can be taken by the Subject of an active clause can appear as the object of a *by*-phrase in the passive. In order to make the correct generalisations, then, we need to group the two sets of relations: the Subject of an active and the expression acting as the object of *by* in the passive have the semantic macrorole Actor, while the Object of the active and the Subject of the passive have the macrorole Undergoer. In Van Valin & LaPolla (1997) and Van Valin (1999), further arguments for generalised semantic roles are adduced from applicative constructions (in which an argument that would normally appear as indirect or oblique Object actually occurs as a direct Object), reflexive binding and obligatory control phenomena. It is claimed that the two macroroles are universal, and there is only limited cross-linguistic variation in the sets of relations which are subsumed by each.

RRG also postulates a universal hierarchy of markedness which governs the assignment of arguments as Actor or Undergoer, where more than one argument is available, in a given clause, for a given macrorole – see Figure 4.12, taken from Van Valin & LaPolla 1997:146, Figure 4.2.

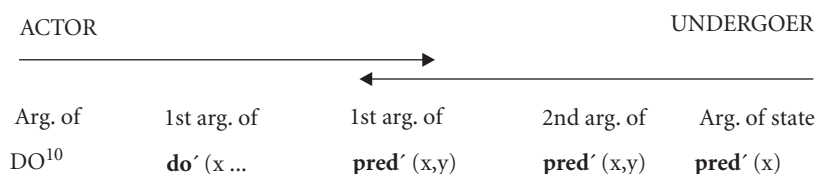


Figure 4.12. The Actor-Undergoer Hierarchy

In other words, the prototypical Actor is an AGENT, the prototypical Undergoer a PATIENT (the argument of a single-argument State predicate), and the other possible types of argument line themselves up in terms of markedness as shown above. On the other hand, in a simple clause AGENT is never assigned as Undergoer, or PATIENT as Actor.

10. As we shall see in Chapter 8, DO is inserted into the logical structure of those predicates which are necessarily interpreted as having an AGENT.

4.11 The semantics of adjuncts and operators

Van Valin & LaPolla (1997: 159–172) discuss in some detail the RRG representation of the semantics of adjuncts (adpositional phrases and adverbs) and operators. The following summary is closely based on their account. I shall deal with adpositional phrases and adverbs here rather than in Chapter 7 in order to be able to give a fairly full account of the mapping between semantics and syntax in §4.13.

4.11.1 Adpositional phrases

Three types of adposition are recognised: argument-marking adpositions, adjunct adpositions and argument-adjunct adpositions.

Argument-marking adpositions are those which indicate the oblique arguments of verbs such as English *give*: in (29), *to* marks the Recipient argument of the verb and thus acts as a kind of case marker, rather than itself having any predicating function:

- (29) *He gave it to me* (BNC H80 4313)
 [do' (he, Ø)] CAUSE [BECOME have' (I, it)]

On the other hand, the preposition in (30) introduces a peripheral adjunct, and itself acts as a predicate, with the prepositional object as its argument:

- (30) *Bertie worked in the garden ...* (BNC FEM 1093)
 be-in' (garden, [do' (Bertie, [work' (Bertie)])])

A third type of situation is exemplified in (31). Although *walk* is basically an Activity predicate, when combined with a Goal specifying an end-point, it becomes an Accomplishment.¹¹

- (31) *He walked to the end of the room ...* (BNC ASE 1404)

The NP introduced by the adposition in such a structure is part of the core, even though it is not an argument of the predicate in the nucleus. Van Valin & LaPolla use the term 'argument-adjunct' (AAJ) for such elements, and the adpositions which introduce them are characterised by the fact that in the underlying logical structure they share an argument with the logical structure of the verb, as shown in the logical structure of (31) given in (32), which states that the result of the person walking to the end of the room is that he is then at the end of the room:

- (32) [do' (he, [walk' (he)])] & BECOME be-at' (end of room, he)]

11. Van Valin & LaPolla (1997: 100) call them 'Active Accomplishments'.

4.11.2 Adverbs

Adverbs are treated as one-place predicates which take a logical structure, or part of such a structure, as their argument. They can modify any layer within the structure of the clause.

Adverbs, like adpositional phrases, can appear in the periphery, and take the LS of the core as their argument. Such is the case with, for instance, temporal and locational adverbs. If there is more than one peripheral adjunct, the final one in the clause is treated as the highest in a layered representation, as shown in (33):

- (33) *He admitted his difficulties in the Commons yesterday ...* (BNC CBF 8179)
yesterday' (**be-in'** (Commons, [**do'** (he, [**admit'** (he, his difficulties)])))))

Epistemic and evidential adverbs also take the core in their scope, but as they are clausal, they have scope over temporal and locational expressions:

- (34) *Lapis lazuli evidently reached Egypt along with other Asiatic influences during Predynastic times.* (BNC FBA 964)
evident' (**during'** (Predynastic times, [INGR **be-at'** (Egypt, lapis lazuli \wedge other Asiatic influences)]))¹²

Manner adverbs, such as *violently* in (35), normally modify Activities:

- (35) *... the tray shook violently in her slippery hands.* (BNC ADS 1029)
in' (her slippery hands, [**violent'** (**do'** (tray, [**shake'** (tray)]))])

Adverbs indicating pace can have different interpretations, according to their position, as indicated by the examples in (36) and (37):

- (36) *I slowly closed the cupboard door...* (BNC KA1 360)
 (37) *I closed the cupboard door slowly.*

According to Van Valin & LaPolla (1997:164), examples such as (37) are compatible with an interpretation in which the door is presented as closing slowly or one in which what the speaker did in order to get the door to close was done slowly, while examples such as (36) favour the latter interpretation. The two interpretations can be captured by different placement of the adverbs in the logical structure, as shown below.

- (38) [**do'** (x, \emptyset)] CAUSE [**slow'** (BECOME closed' (door))]
 (39) [**slow'** (**do'** (x, \emptyset))] CAUSE [BECOME closed' (door)]

Because adverbs have scoping relations, they must be shown, together with operators, in the operator projection. Figure 4.13 shows the syntactic structure for example (34), showing the positions of the adverbs in the operator projection as well as in the constituent projection.

12. The symbol \wedge is used to indicate simultaneity (Van Valin & LaPolla 1997:109).

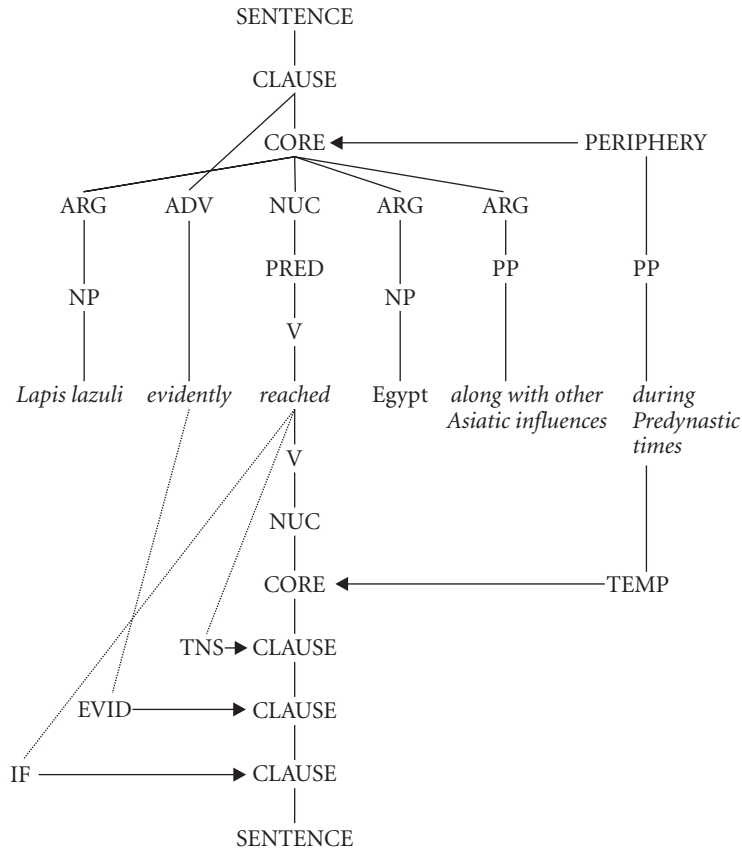


Figure 4.13. Constituent and operator projections for example (34), showing position of adpositional phrases and adverbs

4.11.3 The semantic representation of operators

Van Valin & LaPolla (1997: 171–172) do not provide substantive semantic analyses for operators, but do indicate their positions in semantic structures, distinguishing them by means of italicised capitals. Below is the semantic structure for example (12), repeated for convenience as (40):

- (40) *Will you be going to Elling on Friday?* (BNC AEA 252)
 ⟨*IF INT* ⟨*TNS FUT* (**be-on'** (Friday, *ASP PROG* (**do'** (you, [**move.away.from.reference.point'** (you)]) & BECOME **be-LOC'** (Elling, you))))))⟩⟩⟩

4.12 Syntactic relations in RRG

In seeking to answer the question ‘Do all languages have grammatical relations?’ (where ‘grammatical’ is to be interpreted in terms of syntactic, rather than semantic relations), Van Valin (1993b:50–56) and Van Valin & LaPolla (1997:250–263) argue that such relations should be posited only if it can be shown, for a given language, that there is at least one phenomenon in which there is a restricted neutralisation of two or more semantic roles for syntactic purposes. For instance, the finite verb in an English clause agrees in number and person with the NP in core-initial position, whether this happens to be the Actor or the Undergoer. But this neutralisation is restricted, in that it applies only to arguments filling one of these two macroroles, and not to any other arguments of the predicate.

In terms of this criterion, it is concluded that although most languages do indeed have syntactic relations, a few do not. A case in point is the Austronesian language Acehnese, in which grammatical rules can be stated in terms of macroroles and core status: there are unrestricted neutralisations, and restrictions without any neutralisation, but no phenomena which show the kind of restricted neutralisation illustrated above for English. Data from Mandarin Chinese also support the conclusion that not all languages have syntactic relations.

What, then, are the syntactic roles postulated in RRG for those languages in which such roles can be justified? RRG is unusual in that it although it postulates explicit syntactic roles in the grammar (rather than, for instance, leaving them to be inferred from configurational data, as in Chomskyan accounts) it does not make any use of the traditional roles of Subject and Object. The reason for this is that it can be demonstrated that Subject and Object do not have a unified interpretation as categories, across languages (see the discussion in Van Valin & LaPolla 1997:263–273). In view of this, RRG initially postulated a single syntactic role, **pivot of a syntactic construction**, which was claimed to have cross-linguistic validity (see Van Valin 1993b:56–59). The pivot was defined as that which bears the defining syntactic function exhibiting restricted semantic neutralisation, as explained above. In the case of verb agreement in English, it is the core-initial NP which bears the function of agreement which is neutralised with respect to just Actor and Undergoer, so this element was designated as the pivot for agreement, in the theory as presented up to 1993. More recently, the term pivot has been used in a narrower sense, for the element which exhibits restricted neutralisation of semantic arguments in a complex construction (e.g. in English, the omission of the Subject in the dependent clause after *want* in the matrix clause, as in *John_i wants ______i to go to London*). For the element which determines a core-internal phenomenon such as verb agreement or cross-reference, the term **controller** is used in Van Valin & LaPolla (1997:274). The distinction is important because some complex constructions can have both a controller and a pivot; however, as this is not relevant to the simplex clause it will not be pursued further here.

Note that controllers and pivots (called **Privileged Syntactic Arguments (PSA)** in Van Valin & LaPolla 1997) are defined relative to some specific morphosyntactic phenomenon

in a language; although for some languages, including English, the controllers and pivots of most morphosyntactic phenomena are the same (hence the assimilation, in most theories, to the single category of Subject), there are languages (such as the Mayan language Jakaltec) which have several different pivots for different construction types.

It should also be noted that languages such as Acehnese, which are claimed not to have syntactic roles, can still be considered to have controllers and pivots for various constructions which show neutralisation but no restriction. The difference is that in Acehnese such controllers and pivots are **semantic** rather than syntactic.

Where a language does have syntactic functions, RRG postulates a set of principles determining the default allocation of PSA status to a constituent with a particular argument status. The Privileged Syntactic Argument Hierarchy (Van Valin & LaPolla 1997:282) is in fact identical with the Actor-Undergoer Hierarchy shown in Figure 4.12, and the PSA selection principles state that in syntactically accusative constructions, the default choice for the PSA is the highest-ranking macrorole in the hierarchy, while in ergative constructions it is the lowest-ranking macrorole. For instance, since verb agreement in English is concerned with an accusative construction, the default for PSA (in this instance, controller) is whichever argument is highest on the hierarchy – the AGENT if one is present – which will, in fact, be the Actor macrorole, though passivisation makes possible the alternative choice, i.e. Undergoer as Subject.

4.13 Linking semantic and syntactic representations

4.13.1 Introduction to linking

RRG proposes explicit and very detailed algorithms for the mapping between semantic and syntactic representations. For details of mapping for simple clauses, readers should refer to Van Valin (1993b:74–100) and especially to the more detailed later treatment in Van Valin & LaPolla (1997:172–178, 317–436). Naturally, only a very brief account of the main principles, based on the above sources, can be given here.

Firstly, it is important to note that, as Van Valin & LaPolla (1997:317–318) are at pains to stress, the relationship between semantic and syntactic representations is purely one of mapping, and is not derivational. This marks RRG off from theories, such as classical Transformational Grammar, Government and Binding, and Principles and Parameters, in which semantics is interpreted from syntax.

A second crucial point is that algorithms are required for mapping both from semantics to syntax and from syntax to semantics, and that these algorithms are different. As Van Valin & LaPolla (1997:339–340) observe, semantics-to-syntax linking is required for modelling language production, and syntax-to-semantics for language comprehension, so that any psychologically adequate theory must contain a model of both kinds of linking.

A general constraint governing both types of linking is the **Completeness Constraint**, formulated as follows:

All of the arguments explicitly specified in the semantic representation of a sentence must be realized syntactically in the sentence, and all of the referring expressions in the syntactic representation of a sentence must be linked to an argument position in a logical structure in the semantic representation of the sentence.

(Van Valin & LaPolla 1997:325)

Note that the statement of the constraint refers to arguments which are **explicitly** specified in the semantic representation. This is because it is possible for a language to have verbs which may take unspecified arguments in their logical structure (e.g. *eat*, *drink*, *smoke* in English, which can be used either with two specified semantic arguments or with only the AGENT explicitly specified, the PATIENT argument being left unspecified). Note also that the constraint refers to a logical structure, since as we have seen in a number of examples, there may be more than one in the structure of a complete sentence.

Irrespective of the direction of linking, the first steps are to determine the semantic representation and the appropriate syntactic template(s). We have seen that the central concept in semantic representation is that of the logical structure of the main predicate, usually but not always a verb. The first step, then, is to select the logical structure of the predicate from the lexicon. Logical structures must also be selected for any predicative adpositions, as outlined in §4.11.1. Variable elements in the logical structure are then filled by NPs or, in the case of predicates which take complex complements, by other logical structures. Nouns in NPs also have entries in the lexicon, as we shall see in Chapter 7, and these too must be selected. Values for operators must also be determined.

The selection of appropriate templates from the syntactic inventory is subject to the following principle:

The number of syntactic slots for arguments and argument-adjuncts within the core is equal to the number of distinct specified argument positions in the semantic representation of the core. (Van Valin & LaPolla 1997:173, 324)

Note that the principle relates to **specified** argument positions, in the sense explicated above, and also that if a referent appears more than once in the semantic representation of the core, it constitutes only one **distinct** specified argument position. There may also be language-specific modifications to this principle: we shall see one of these in operation below.

As an example of the determination of semantic and syntactic representations, consider (41):

(41) *What did you give Mabel for a birthday present?* (BNC FA5 1134)

First we select the lexical entry for the verbal predicate *give*, which is as follows (Van Valin & LaPolla 1997:157):

(42) [**do'** (x,∅)] CAUSE [BECOME **have'** (y, z)]

The variables x , y and z are filled in with *you*, *Mabel*, *what*, respectively,¹³ so that we now have:

- (43) [**do'** (you , \emptyset)] CAUSE [BECOME **have'** ($Mabel$, $what$)]

The predicate adjunct *for a birthday present* has a predicative preposition, so we must represent this in the semantic structure:

- (44) **for'** ($birthday\ present$, [**do'** (you , \emptyset)] CAUSE [BECOME **have'** ($Mabel$, $what$)])

Adding values for the tense and IF operators yields the following as the semantic representation:

- (45) $\langle_{IF}\ INT\ \langle_{TNS}\ PAST\ \langle\ \mathbf{for}'\ (birthday\ present,\ [\mathbf{do}'\ (you,\ \emptyset)]\ CAUSE\ [BECOME\ \mathbf{have}'\ (Mabel,\ what)])\rangle\rangle\rangle$

As there are three distinct specified argument positions in the semantic representation of the core (those corresponding to x , y and z in the logical structure for the predicate), then by the syntactic template selection principle, we would normally need three syntactic slots within the core. However, there are language-specific qualifications to this principle which are operative in English, one of which is that if there is a syntactic argument in the pre-core slot, the number of core slots is reduced by one. As we are dealing with a *wh*-question, and the *wh*-word is in the pre-core slot for English, we need a template for an active clause, with two syntactic slots in the core, in addition to the *wh*-question template. The appropriate templates are shown in Figure 4.14. These two templates link through the core to form the syntactic representation of the one-clause sentence, as shown in Figure 4.15.

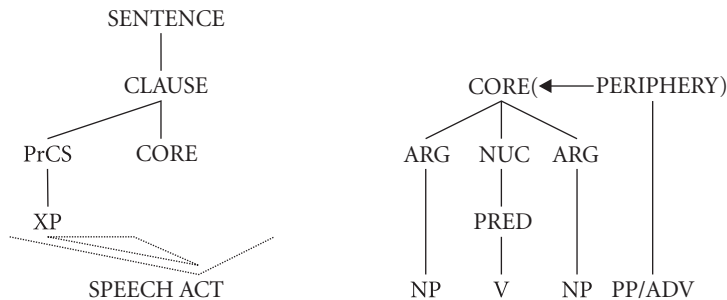


Figure 4.14. The two syntactic templates needed for example (41)

13. I ignore for now the specification of NP structures.

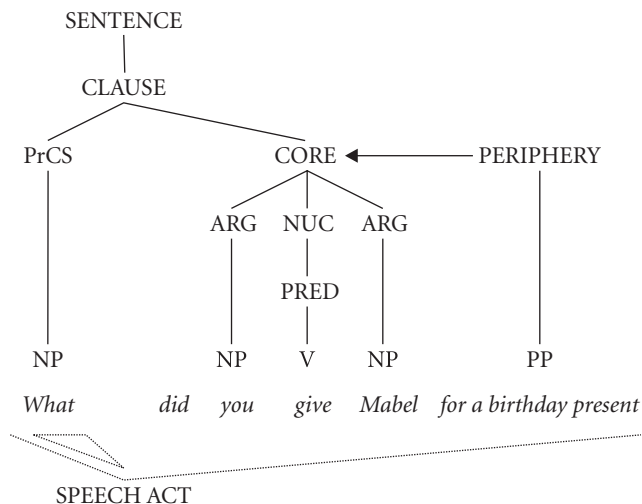


Figure 4.15. Syntactic structure for example (41)

4.13.2 Linking from semantics to syntax

I shall begin my summary of the linking algorithms by looking at how we get from the semantic to the syntactic representation, as would be necessary in a model of language production (Van Valin & LaPolla 1997: 326–338).

The first step is to determine the assignment of Actor and Undergoer macroroles. This is done in accordance with the Actor-Undergoer Hierarchy already presented in Figure 4.12. As the Actor, we choose the argument in the semantic structure which occurs furthest to the left in the hierarchy: in our case, this is the first argument of the *do*' predicate (i.e. *you*). The default argument for Undergoer is the one which occurs furthest to the right in the hierarchy, which is the second argument of the State predicate *have*' (i.e. *what*). However, some verbs in some languages, including English *give*, allow alternation of the Undergoer: in the present case, this means that either *what* or *Mabel* can be assigned the Undergoer macrorole. In fact, in (41) it is *Mabel* which is the Undergoer. This can perhaps be seen most clearly if we contrast the following non-interrogative forms:

(46) *You gave the birthday present to Mabel.*

(47) *You gave Mabel the birthday present.*

In (46), default assignment of the Undergoer to *the birthday present* occurs, and *Mabel* is marked with the preposition *to*; in (47), however, *Mabel* is Undergoer, not marked by any preposition. Clearly, the lack of preposition before *Mabel* in (41) indicates Undergoer status: contrast (48), in which *what* is Undergoer:

(48) *What did you give to Mabel for a birthday present?*

We now assign the morphosyntactic statuses required by the particular language to non-*wh*-constituents. For accusative languages such as English, the default is for the Actor to be the Privileged Syntactic Argument for the construction – in this case, corresponding to the Subject of the clause in most models. Next, if there is a *wh*-phrase, it is assigned, in English, to the pre-core slot. The core arguments are then assigned the correct case markers or adpositions, according to the rules of the language concerned, and the predicate in the nucleus is given any agreement marking appropriate to the rules of the language. Since the arguments in (41) are all realised by a full NP (*Mabel*) or by pronouns which do not show any case marking (*you, what*), no case assignment is necessary. None of the arguments conforms to the rules for the assignment of argument-marking prepositions.¹⁴ Although the general rule for English is that the finite verb agrees with the Privileged Syntactic Argument, past tense verbs other than BE do not show agreement, so there is no further complication here. Finally, we assign to the periphery any logical structures for predicates other than the main verb: in the current case, this means linking *for'* (birthday present, ...) to the peripheral PP.

The steps discussed above lead to the linking from semantics to syntax shown in Figure 4.16 for example (41).

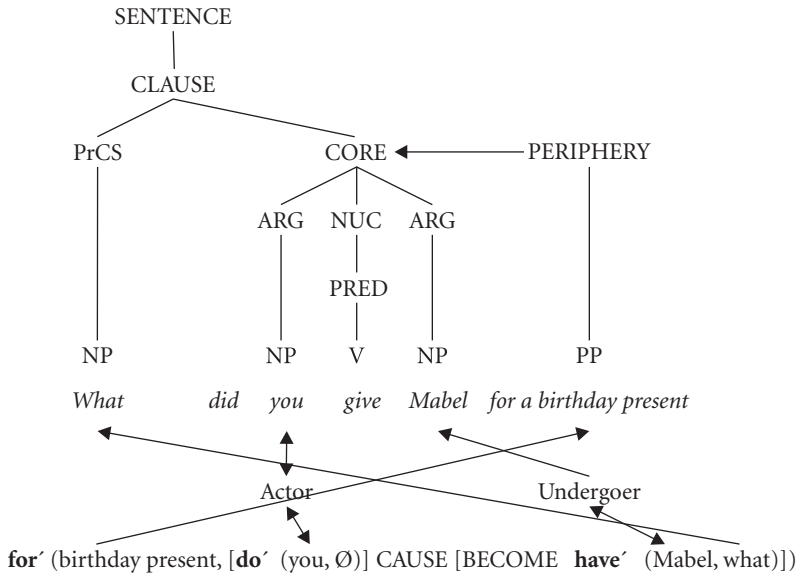


Figure 4.16. Linking from semantics to syntax for example (41)

14. These are *to* as in *You gave the present to Mabel*, *from* as in *You took the present from Mabel*, and *with* as in, for example, *I cut the cake with a knife*. The rules for the assignment of argument-marking prepositions are discussed in Van Valin & LaPolla (1997: 376–382).

4.13.3 Linking from syntax to semantics

Linkage from the syntactic template structure to the semantic representation, necessary for parsing in language comprehension, is somewhat more complex than the reverse mapping, and I shall discuss only those parts of the overall model which are necessary for an understanding of linkage in our English example. Full detail, intended to cover the whole range of language types, can be found in Van Valin & LaPolla (1997:338–352).

Starting from the syntactic structure in Figure 4.15, we first determine the functions of the core arguments. English is a syntactically accusative language, and example (41) is in the unmarked, active voice. The linking algorithm specifies that in this situation the Privileged Syntactic Argument is the Actor. The PSA is the prenuclear NP within the core: in our example, it is *you*.

The next step is to retrieve from the lexicon the logical structure of the predicate in the nucleus, in our case *give*:

[do' (x,Ø)] CAUSE [BECOME have' (y,z)]

We now determine the assignment of Actor and Undergoer, subject to the restriction that if there is more than one choice for Undergoer, no assignment of Undergoer to an argument in the logical structure is made at this point. Since *give* allows Undergoer alternation, we do not assign an Undergoer for our example at this point. We have already assigned the Actor to *you*, but there is still a further core argument (*Mabel*). The algorithm tells us that if the logical structure contains a State predicate, an animate NP in the core should be linked to the first argument position of that predicate. We therefore link *Mabel* to the *y* argument of *have'*. The next step is to retrieve the logical structure of the predicative adpositional adjunct *for a birthday present* from the lexicon, and assign the logical structure of the core as the second argument of the predicate, and the object of the adposition (in the current case, *a birthday present*) as the first argument. Finally, the algorithm contains a language-specific statement, applicable to English, that if there is an element in the pre-core slot that element should be assigned the remaining unlinked argument position in the semantic representation, if there is one. We do indeed have both an element in the pre-core slot and an unlinked argument (the *z* argument of *have'*), so these are now linked. The final result is shown in Figure 4.17.

4.14 Conclusion

I conclude this chapter with a summary of some of the main features of RRG, in relation to the four issues I also discussed in relation to FG at the end of Chapter 3.

4.14.1 The relationships between levels of linguistic patterning

We have seen that RRG postulates a single-level account of syntactic phenomena, in which the basic units of the Layered Structure of the Clause (core [containing the nucleus and

and Focus assignment and is important in the linking of syntactic and semantic representations.

We have also seen that the latest version of RRG operates with the concept of constructional templates, which are very like those in Construction Grammar, and specify the morphosyntactic, semantic and pragmatic properties peculiar to a given construction. Van Valin & LaPolla (1997:432) refer to constructional templates characterising the properties of a construction as “instructions to the grammar on how these properties should be combined in particular forms”, and point out that constructions which are syntactically compatible may still be incompatible from the point of view of semantics or pragmatics.

4.14.2 Mechanisms for specifying clause structure

The specification of a clause structure consists essentially of the determination of the semantic representation, the selection of the appropriate syntactic templates and the linking of the two representations. If we are concerned with generation in the sense of going from meaning to form, then the linking is from semantics to syntax; if, on the other hand, we are concerned with language understanding rather than generation in this specific sense, then we need to map from syntax to semantics.

The determination of the semantic representation requires first the selection of the logical structure of the main predicate from the lexicon. Logical structures must also be selected for any predicative adpositions. Variable elements in the LS are filled by NPs or other logical structures, as appropriate. Nouns in NPs also have entries in the lexicon, which must therefore be selected. Values for operators must also be determined.

The selection of appropriate syntactic templates is subject to the principle (which may be subject to language-specific modification) requiring the number of syntactic slots for arguments and argument adjuncts in the core to be equal to the number of distinct specified argument positions in the semantics of the core. Syntactic templates can be combined in compatible ways to give the structure for the whole clause. Presumably in a fully worked out model, there would also need to be checks on compatibility with respect to semantic and pragmatic factors.

For both semantics-to-syntax and syntax-to-semantics mappings, there are explicit algorithms which specify the steps to be taken. These mappings involve the focus structure in addition to the purely semantic and syntactic representations of the clause, although this aspect has not been foregrounded in the present brief account.

4.14.3 Layering

As we have seen, RRG uses the term ‘layer’ to refer to distinctions between syntactic units: the nucleus, the core within which it is contained, the clause itself, and the sentence. Operators are assigned to particular layers, but Van Valin & LaPolla (1997:46) point out that, unlike in FG, the operators are not taken to be part of the layer at which they operate. Furthermore, in the operator projection for a clause, no explicit distinction is made between representational and interpersonal types of operator.

4.14.4 Syntactic, semantic and pragmatic functions

RRG does not work with the traditional syntactic functions of Subject and Object, but rather recognises a 'Privileged Syntactic Argument' for particular constructions in a language. It is argued that not all languages have syntactic relations which need to be specified in terms of syntactic functions.

Two types of semantic function are postulated in RRG. Thematic relations are those roles, such as AGENT, LOCATION, THEME or PATIENT, played by arguments of the predicate within the linguistic structure representing a state of affairs, and are claimed to be predictable from argument positions in logical structures. The macroroles, Actor and Undergoer, capture the generalisations which can be made cross-linguistically about the similar ways in which languages treat sets of thematic relations.

RRG recognises the topic and focus as important to the information structure of clauses, and postulates a focus projection for the clause which is parallel to the constituent and operator projections.

CHAPTER 5

The clause in Systemic Functional Grammar

An introduction

As in the last two chapters, I shall begin with a section outlining the underlying goals of the theory, building on the information given in §2.5. This section will need to be rather more substantial than that in preceding chapters, for a number of reasons.

Firstly, systemic linguistics is in many ways very different from the theories with which many readers of this book may be best acquainted. The more unfamiliar ideas need to be clarified before I undertake a survey of the mechanisms for the specification of clause structure.

Secondly, systemic theory has undergone considerable changes over the years, and these changes have not always been clearly signalled in the systemic literature. The theory has advanced through a process of accretion rather than one of replacement: new ideas have been added to the old, but often without any explicit discussion of the effects which acceptance of the new might have on the validity of the old. The result is that it is often difficult for linguists operating outside a systemic framework to understand and assess claims made in SFG, and this problem is especially acute for those who are unaware of the manner in which, and the stages through which, present-day accounts of SFG have arisen. We can even find publications by Halliday from almost the same date, which give rather different pictures of the theory.

Thirdly, there is a further complication in that since about 1980, a second version of systemic theory has been being developed by Fawcett and his colleagues in Cardiff, UK. As Fawcett himself is at pains to acknowledge, the similarities between what has become known as the 'Cardiff grammar' and the 'Sydney grammar' of Halliday and his colleagues are more numerous than the differences. Nevertheless, there are in the Cardiff account some important differences in the underlying goals, as well as extensions and simplifications of the grammar itself.

5.1 Underlying goals

5.1.1 Language as social semiotic¹

Systemic linguistics has its roots in the work of the British linguist J. R. Firth, with whom Halliday studied.² Firth's work (see especially Firth 1957; Palmer 1968), in turn, was influenced by the anthropologist Malinowski. From these influences, as well as others such as American anthropological linguistics, arose the essentially sociocultural orientation of the theory. Malinowski's (1923, 1935) work in the Trobriand Islands of the South Pacific had led him to take as the basis for linguistic description the sentence as produced in a particular **context of utterance**. In order to understand the meaning of what was said, the listener needed access to the **contexts of situation** in which particular kinds of utterances were normally produced, these being themselves embedded in the whole **context of culture**. Although, as Firth (in Palmer 1968:161) recognised, Malinowski's aim was not the construction of a specifically linguistic theory, the concept of concentric levels of context was useful for Firth's elaboration of a socioculturally-based account of language, in which meanings were "intimately interlocked not only with an environment of particular sights and sounds, but deeply embedded in the living process of persons maintaining themselves in society" (Firth in Palmer 1968:13). This, then, was the background against which Halliday's early theorising about language developed, so that right from the start, Hallidayan linguistics linked grammar and meaning to context. In order to do this systematically, Halliday and his colleagues developed in the 1960s a model of context based on the variables of field (the nature of the social activity being engaged in), tenor (basically, relationships between interacting communicators) and mode (involving the medium and its role in the interaction).³ As the theory developed through succeeding decades, the sociocultural dimension became, if anything, more prominent, and is deeply entrenched in current Systemic Functional Linguistics, as indicated by the following statement taken from an encyclopaedia entry on systemic theory:

Like the Firthian linguistics from which it evolved, systemic theory is oriented towards language as social process; the individual is construed intersubjectively, through engagement in social acts of meaning. (Halliday 1994a: 4506)

The social nature of language is, for Halliday, intimately bound up with its nature as a semiotic system:

A social reality (or a 'culture') is itself an edifice of meanings – a semiotic construct. In this perspective, language is one of the semiotic systems that constitute a culture;

1. The title of this subsection is taken from that of an article by Halliday, which in turn was adopted as the title of the book (Halliday 1978) in which that article was reprinted. Halliday (in Hernández Hernández 2000b: 237) states that the term, and the basic concept, was taken from the work of Greimas.

2. For accounts of the development of systemic theory, see Butler (1985, 1989).

3. These categories will be discussed in Chapter 4 of Part 2.

one that is distinctive in that it also serves as an encoding system for many (though not all) of the others. (Halliday 1978:2)

And this, of course, leads to a consideration of language as a system of meanings, to which I now turn.

5.1.2 SFG as a theory of meaning

The phrase “social acts of meaning” in the quotation above is significant: as in the work of Firth, the term ‘meaning’ has a very wide application in systemic linguistics. Firth’s view (1957:19) was that “meaning [...] is to be regarded as a complex of textual relations, and phonetics, grammar, lexicography, and semantics each handles its own components of the complex in its appropriate context”, and he even maintained that “it is part of the meaning of an American to sound like one” (1957:192). For Halliday, too, all aspects of language (and indeed also of other, parallel semiotic systems such as gesture) are meaningful, and it is important to bear this breadth of approach in mind when considering his writings.

In a sense, then, we might say that the fundamental goal of SFG is to construct a theory of linguistic meaning. In saying this, however, it is essential to bear in mind that meaning and form are treated as two sides of the same coin, as shown by the following statements, one from an early publication and the other from a recent account:

But ‘meaning’ in linguistics has to be used in a broader way, to cover not only CONTEXTUAL MEANING but also FORMAL MEANING. The reason is that if we want to understand how language works we must realize that form, the purely internal patterning of language, is also meaningful.

(Halliday, McIntosh & Strevens 1964:37–38, emphasis in original)

Meanings do not ‘exist’ before the wordings that realize them. They are formed out of the impact between our consciousness and its environment.

(Halliday & Matthiessen 1999:17)

In their rather different ways, these two quotations both underline the essential link between meaning and form. When we say, then, that the basic goal of SFG can be seen as the development of a theory of meaning, this also implies an account of the forms which realise the meanings.

A further point about meaning is emphasised by the second quotation above. A crucial dichotomy here is between an ‘immanent’ interpretation of meaning, in which meanings are constructed through language, and so part of language itself, and a ‘transcendent’ interpretation, in which meaning is seen as something outside language. Halliday & Matthiessen (1999:416) associate the immanent approach with what they call the ‘rhetorical-ethnographic’ orientation to language, which they themselves espouse, and the transcendent approach with the ‘logico-philosophical’ tradition. A related concept is that of ‘construal’: language is used to construe, or interpret, the world in all its manifestations, and “experience is the reality that we construe for ourselves by means of language” (Halliday & Matthiessen 1999:3). It should be noted that the Cardiff version of SFG presents

a model of meaning and its relationship with form which, while recognising the social nature of language and of linguistic acts, tends not to emphasise the idea of construal to such a degree.

5.1.3 SFG as a theory of paradigmatic relations

In the mid-60s, Halliday made a suggestion which was to determine the future direction of his theory. Up to that point, the concept of the system, as a closed set of choices from which a selection had to be made in particular circumstances, was more or less as inherited from the work of Firth. From this point on, however, systems became linked into networks showing the dependencies between choices; furthermore, Halliday suggested that

... it might be useful to consider some possible consequences of regarding systemic description as the underlying form of representation, if it turned out that the structural description could be shown to be derivable from it. (Halliday 1966a:62)

In other words, Halliday's linguistics became a truly systemic linguistics, in which the paradigmatic relations represented in systems were the fundamental base, structures being derived from these by realisation statements. This emphasis on the paradigmatic persists into present-day SFG:

Systemic theory is a theory of meaning as choice, by which a language, or any other semiotic system, is interpreted as networks of interlocking options: 'either this, or that, or the other', 'either more like the one or more like the other', and so on. (Halliday 1994b:xiv)

5.1.4 SFG as a theory of text

SFG differs from most linguistic theories in the unit which it takes as basic to linguistic description. Halliday (1994a:4505), states that SFG "takes the text rather than the sentence as its object". Note that "[a] text is a semantic unit, not a grammatical one" (Halliday 1994b:xvii); elsewhere, Halliday (1978:109) refers to the text as "the basic unit of the semantic process". A text is defined as "any passage, spoken or written, of whatever length, that does form a unified whole" (Halliday & Hasan 1976:1). The nature of this unity need not detain us here;⁴ rather, what is important for our present purposes is the effect that this orientation has on the grammar as a whole. Throughout the present work, but particularly in Part 2, we shall see that matters of text structure and development are often used in SFG as evidence for particular ways of formulating the grammar. I noted in §2.5.5 that Halliday's *An Introduction to Functional Grammar*, undoubtedly the most widely read of his works, is explicitly presented as intended for the use of those who wish to analyse texts.

Should we, then, regard SFG purely as a theory of text? This would, I think, be unwise, especially in view of Halliday's warnings, as also noted in §2.5.5, about the need for text

4. It will be discussed in Chapter 4 of Part 2.

analysis to be grounded in a solid grammatical foundation. Despite these very sensible shots across the bows of potential end users, there does seem to be a tendency, in many systemically-oriented publications and conference contributions, towards an emphasis on the text-linguistic aspects of the theory at the expense of the grammatical underpinning. In this connection, it is noteworthy that the Cardiff systemicists, led by Fawcett, have concentrated on the development of an explicit, testable theory of the grammar itself,⁵ which is implemented in a computational system for language generation.⁶

5.1.5 SFG as an applicable theory

Closely related to the goal of formulating a theory which prioritises the text is Halliday's emphasis on the applicability of SFG: "the approach leans towards the applied rather than the pure" (Halliday 1994b:xxvii). Halliday comments:

I have never found it possible, in my own work, to distinguish between the activities of working on the theory and using the theory to work on something else. (Halliday 1985b:1)

Indeed, he goes so far as to say the following:

The value of a theory lies in the use that can be made of it, and I have always considered a theory of language to be essentially consumer-oriented. In many instances the theorist is himself also and at the same time a consumer, designing a theory for application to his own task; in others he may be working together with a group of consumers, designing a theory for their particular needs. (Halliday 1985b:7)

although he recognises that the linguist may also "set up as 'pure' theorist on his own, without any particular consumers in mind" (1985b:7).

SFG has in fact been applied very successfully in a number of areas, including stylistics, educational linguistics, computational linguistics and speech pathology.⁷ However, the emphasis on applicability goes beyond the wish to ensure that linguistic descriptions are cast in such a way as to be accessible and useful to practitioners in other disciplines with an interest in language. In his brief overview of systemic theory, Halliday writes of the theory as developing "both in reflection and in action – as a resource both for understanding and **for intervening in** linguistic processes" (Halliday 1994a:4505, emphasis added).⁸ He clearly situates his own work within the context of an approach in which "lin-

5. The Cardiff proposals do, however, also include a model of discourse, as we shall see in Chapter 4 of Volume 2.

6. A version of the Sydney grammar has also been computationally implemented – see Chapter 5 of Part 2.

7. For a list of some areas of application, see Halliday (1994b:xxix–xxx). Applications of structural-functional grammars will be discussed in Chapter 5 of Part 2.

8. See also Cloran, Butt & Williams (1996b:4), who state that one of the strengths of the systemic functional model is that it allows, among other things, "the empowerment of the disadvantaged members of society via pedagogic means".

guistics cannot be other than an ideologically committed form of social action” (Halliday 1985b:5): the theory is “designed not so much to prove things as to do things. It is a form of praxis.” (1985b:11). Thus Martin (1992a:2), in introducing his *English Text*, links his own work, and the uses to which it can be and has been put, to the framework of ‘critical linguistics’ worked out by Fowler, Kress, Hodge, Chilton, Fairclough and others.⁹

Linked to the ideological commitment of the Sydney grammarians is a foregrounding of the impossibility of theory-free description:

There is no such thing as theory-free engagement with language, whether one is actively intervening in the linguistic practices of a community or systematically describing the grammar of a particular language. (Halliday 1992a: 11)

An extended treatment of this area can be found in Matthiessen & Nesbitt (1996), in which the above statement by Halliday is cited (p. 64).

5.1.6 SFG and the cognitive dimension

The orientation of SFG during most of its life is nicely summarised in the following quotation:

The orientation is to language as social rather than as individual phenomenon, and the origin and development of the theory have aligned it with sociological rather than psychological modes of explanation. (Halliday 1994b: xxx)

We saw in §2.5.4, however, that Halliday & Matthiessen (1999) have recently made proposals about the relationship between SFG and cognition. Rather than seeking cognitive motivations for linguistic phenomena, however, Halliday & Matthiessen prefer to treat language as primary, cognition as derived: cognition is to be explained in terms of linguistic processes, rather than the other way round. This is, of course, related to their view, summarised earlier, of the construing role of language with respect to ‘reality’. Under this view of the relationship between language and cognition, ‘reality’ is inextricably bound up with our linguistic representations of it:¹⁰

According to this view, it is the grammar itself that construes experience, that constructs for us our world of events and objects. (Halliday & Matthiessen 1999: 17)

Clearly, Whorf is an important influence here, and his work is cited at various points in Halliday & Matthiessen’s account, and is also prominent in Hasan’s (1984) discussion of the question ‘What kind of resource is language?’. Halliday & Matthiessen (1999:425) also recognise the relevance, to their own work in SFG, of the kind of cognitive linguistics practised by American linguists such as Lakoff, Langacker, Chafe and Tomlin, regarding

9. See, for example, Fairclough (1995).

10. For a fuller account of this view, in relation to current approaches in cognitive science, see Halliday & Matthiessen (1999: Chapter 14).

this as “arguably more closely associated with the rhetorical and ethnographic tradition (perhaps not so much in terms of its roots, but in terms of where it is headed)”.

I also noted in §2.5.4 that Hallidayan SFG fully recognises the inherent indeterminacy of language. An important aspect of the approach to indeterminacy in current SFG is the idea that the typology of semantic classes provided by networks of systems can usefully be supplemented by a topological perspective, under which the ideation base¹¹ can be seen as a flexible, multi-dimensioned semantic space (Halliday & Matthiessen 1999: 68ff.; see also Martin & Matthiessen 1991). This allows us to circumvent the problem raised by the conflict between the idea of a system, with discrete, mutually exclusive terms, and the acceptance of the fluidity and indeterminacy of language. In topological terms, a system can be modelled as a dimension in space, which is continuous (clinal) rather than discrete (Halliday & Matthiessen 1999: 71). Discussion of various types of indeterminacy which are accounted for within SFG can be found in Halliday (1996: 16–18) and Halliday & Matthiessen (1999: 547–562). A related concept of importance in SFG is that of probability (see Halliday 1991a, 1991b, 1993, 1997): probabilities can be attached to features in systems, and to associations between systems, these probabilities varying with different varieties of a language.¹² Furthermore, it is claimed that the features in terms of which languages are described are themselves not discrete, Aristotelian categories, but clinal, and could perhaps be interpreted in terms of fuzzy sets (see Halliday & Matthiessen 1999: 46 and the references given there). Empirical studies of probabilities go back to Halliday’s own early work on Chinese texts (Halliday 1956, 1959). Studies of probabilities in tense systems are available in Plum & Cowling (1987) and Halliday & James (1993), the latter also being concerned with polarity systems. Nesbitt & Plum (1988) investigate probabilities in the area of options in clause connection within the clause complex.¹³

The Cardiff version of SFG presents a more orthodox view of the relationship between language and cognition than that espoused by Halliday. Fawcett (1980) discusses what is claimed in the sub-title of the book to be “an integrated model of a Systemic Functional Grammar and the other components of a communicating mind”. Fawcett’s aim in this book is to model “the psychological reality of language” (Fawcett 1980: 7) in systemic functional terms. He sees psycholinguistic experiments as important in giving an indication of how plausible a model is psychologically (1980: 9), but concedes (1980: 11) that little such validation has been done on systemic grammars. Now, more than two decades later, the position has changed very little. Fawcett’s own work since 1980 has been concerned not with the psycholinguistic testing of systemic theory, but with the development of that theory, especially in relation to its implementation in computer programs. Halliday (1994a: 4506) recognises that Fawcett’s work demonstrates the compatibility of SFG

11. For the concept of ideation base, see §5.6.

12. See also Lemke (1991) for the interesting suggestion that the probabilities for selection of particular options change as we proceed in the construction of a text.

13. The sentence, as a grammatical unit, is replaced by the ‘clause complex’ in SFG. For discussion of this area see Chapter 3 of Part 2.

with a cognitive perspective, but he also appears to feel that the inherent social-semiotic orientation of his own theory “does rule out any claim for ‘psychological reality’”.

5.1.7 SFG and typological concerns

I noted in §2.5.6 that in the crucial phases of its development, systemic theory was based very largely on the analysis of English, though with some input from occasional studies of other languages. There has certainly been work on a wider range of languages in recent years; nevertheless, three of the most comprehensive and authoritative recent treatments of SFG (Halliday 1994b; Matthiessen 1995; Martin 1992a) are all based very largely on English, though Matthiessen (1995) does make brief comments on languages other than English at various points in his book. Halliday & Matthiessen (1999) devote one chapter of their book (about 5% of the total) to Chinese, and mention various other languages *en passant*. Halliday (1994a:4906) recognised that in SFG “a disproportionate amount of research relates to English”, and that this was one of the ways in which the theory was “ill-balanced”.

Halliday in fact claims that SFG as a theory is ‘logocentric’, while the description of a given language is ‘glottocentric’; that is, it is geared to the language concerned, so that “the theory is not anglocentric; the description of English is” (Halliday 1996:33). His desire to achieve ‘glottocentricity’ in the description of a language is made clear in the following comment:

This is not an easy aim to achieve, since it involves asking oneself the question: “how would I describe this language as if English (or other languages that might get used as a descriptive model) did not exist?” But it is important if we are to avoid the anglo-centric descriptions that have dominated much of linguistics during the second half of the century. (Halliday 1996:33)

Matthiessen (1995:60) also warns against interpreting languages as versions of Latin or English, and offers some useful, if brief, comments on what categories are regarded as universal within systemic theory, and how variability, and the lack of it, could be investigated across languages within a systemic functional framework (Matthiessen 1995:57–62). He also suggests that certain of these give us a way of assessing the extent of variability among languages: in other words, the ways in which, and extent to which, particular putatively universal properties of the grammar are exploited may vary from one language to another.

Significant comments on language comparison and universals are also made by Hasan & Fries (1995b), who warn against too simplistic an approach to comparison. They point out that comparative studies are made more complicated by the need to recognise both semantic values and formal identities for descriptive categories, and by the importance of distinguishing between those criteria which are taken to define a category and those by which instances of the category can be recognised.

The important point to be made, then, in regard to typological matters in SFG is not that there are no SFG-based descriptions of phenomena in languages other than English, nor that systemic linguists are unaware of, or unconcerned about, the dangers of anglo-

centricity, but rather that typological adequacy was not built in as one of the main goals of the theory, as it was in FG and RRG, and this has had important consequences for the shape of the theory. Nevertheless, it is likely that typological issues will figure more in future systemic work: Martin (in Hernández Hernández 2000c: 248–249), for example, sees this as a particularly rich and exciting area for development in SFG. An indication of the present interest in typological issues is the forthcoming publication of a volume on systemic typology (Caffarel, Martin & Matthiessen, forthcoming), in which ‘metafunctional profiles’ of French, German, Japanese, Tagalog, Chinese, Vietnamese, Telugu and Pitjantjatjara are offered, preceded by an orientational chapter on systemic approaches to typology and followed by a chapter discussing ‘descriptive motifs’ and generalisations.

Finally, we should note that the Cardiff version of SFG described in §5.7 is even more restricted in its typological coverage. According to Fawcett, it is

... a model of language that exists both in the form of a computer model of language and as a description of English for use in text analysis (Fawcett 2000a: 6)

Fawcett also notes, however, that versions of this grammar have been developed for “central portions” of Chinese and Japanese, and that work on other languages is planned.

5.2 The clause in Halliday’s *An Introduction to Functional Grammar*

Despite the fact that, as we have seen, SFG as a theory gives priority to paradigmatic relations, I shall begin our exploration of the clause by considering the structural aspects, as set out in the second edition of Halliday’s *An Introduction to Functional Grammar (IFG)* (Halliday 1994b). The reasons for doing this are twofold: firstly, *IFG* is the best known and most readily available of Halliday’s works; secondly, as Halliday himself (p. 16)¹⁴ observes, the structures are “more accessible – nearer to the ‘surface’ of language” than the systems. Systems are dealt with in §5.3 and the realisation of systemic choice in structures is discussed in §5.4.

5.2.1 Strata of description in *IFG*

Halliday (p. 15) makes it clear that he is working with a tristratal model in *IFG*. The central stratum¹⁵ is that of grammar, or, more accurately, **lexicogrammar**, since current SFG operates with the concept of a continuum between grammar and lexis, as we saw briefly in §2.5.3.¹⁶ This stratum is also referred to as “the level of ‘wording’ in a language” (p. 15),

14. In the current section, all page references are to Halliday (1994b), unless otherwise specified.

15. The term ‘stratum’ is equivalent to ‘level’ in many other models: indeed, Halliday uses the two terms synonymously, both in *IFG* and elsewhere (see e.g. Halliday 1994a: 4505).

16. Like Halliday, I shall often use the term ‘grammar’ as a shorthand, especially when dealing with phenomena which are clearly towards the more grammatical end of the scale. I shall return to the concept of ‘lexis as most delicate grammar’ in §5.5, when more of the SFG jigsaw has been put into place.

though it is important to remember that ‘wording’ here does not mean just use of the vocabulary of the language. These ‘wordings’ are realised, or expressed, by the lower levels of **phonology** for spoken language, and **graphology** for written language. Patterns in the lexicogrammar are themselves the realisation of patterns at the higher level of **semantics**, interpreted as a ‘discourse semantics’, “to make it explicit that this is where we investigate how grammatical units are constructed into discourse” (p. 15). Unlike most other linguists, Halliday tends to avoid the use of the term ‘syntax’. He gives two reasons for this (Halliday 1994b:xiv). Firstly, since lexis is seen as simply the most detailed (or, in SFG terms, ‘delicate’) end of the grammar (see §5.5), ‘syntax’ is not a separate level from ‘vocabulary’. Secondly, Halliday’s non-use of the term ‘syntax’ is a way of rejecting the priority which has been accorded to this level in formal grammars, in favour of a central place for meaning in a functional grammar.

A language is interpreted as a system of meanings, accompanied by forms through which the meanings can be realized. The question is rather: “how are these meanings expressed?”. This puts the forms of a language in a different perspective: as means to an end, rather than as an end in themselves. (Halliday 1994b:xiv)

Halliday also prefers not to posit a distinction between semantic and pragmatic types of meaning in his theory. Two reasons can be adduced for this. Firstly, Halliday clearly feels that the term ‘pragmatics’, like ‘syntax’, carries with it the baggage of its origins in philosophical approaches, with which his own more sociological approach is in contrast:

In formal linguistics, the term ‘syntax’ is used to replace ‘grammar’; this usage comes from the philosophy of language, where syntax is opposed to semantics (this is the context in which ‘pragmatics’ may come in as a third term). (Halliday 1994b:xiv)

Secondly, and more crucially, for Halliday all linguistic meaning is of an ‘inter-organism’ kind, so there is no need to distinguish between what a word or sentence means (semantic meaning), and what a speaker means by the utterance of that word or sentence (pragmatic meaning).¹⁷

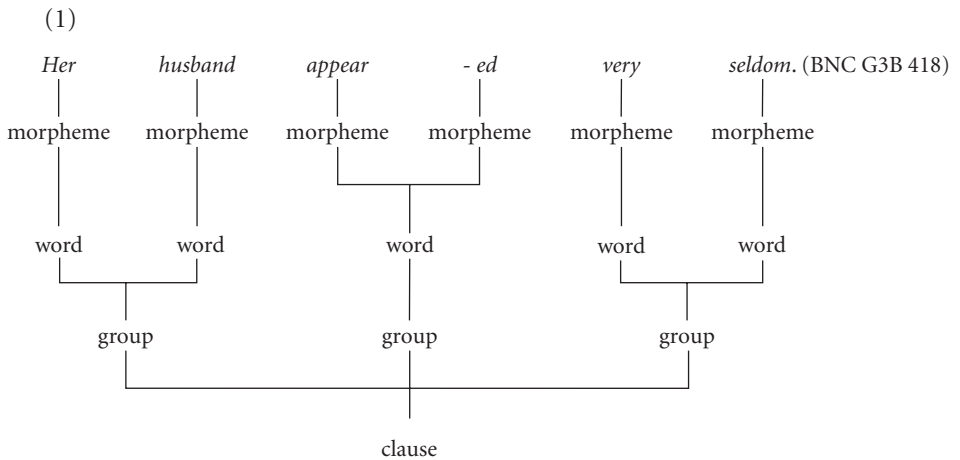
5.2.2 Unit, rank and constituency in *IFG*

The picture of linguistic structure given in *IFG* incorporates many ideas which go back to Halliday’s seminal article ‘Categories of the theory of grammar’ (Halliday 1961), in which he set out the basis of what was then known as Scale and Category Grammar. As in that earlier model, and as in other grammars, **units** are set up to account for the pieces of lan-

17. Halliday & Matthiessen (1999:12) comment that pragmatics has been concerned with two areas of language: firstly, it deals with “particulars of the situation and of the interactants, and inferences drawn from these”, an aspect of language which is covered by the fact that a systemic grammar is necessarily a theory of both the system and instances of its operation; secondly, it appears to the authors as “an alternative term for the interpersonal and textual domains of semantics”. For Martin (in Hernández Hernández 2000c:248), pragmatics is “too narrow”, being focused largely on the clause; like other systemicists, he prefers to integrate what others would call pragmatic phenomena into various parts of the linguistic system.

guage which carry grammatical patterns. They are seen as arranged on a hierarchical scale, that of rank: at the grammatical level, the units, in rank order, are clause, group, word and morpheme.¹⁸ It will be noted that Halliday uses the term 'group' to refer to what most linguists would call a phrase: a noun phrase is thus renamed as a nominal group. Halliday does also use the term 'phrase', especially in connection with the combination of a preposition and a nominal group to form a prepositional phrase: the distinction between group and phrase will be discussed later, when I have covered certain other concepts needed in order to understand it.

The default is for units of one rank to consist of units of the next rank below: clauses consist of groups, which consist of words, which in turn consist of morphemes. A simple example is given in (1).



Rankshift from higher to lower ranks is, however, allowed: groups/phrases may occur within the structure of other groups, and clauses within clauses and groups. Consider example (2):

- (2) *Juliet knew that in the future any mention of Cheltenham would make her see Nigel and that girl with the yellow hair.* (BNC JY0 2561)

The nominal group *that girl with the yellow hair* has the prepositional phrase *with the yellow hair* rankshifted (or embedded – Halliday (p. 188) uses both terms) within it. Further,

18. In *Scale and Category Grammar*, there was an additional unit, sentence, at the top of the grammatical rank scale. This unit is retained provisionally at the beginning of *IFG* (p. 23), but later the status of the sentence is reconsidered, and this unit is reinterpreted as a 'clause complex', in line with complexes at other ranks of unit (group complexes such as *the men and the women*, morpheme complexes such as *pro- and anti-* (*abortionists*), etc.). The unit 'sentence' is then reserved for the graphological rank scale, i.e. as a unit of the expression form of written language. In the following discussion, therefore, I shall treat the clause as the highest unit on the grammatical rank scale.

this prepositional phrase contains a rankshifted nominal group, *the yellow hair*. Example (3) shows a (relative) clause rankshifted within the structure of a nominal group.

- (3) *The man who handles the live sound is another former Leeds University student, Joe Hickey.* (BNC AT1 912)

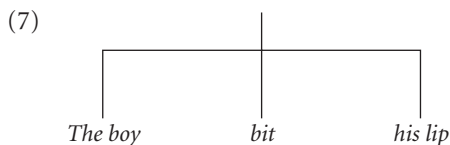
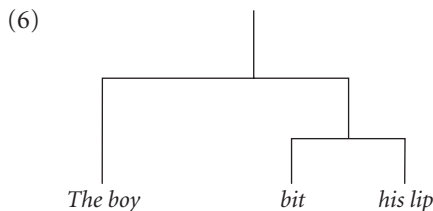
In example (4), we have three instances of clausal rankshift: the initial *that*-clause is rankshifted to act as Subject within another clause; the second *that*-clause is rankshifted within the nominal group starting *some reassurance*, in an appositional relationship; and the relative clause *who will not crumple easily* is rankshifted within the nominal group starting *an opponent*.

- (4) *That he won a points decision against the Californian Mark Wills at Wembley will give them some reassurance that the British heavyweight champion could give a reasonable account of himself against an opponent who will not crumple easily.* (BNC A90 626)

Halliday's rank-based analysis of constituency, under which a clause is expected, in the unmarked situation, to consist (directly) of one or more groups, a group of one or more words, and a word of one or more morphemes, brings with it a further implication, namely that of **minimal bracketing**, giving a flat tree structure, as opposed to the maximal bracketing of Immediate Constituent approaches. Consider example (5).

- (5) *The boy bit his lip, ...* (BNC BN1 1308)

The analysis in (6) shows maximal bracketing, while that in (7) has the minimal bracketing of Halliday's rank-based proposal.



In discussing the differences between the two approaches (p. 22–28), Halliday points out that maximal bracketing tries to account for as much of the grammar as possible in terms of constituency, while minimal bracketing cannot use the concept of constituency to explain as much, and must therefore be supplemented by other concepts. Crucially, the maximal bracketing approach says nothing about the function of each of the proposed

constituents. This brings us to the distinction between **class** labelling of constituents and **functional** labelling, which can be seen by comparing example (5) with (8) and (9):

(8) *He liked the boy, ...* (BNC CR6 600)

(9) *His lip was split, ...* (BNC AR2 1151)

In both (5) and (8), *the boy* belongs to the class of group we call nominal; functionally, however, this nominal group acts as Subject¹⁹ in (5) but as Complement of the verb (more delicately, Object) in (8). Similarly, in both (5) and (9), *his lip* belongs to the nominal class of group, but in (5) it functions as Complement (Object), while in (9) it acts as Subject.

Halliday (p. 26) observes that the non-biunique relationship between class and function can lead to ambiguity: the following example is similar to his:

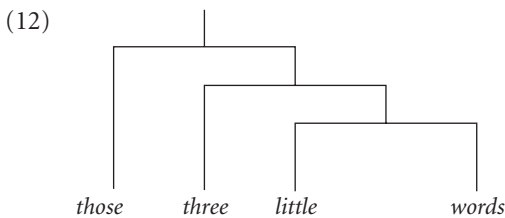
(10) *Our second prize winner will win a fabulous suite of Piazza bedroom furniture ...*
(BNC BPF 1717)

This could mean that the furniture will be won by the winner of the prize given second out of a series of prizes, or by the winner of the next-to-top prize. In both cases, according to Halliday's analysis of the nominal group, *second* is a member of the class 'ordinal numeral', but in the first interpretation it functions as Numerative, in contrast with all the other ordinals, while in the other interpretation it is a Classifier, and contrasts not only with ordinals such as *first* and *third*, but also with other items such as *consolation*.

Halliday (pp. 26–27) also uses the nominal group to illustrate the relationship he proposes between maximal/minimal bracketing and class/function labelling. Consider 11:

(11) *Men are notoriously shy of those three little words.* (BNC BPF 942)

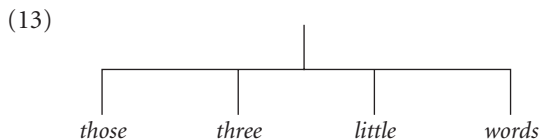
In a maximal bracketing approach, the analysis of the nominal group *those three little words* might look as in (12):



This analysis indicates which words belong closely together, and indeed not only the whole set of four words, but also *three little words* and *little words* (as well as just *words* itself) could act as a nominal group in its own right. A maximal bracketing approach would in fact normally label such trees with classes (e.g. according to the X-bar system). The point Halliday makes, however, is that in the actual example under analysis, these smaller com-

19. Halliday uses capital letters at the beginning of names for functions, to distinguish them from classes, written with lower case initial letters.

binations have no function in any superordinate structure. If, then, we are to give priority to function in labelling, then this implies the kind of minimal bracketing seen in (13):



For Halliday, then, maximal bracketing is to be associated with class labelling, minimal bracketing with the functional labelling which should be prioritised in a functionally-based grammar.²⁰ As a consequence, “[t]he concept of constituent structure is much weaker in a functional grammar than in a formal one” (p. 28). We can see this approach as related to the importance given by SFG to the analysis of actual textual data: the theory is one which always attempts to relate the linguistic system to particular instances:

The purpose of functional labelling is to provide a means of interpreting grammatical structure, in such a way as to relate any given instance to the system of the language as a whole. (p. 29, emphasis in original)

However, any constituent in a structure in SFG is likely to have more than one function assigned to it, and to understand this, we need to investigate in more detail the concept, or rather concepts, of function in this theory.

5.2.3 Function in *IFG*

The term ‘function’ and the related adjective ‘functional’ are used in a number of ways in SFG, and it is important to be able to distinguish the different meanings. Halliday gives the following summary:

A systemic grammar is [...] ‘functional’ in three distinct though related senses.

- a. Its ‘explanations’ are functional: both the existence of grammar (why grammar evolved as a distinct stratum), and the particular forms that grammars take, are explained in terms of the functions that language evolved to serve.
- b. Its ‘representations’ are functional: a structure is an organic configuration of functions, rather than a tree with nodes labelled as classes.

20. In this connection, it is interesting to note that Fawcett (2000a: §5.3 and Chapter 6), in a detailed critical account of categories and scales in Halliday’s later work, and their relationship to the proposals made in Scale and Category Grammar, observes that there is a big difference between the brief summary of systemic theory presented in Halliday (1994a) and the basic concepts which underlie the roughly contemporaneous second edition of *IFG*. The categories of unit and class (of unit) do not appear at all in the 1994 summary, despite the importance of the former for the concept of the rank scale. Furthermore, Fawcett also points out that the definition of rank in this summary also appears to have changed from that in ‘Categories’: it is now seen as “constituency based on function, and hence ‘flat’, with minimal layering” (Halliday 1994a: 4505), so appearing to be equated with constituency.

- c. Its ‘applications’ are functional: it developed as an adjunct to practices associated with language use, requiring sensitivity to functional variation in language (‘register’ variation). These considerations both relate it to, and at the same time distinguish it from other functional theories. (Halliday 1994a: 4906)

Senses (a) and (c) have already been discussed, and sense (b) is clearly concerned with the functional rather than class-based labelling of constituency trees. However, the statement that the representations of SFG are functional itself needs some unpacking. Initially, I shall follow Halliday’s own line (1994b: 30–36), by illustrating the concept of functional representations with respect to different interpretations of the traditional function of Subject. As Halliday (p. 31) observes, 19th century grammarians distinguished three types of ‘Subject’: the ‘grammatical Subject’ is “that of which something is predicated”; the ‘psychological Subject’ is “that which is the concern of the message”; while the ‘logical Subject’ is the “doer of the action”. These three types can be seen in an example such as (14):

(14) *Philip broke the gun ...* (BNC ABX 3954)

Here, *Philip* represents the person of whom it is predicated that he broke some specified gun; this nominal group also represents the entity the speaker had in mind to start the clause; and the person referred to by this same nominal group is the one who performs the action of breaking. In such clauses, then, the grammatical, psychological and logical Subjects coincide. This need not, however, be the case, as is shown by the rearrangements of (14) given in (15) and (16):

(15) *The gun was broken by Philip.*

(16) *The gun Philip broke (not the pea-shooter).*

In both of these, *Philip* remains the logical Subject. In (15), however, the grammatical and psychological Subjects coincide in the nominal group *the gun*, while in (16), *the gun* is psychological Subject, since it comes first in the clause, but *Philip* is the grammatical as well as the logical Subject.

Halliday (p. 32) replaces the historical term ‘grammatical Subject’ by simply Subject, ‘psychological Subject’ by Theme, and ‘logical Subject’ by Actor. The most important point here, however, is that the three types of function are seen as originating from three different strands of meaning in the clause: the Subject “functions in the structure of the CLAUSE AS AN EXCHANGE”, the Theme “in the structure of the CLAUSE AS A MESSAGE”, and the Actor “in the structure of the CLAUSE AS A REPRESENTATION” (p. 34, emphasis in original). These three types of meaning represented in the clause are normally referred to in SFG as **metafunctions**, in order to distinguish them from functions (or ‘functional roles’) such as Actor, Subject or Theme. Metafunction is “one of the basic concepts around which the theory is constructed” (p. 35). The ‘clause as representation’ metafunction is labelled **experiential**, and is involved in “construing a model of experience”; the ‘clause as exchange’ metafunction is the **interpersonal**, concerned with “enacting social relationships”; while the ‘clause as message’ metafunction is the **textual**, “creating relevance to context” (p. 36). There is also a fourth metafunction, the **logical**, involved in “construct-

ing logical relations”, which is not so much a type of meaning embodied in the clause itself, but rather one which enables us to combine clauses (and also groups, etc.) into complexes.

More extensive characterisations of the metafunctions are available in Halliday’s earlier writings, in which the metafunctions are referred to as ‘functional components’ or ‘macrofunctions’, and the experiential and logical metafunctions are often presented as part of an overarching **ideational** component of meaning. This ideational component

... serves for the expression of ‘content’: that is, of the speaker’s experience of the real world, including the inner world of his own consciousness. (Halliday 1970a: 143).

The **interpersonal** component

... serves to establish and maintain social relations: for the expression of social roles, which include the communication roles created by language itself – for example the roles of questioner or respondent, which we take on by asking or answering a question; and also for getting things done, by means of the interaction between one person and another. (Halliday 1970a: 143)

while the **textual** component

... enables the speaker or writer to construct ‘texts’, or connected passages of discourse that is situationally relevant; and enables the listener or reader to distinguish a text from a random set of sentences. (Halliday 1970a: 143)

Note that while the ideational and interpersonal metafunctions are concerned with aspects of the world in which the communication takes place, the textual component relates to text-internal relationships, as well as to relationships of relevance between text and situation. The components are seen as being at the same level of abstraction, and all are regarded as contributing to the meaning, and hence indirectly the structure, of almost everything said or written by an adult language user.²¹

The experiential, interpersonal and textual functions each contribute a strand of meaning to the clause, construed by configurations of functions associated with that strand of meaning (p. 34). This is where functions such as Actor, Subject and Theme come in, together with other functions which complement them. A more complete picture of the functional structure of example (14) is shown in (17).²²

21. The qualification here arises because (i) there are some formulaic utterances of the adult language which are not multifunctional – e.g. greetings, expressions of pain, etc., and (ii) Halliday’s account of child language acquisition (see e.g. Halliday 1975, also Chapter 5 of Part 2 of the present work) claims that the productions of the very young infant are monofunctional, later passing through a transitional phase leading ultimately to the multifunctional adult state.

22. This functional structure should be regarded as provisional at this point, since it will be elaborated upon in later chapters dealing with areas within particular metafunctions. It is intended only to illustrate the concepts involved.

(17)		<i>Philip</i>	<i>broke</i>	<i>the gun ...</i>
	Experiential	Actor	Process	Goal
	Interpersonal	Subject	Finite/Predicator	Complement
	Textual	Theme	← Rheme →	

The configurations of functions such as ‘Actor + Process + Goal’, ‘Subject + Finite + Predicator + Complement’, and ‘Theme + Rheme’, are what are meant in Hallidayan SFG by the term ‘structure’. Halliday (pp. 34–35) stresses that the component functions of such structures are relational: they can be interpreted only in relation to each other. For instance, the interpretation of *Philip* as Actor in (17) makes sense only in relation to the simultaneous recognition of *broke* as Process and *the gun* as Goal.

A further important point signalled by Halliday (p. 35) is that not every item in a clause has a function within every metafunction. For instance, in (18), *perhaps* plays the role of Theme in the textual metafunction, and expresses modality within the interpersonal, but has no experiential function, since it does not refer to anything representational in the world of discourse under description.

(18) *Perhaps he hadn't understood her last night.* (BNC HH1 3298)

5.2.4 System and realisation in IFG

Since, as we have seen, IFG is an account of functional structures in SFG rather than the underlying systems, it is to be expected that Halliday says little in the book about systemic choice and its realisation in structures. The following statement, however, indicates the importance of the systemic background against which the structures in IFG are presented:

One of the things that distinguishes systemic grammar is that it gives priority to paradigmatic relations: it interprets language not as a set of structures but as a network of SYSTEMS, or interrelated sets of options for making meaning. Such options are not defined by reference to structure; they are purely abstract features, and structure comes in as the means whereby they are put into effect, or ‘realized’.

(Halliday 1994b: 15–16)

In order to understand in more detail what systems are, and how choices from them become translated into structures, we must turn to other sources.

5.3 System as the fundamental category in SFG

As we saw in §5.1.3, in the 1960s Halliday developed Firth’s concept of system by modelling paradigmatic patterning in terms of sets of systems linked into a **system network**, in which one or more terms in a system acted as entry conditions for further, more specific choices.

In order to illustrate the concept of a system network, let us consider a basic network for contrasts in grammatical ‘mood’ in English, this term being taken in Hallidayan lin-

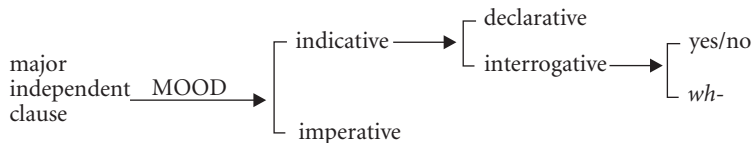


Figure 5.1. A basic system network for grammatical mood in English

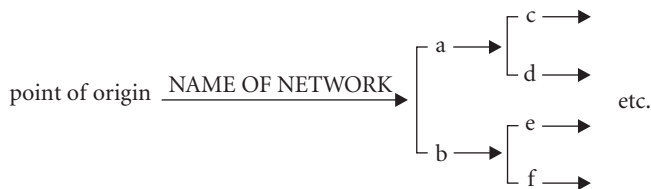


Figure 5.2. General form of system network with simple dependency

guistics to refer to distinctions between imperative, declarative and interrogative clauses, and any finer distinctions which can be made within these categories (see Figure 5.1).

What this diagram says is that according to the system network of mood, any major, independent clause (i.e. a main clause with a verb) in English is either indicative or imperative, and if it is indicative, then it is either declarative or interrogative, and if interrogative, then either yes/no or *wh*-interrogative. The ‘point of origin’ for the network is the class of major, independent clauses, and there are ‘terms’ (or ‘features’) in certain systems which act as the entry condition for further systemic distinctions. Examples illustrating each terminal choice are given in (19)–(22) below.

- (19) *Please give generously.* (BNC K98 172) [imperative]
- (20) *At Christmas people give generously.* (BNC A7G 409) [declarative]
- (21) *Did he give any reason?* (BNC CJF 1209) [yes/no interrogative]
- (22) *What did he give you?* (BNC FA5 2267) [*wh*-interrogative]

The general form of a simple systemic network is thus as in Figure 5.2.

In addition to the kind of **simple** dependency illustrated in Figure 5.2, we may also find more complex types. Figure 5.3 shows a **conjunctive** entry condition, in which the system [d]/[e] (note that systemic features are normally written in square brackets) can only be entered if **both** [a] **and** [b] have been selected from the previous system. Figure 5.3 also demonstrates that systems need not be binary.

Figure 5.4 illustrates a **disjunctive** entry condition, where the [d]/[e] system is available only if **either** [a] **or** [b] has been chosen.

Examples of both conjunctive and disjunctive dependence are present in the partial network shown in Figure 5.5, which is a slightly simplified version of that in Butler (1982:223), representing some of the choices available within the semantics of illo-

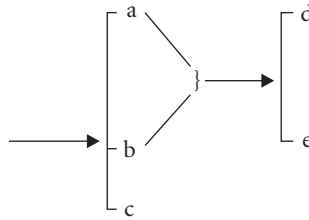


Figure 5.3. General form of system network with conjunctive dependence

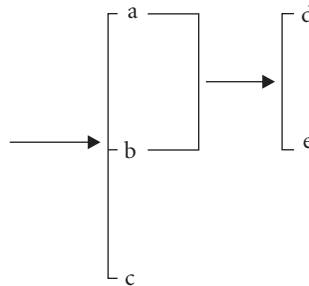


Figure 5.4. General form of system network with disjunctive dependence

cution.²³ The network indicates that for any independent predication,²⁴ there is an initial choice between [+informational] (involving information exchange as in statements and various types of question and exclamation) and [-informational] (concerned with the performance of a hypothetical future act by the addressee). Informational predications can be either [+question] or [-question], and simultaneously either [+exclamation] or [-exclamation]. Predications which are **both** [+question] and [-exclamation] can be [open] or [closed]. Predications which are **either** [-question] or [-informational] can have the feature [+question tag modification] or the feature [-question tag modification]: in other words, in the dialect under consideration, only statements and directives can take a question tag.

Although the system networks for English are not presented in Halliday's *IFG*, the networks which lie behind the structures discussed in *IFG* are discussed in great detail by Matthiessen (1995), whose work I shall refer to at numerous points throughout the exploration of particular areas of the grammar in later chapters. For the moment, I shall concentrate on the role of the system networks in the grammar, and their relationship with the concept of metafunction.

23. The discussion here is intended only to illustrate types of systemic dependence: approaches to mood and illocution will be discussed in Chapter 1 of Part 2.

24. The approach adopted in Butler (1982) takes the predication as a basic semantic unit.

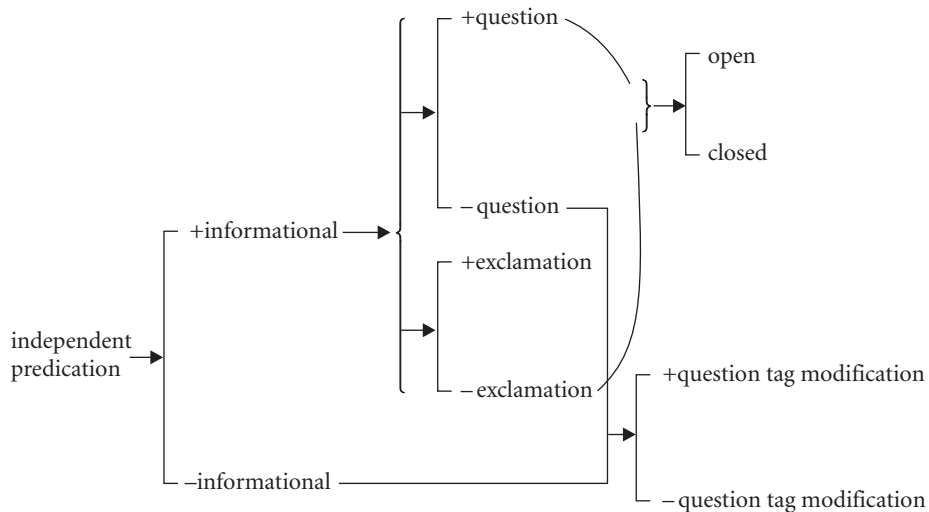


Figure 5.5. Example of network with both conjunctive and disjunctive dependence

We have seen that the system networks of present-day SFG are claimed to be the primary, underlying form of representation: together, they represent what Halliday (e.g. 1994a: 4505) calls the **meaning potential** of a language, the resources available to the language user for making meaning. We have also seen that in the clause, a number of strands of meaning are recognised, and that each of these strands contributes a layer of structure, conceived in terms of configurations of functional elements such as Actor + Process + Goal, or Theme + Rheme. We might expect, then, that the system networks would themselves reflect the concept of metafunction, and this is indeed the case. An early statement of this relationship is the following:

If we represent the set of options available to the speaker in the grammar of the English clause, these options group themselves into a small number of subsets, distinct from one another in that, while within each group of options there is a very high degree of interdependence, between any two groups the amount of interdependence, though by no means negligible, is very much less. This provides a syntactic basis for the concept of language functions, and suggests how the diversity of functions recognizable at the semantic levels may be organized in the course of realization. (Halliday 1968: 207)

The clusters which Halliday recognises in terms of degree of interdependence of systems turn out to correspond to the metafunctions: in other words, there are three major clusters of interrelated systems, one concerned with choices related to experiential meanings, one with those related to interpersonal meanings, and a third related to textual meanings. This

was, in fact, the original evidence on which the postulation of functional components of the grammar was founded.²⁵

Within the experiential metafunction, the relevant options are those of **transitivity**, concerned with what in other theories would be seen as predicate/argument relationships, and also with circumstantial elements in the clause (e.g. those of manner, time, place, etc.). In the interpersonal metafunction at clause rank we find networks of **mood** (see the simplified network presented earlier) and **modality**. Within the textual function there are two closely related but in principle distinct sets of choices, one concerned with **thematization** (for English, this is basically the choice of what to put first in the clause) and the other, which is a network at tone group rank in the phonology rather than at clause rank within the grammar, concerned with the distribution of **given and new information**, as signalled prosodically in English. All of these networks will be discussed in detail in the relevant chapters of this book or in Part 2. Meanwhile, we can see that there is a match between the content of the three areas specified above, on the one hand, and the kinds of structural functions which make up the strands of a structure such as that presented in example (17) earlier. Without going into detail, I shall look briefly at the choices and their consequences, as they would be described within SFG.

In the ideational network of transitivity the process of breaking is specified as a 'material' (action/event) type of Process, rather than, for example, a mental one (such as thinking, liking, etc.) a relational one (basically, one of being), or a behavioural one (concerned with bodily phenomena such as smiling or shivering). Furthermore, it is specified as the type of material process which has two participants (arguments, in the terminology of most other theories), which have the functions of Actor (the one performing the action) and Goal (the entity towards which the action is directed).²⁶ In this particular clause there are no circumstantial elements. We thus have three functional elements, Actor, Process and Goal, which form the experiential layer of structure within the clause.

In the interpersonal network of mood, the clause is specified as indicative, rather than imperative, the realisation of this option being the insertion of an explicit Subject in the clause, as we shall see in more detail later. Furthermore, it is specified as being declarative rather than interrogative, so having the Subject before the Finite element (which in this clause is not separate but conflated with the main verb). The roles of the Subject and Finite elements in signalling the mood of the clause are reflected in the postulation of a Mood 'super-element' of clause structure, the rest of the clause, consisting of the Complement *the gun*, being labelled the Residue. What is particularly noteworthy here is that because the network of mood is a set of interpersonal options, and because it is the presence and/or configuration of Subject and Finite which realises mood options, the elements Subject and Finite are themselves seen as constituting that part of the interpersonal layer of structure which derives from the mood network. Since the Complement is defined in terms of its

25. In Chapter 6 further evidence for metafunctional organisation adduced by Halliday will be discussed from a more critical perspective.

26. We shall see in Chapter 8 that an alternative interpretation of the functions labelled here as Actor and Goal is also available.

potential to occur as Subject in a passive clause (Halliday 1994b: 44), it too is treated as an interpersonal element – and by extension, the Predicator and Adjunct are also included in this layer of structure. In a full specification of the clause, further interpersonal elements would be derived from modality options, but since the particular clause in example (17) shows the ‘default’ choice of not expressing overtly any degree of modality, we need not consider this matter here.

In the theme network, the clause is specified as having ‘unmarked theme’. That is, the element which is most neutrally placed in first position in an English declarative (the Subject) is indeed placed in this position in the clause in (17). In the parallel textual network for information focus, it has been assumed, for the purposes of illustration, that the clause is spoken with a single intonation unit, the main prominence being on *gun*. This may represent a situation in which the speaker is presenting only *the gun* as new information, with *Philip broke* as already negotiated, given information, or the whole of the information may be being presented as new.

In order to see more clearly how selections from system networks lead to the specification of appropriate structures we must investigate the concept of **realisation**, to which I turn in the next section.

5.4 Linking system and structure through realisation statements

We have already met the concept of realisation as a relationship between different strata (semantics and lexicogrammar, lexicogrammar and phonology/graphology). The term is also used for the relationship between systemic choice and structural output within a single stratum. In a systemic grammar, each ‘feature’ in a system network is, in principle, accompanied by a **realisation statement** which specifies the consequences, for the structure being generated, of choosing that option. In Halliday’s (1994a) brief introduction to the main principles of SFG, which is roughly contemporary with *IFG*, seven types of realisation statement are proposed:

- a. ‘Insert’ an element (e.g., insert Subject);
- b. ‘Conflate’ one element with another (e.g., conflate Subject with Theme);
- c. ‘Order’ an element with respect to another, or to some defined location (e.g., order Finite Auxiliary before Subject);
- d. ‘Classify’ an element (e.g., classify Process as mental: cognition);
- e. ‘Split’ an element into a further configuration (e.g., split Mood into Subject + Finite);
- f. ‘Preselect’ some feature at a lower rank (e.g., preselect nominal group: human collective); and
- g. ‘Lexify’ an element (e.g., lexify Subject: *it*). (Halliday 1994a: 4905)

Matthiessen (1995:23–24), following an earlier treatment by Matthiessen & Bateman (1991:95–97), groups these kinds of realisation rule.²⁷ Rules specifying the presence, ordering and splitting of functions are grouped as **structuring** rules. Conflation rules are considered to belong to a **layering** type, since Matthiessen specifies that the functions conflated must belong to separate metafunctional strands of the structure. Preselection rules within the lexicogrammar are said to belong to a **rank** type, since a change in rank is involved: the example he gives is ‘Preselect Subject singular’ – i.e. realise the Subject (a function within clause structure) as a singular nominal (i.e. at group rank).

In order to see how some of these types of statement operate, let us return for a moment to the simple network in Figure 5.1 and the sentences in (19)–(22), repeated for convenience as (23)–(26) below.

- | | | |
|------|---|-----------------------------|
| (23) | <i>Please give generously.</i> (BNC K98 172) | [imperative] |
| (24) | <i>At Christmas people give generously.</i> (BNC A7G 409) | [declarative] |
| (25) | <i>Did he give any reason?</i> (BNC CJF 1209) | [yes/no interrogative] |
| (26) | <i>What did he give you?</i> (BNC FA5 2267) | [<i>wh</i> -interrogative] |

Each of the features in the mood network has some reflection in the structure of clauses bearing that feature. (23), which is imperative, has no overt Subject, while (24) (declarative), (25) and (26) (interrogative) do contain a Subject (*people* and *he* respectively). This difference motivates the decision to group declaratives and interrogatives together, as indicatives, a decision which is reinforced semantically by the information-exchanging nature of both types of indicative, as contrasted with the action-seeking nature of an imperative. The realisation rule for the term [indicative] will specify the insertion of a Subject (rule type (a)), while this is not necessary for the realisation of [imperative]. The systemic distinction between declarative and interrogative is reflected not in the presence or absence of an element of structure, but in the ordering of elements – that is, by the operation of a realisation rule of type (c). In the declarative (24), the Subject precedes the finite verb, whereas in the interrogatives (25) and (26) the order is reversed.²⁸ Yes-no (25) and *wh*-interrogatives (26) differ structurally in that in the latter a *wh*-word precedes the finite verb, while this is not the case in the former type. The realisation rules for terms may, in such simple cases, be indicated as shown in Figure 5.6, where \searrow indicates realisation, and \wedge indicates ordering, S = Subject, F = finite verb.

For a more complex example, let us look again at (14)/(17), *Philip broke the gun*. Realisation processes concerned with the presence of functions, involved in the generation of structure for example (17), would include: the insertion of the Process function in response to the selection of a ‘major’ clause (one with a verb) rather than a ‘minor’ one; the insertion of Actor and Goal functions in response to the selection of a two-participant material process; the insertion of the Mood function in response to the selection of an in-

27. See also Hasan (1996: 111).

28. There is one case where these rules do not apply straightforwardly, that where the Subject of a *wh*-interrogative is also the *wh*-word. This case will be discussed when mood is examined in Chapter 1 of Part 2.

In his exposition of Scale and Category Grammar, Halliday (1961:266) observed that there comes a point in systemic description where it is no longer possible to achieve further breakdown by means of grammatical categories. At this point, we have an open set of items, and it is here that we leave the grammar and enter lexis. The important question, of course, is how far we can go in grammatical description:

The grammarian's dream is (and must be, such is the nature of grammar) of constant territorial expansion. He would like to turn the whole of linguistic form into grammar, hoping to show that lexis can be defined as "most delicate grammar". The exit to lexis would then be closed, and all exponents ranged in systems. No description has yet been made so delicate that we can test whether there really comes a place where increased delicacy yields no further systems ... (Halliday 1961:267)

Halliday's conclusion at that time was that it was better, for the moment, to regard grammar and lexis as two separate kinds of patterning. This conclusion is reinforced by the more detailed arguments presented in Halliday (1966b), where he demonstrates that patterns of lexical co-occurrence (collocation) are distinct from, and superimposed on, patterns of grammatical co-occurrence. Halliday (1966b:150) notes that we can speak of *a strong argument* or *a powerful argument*, but that although *a powerful car* is perfectly acceptable, *?a strong car* is odd, while the reverse situation obtains with respect to *strong tea* versus *?powerful tea*. All these combinations are grammatically impeccable; the differences in acceptability are due to purely lexical (collocational) restrictions.

With the move to an explicitly paradigmatic and more semantically-oriented grammar from the mid 60s onwards, fulfilment of 'the grammarian's dream' became a possibility. Both grammar and lexis could now be seen as mechanisms for the realisation of choices in meaning. The less delicate options in system networks tend to be realised by grammatical structures and items, whereas combinations of very delicate systemic features can, in principle, be realised as individual lexical items. In this light, lexis has indeed become 'most delicate grammar'. Under this view of the relationship between lexis and grammar, there is no clear distinction between the two, and Halliday begins to use the term **lexicogrammar** to cover the lexical-cum-grammatical resources available within a language for the making of meaning, which, as we have seen, is often referred to as the **meaning potential** of the language.

The viability of the approach to lexis as most delicate grammar was confirmed by work on processes of disposal by Hasan (1987), on relational processes by Fawcett (1987) and on processes of transformation by Cross (1991, 1992, 1993). Attention has also been given to non-denotational aspects of lexical meaning (Matthiessen 1991a). The persistence of this approach to lexis into the current Sydney grammar is made clear by statements such as the following:

These two, grammar and vocabulary, are merely different ends of the same continuum – they are the same phenomenon as seen from opposite perspectives.
(Halliday 1994b:15)

All languages distribute their lexicogrammatical systems in delicacy, with grammar as the less delicate part and lexis as the more delicate part. (Matthiessen 1995:62)

The lexical region, or *lexis*, is not a separate component, but simply the most “delicate” end of the (unified) lexicogrammar. (Halliday & Matthiessen 1999:5)

5.6 The upper stratum of semantics

We have seen that in *IFG* Halliday situates his grammar within an overall model of linguistic patterning which has three strata: semantics, lexicogrammar and phonology or graphology. In a 1992 paper, too, Halliday writes of “relations between strata (semantics realized in grammar)” (Halliday 1992b:29). So far, we have been dealing with what *IFG* presents as the lexicogrammar, and we must now turn to the upper level of semantics. Discussion of this area is complicated by the fact that matters concerned with levels of description are often rather hard to pin down in Halliday’s writing. He himself asserts (1978:43) that he tends “to operate with rather fluid boundaries”. Elsewhere, he states:

... there is no clear line between semantics and grammar, and a functional grammar is one that is pushed in the direction of the semantics. (Halliday 1994b:xix)

This indeterminacy is paralleled by shifts, and even apparent inconsistencies, in the accounts of the semantics/lexicogrammar relationship given by Halliday in various writings. It is therefore worth spending a little time looking at the various statements.

The postulation of an upper semantic level of organisation, with its own networks and realisation statements, goes back to work published in the early 1970s. In a volume of collected papers, *Explorations in the Functions of Language*, Halliday (1973) proposes a new stratal model in which the uppermost stratum is outside language itself, and consists of the range of behavioural options available to a person acting within a particular social context, which is in turn embedded in a context of culture. This ‘behaviour potential’ constitutes what we ‘can do’ in that particular type of situation, and in order that his theory should have a sound sociological basis, Halliday proposes that we should select for study social contexts which are predicted as important by some social theory. The theory Halliday chooses is that of the sociologist Basil Bernstein, with whom Halliday worked in London for some time. In Bernstein’s work (see e.g. Bernstein 1971) language is regarded as crucial in the socialisation of the developing child, and one of the main contexts investigated by Halliday at this time is that of mother-child control.

The behaviour potential in the area of mother-child control is, then, the sum of all the behavioural options the mother has (all the things she ‘can do’) in directing the behaviour of her child. When we look at what she can do using language, then we are concerned with linguistic aspects of the behaviour potential, which Halliday characterises as what we ‘can mean’, i.e. as a ‘sociological semantics’. These meanings are in turn realised by choices from the lexicogrammatical potential of the language, i.e. by what the mother (or a participant in any other sociologically-defined context, characterised by its own linguistic behaviour potential) ‘can say’.

The potential of language is a meaning potential. This meaning potential is the linguistic realization of the behaviour potential; ‘can mean’ is ‘can do’ when translated

into language. The meaning potential is in turn realized in the language system as lexicogrammatical potential, which is what the speaker ‘can say’. (Halliday 1973: 51)³⁰

Networks are presented for sociosemantic options in the area of mother-child control, but I shall not go into these here.

In other work round about this time, collected as a book under the title *Language as Social Semiotic*, the metafunctions (still known as functional components, or sometimes macrofunctions, at this time) begin to be treated as components of the semantic system, though having their reflection in the organisation of the lexicogrammatical networks (Halliday 1978: 112–113).³¹ In a later paper appearing in this book, Halliday appears to make a further shift towards treating the metafunctionally-organised networks as themselves constituting a semantic level (Halliday 1978: 128 ff.). This position is confirmed in yet later work (e.g. Halliday 1979: 59ff.).

The introduction to the first edition of *IFG* (Halliday 1985a), appears to return to the earlier position in which the metafunctional networks are lexicogrammatical rather than (fully) semantic. Halliday is sceptical of the possibility of formulating an adequate semantics in the state of knowledge current in the 1980s:

The question might be asked: why a functional grammar, and not a functional semantics? At the present state of knowledge we cannot yet describe the semantic system of a language. We can give a semantic interpretation of a text, describe the semantic system of a fairly restricted register, and provide a general account of some of the semantic features of a language; but in one way or another semantic studies remain partial and specific. We can on the other hand describe the grammar of a language, treating the system as a whole. (Halliday 1985a: xx)

Describing the semantic system of a restricted register is, of course, precisely what Halliday was attempting to do in the sociosemantic work of the 1970s. Despite the doubts, however, Halliday does seem to admit the possibility of formulating a truly semantic level of options:

The relation between the semantics and the grammar is one of realization: the wording ‘realizes’, or encodes, the meaning. (Halliday 1985a: xx)

In the second edition of *IFG*, the scepticism about the possibility of formulating semantic networks in our current state of knowledge persists (see Halliday 1994b: xx for an identical statement to that in the earlier edition). There are, however, some apparently minor but extremely far-reaching changes from the text of the first edition, in connection with the relationship between semantics and lexicogrammar.³² Where in the 1985 edition Halliday writes of the transitivity network as “[t]he basic semantic framework for the representa-

30. References to articles in *Explorations in the Functions of Language* are to that book, rather than to the articles as originally published.

31. References are to the articles as they appear in *Language as Social Semiotic*, rather than to the place in which they were originally published.

32. I am grateful to Robin Fawcett for pointing these changes out to me.

tion of processes” (Halliday 1985a: 101), in the 1994 edition this has been changed, so that transitivity is now concerned with “the status of a process, as set up in the grammar of the clause” (Halliday 1994b: 107). This shift is indicated even more clearly a little further on in each edition:

In the following sections we shall explore the different types of process that are built into the semantics of English, ... (Halliday 1985a: 102)

In the following sections we shall explore the different types of process that are built into the grammar of English, ... (Halliday 1994b: 109)

It would seem, then, that although the networks of transitivity, mood, and the like, and the functional structures derived from them, are seen as (lexico)grammatical in nature, and as in a realisational relationship with the ‘higher’ level of semantics, there is still scepticism about the extent to which a wide-ranging account of the semantics can be given.

Matthiessen reiterates the position regarding a tristratal model:

The linguistic system is organized into three **levels or strata** – semantics (the system of meaning), lexicogrammar (the system of wording), and phonology (the system of sounds; or, graphology in writing). Each level is a resource at a particular order of abstraction and the levels are related by realization. (Matthiessen 1995:3, emphasis in original)

Furthermore, the semantic level:

... is a semantics of text (discourse), not only of propositions. The latter follows from the observation that text (rather than words or sentences) is the process of communication. (Matthiessen 1995:5)

We must not therefore expect that the units of discourse semantics will map in a one-to-one way on to categories from the lexicogrammar:

Semantic systems are thus not confined to semantic units derived from the units of grammar (such as “propositions” or “predications” derived from clauses in formal semantics). (Matthiessen 1995:29)

Nevertheless, Matthiessen does recognise one type of semantic unit which does correspond in size to the clause, and is seen in three different ways according to the metafunction involved:

From an ideational point of view, this is a **figure** or process configuration – a constellation of a process, participants involved, and possibly attendant circumstances; from an interpersonal point of view, it is a **move** – a unit of interaction that develops a dialogue; and from a textual point of view, it is a **message** – a quantum of ideational and interpersonal meanings presented as information organized into unfolding text in context. (Matthiessen 1995:30)

Furthermore, there is a difference, in terms of arbitrariness, between the realisational relationships involving semantics and lexicogrammar, on the one hand, and lexicogrammar and phonology, on the other:

The relationship between phonology and grammar is (largely) CONVENTIONAL but grammar is NATURAL in relation to semantics; this is one of the ways in which grammar is functional. Grammatical categories are grammaticalizations of semantic ones ... (Matthiessen 1995:7, emphasis in original)

The consequence of this is that “both semantic and grammatical categories are categories of meaning [...] whereas phonology or graphology is expression” (1995:8). Matthiessen here cites the influence of Hjelmslev (1943), in that both semantics and lexicogrammar can be seen as stratified aspects of the content plane of language, whereas phonology/graphology constitute the expression plane.

Despite his clear espousal of a semantic level, with its own systems and structures, Matthiessen still echoes Halliday’s scepticism regarding the possibility of a full specification of this level:

In fact, 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 the grammar, we can set up general semantic systems, such as Halliday’s (1984) speech functional system [...] and Martin’s (1992)³³ discourse semantic systems. (Matthiessen 1995:40, fn. 9)

In a 1996 paper, Halliday again emphasises the two levels:

The grammar is thus the latest part of human language to have evolved; and it is likewise the last part to develop in the growth of the individual child. It emerges through deconstructing the original sign and reconstructing with the content plane split into **two distinct strata, semantics and lexicogrammar**. (Halliday 1996:6, emphasis added)

The same year saw the publication of a paper by Hasan (1996) in which she too defends the need for a layer of semantic networks in addition to the lexicogrammatical ones. Hasan reviews Halliday’s sociosemantic networks of the early 1970s which, as we have seen, were context-specific and motivated in sociological terms. She herself presents semantic networks which do not take a particular sociologically significant context as a point of departure. She presents (1996:114–115) four arguments for such as position: firstly, in semantics, as in lexicogrammar, choices are always governed by context, so there is no more reason for a contextually-specific semantics than for a contextually-specific lexicogrammar; secondly, a semantic network, whether context-specific or not, is capable of construing a large number of related individual contexts; thirdly, the semantic systems at risk in particular control situations (e.g. mother-child interaction and pedagogy) share certain features, and so need to be brought together; and finally, a contextually open semantic network should generate paths which construe a wide range of specific contexts which are recognisable to members of the culture as similar in some ways but different in others.

33. Martin (1992a) in the bibliography at the end of the present book. Martin’s work is mentioned later in the present section, and will be taken up in more detail in Chapter 4 of Part 2.

The latest major publication from the Sydney linguists (Halliday & Matthiessen 1999) appears to herald a major expansion in the ground covered by the upper level of semantics in SFG. The position with regard to the relationship between semantics and lexicogrammar is again clear:

Language [...] is a resource organized into three **strata** differentiated according to order of abstraction. These strata are related by means of realization. Semantics, or the system of meaning, is realized by lexicogrammar, or the system of wording (that is, grammatical structures and lexical items); and lexicogrammar is realized by phonology, or the system of sounding. (Halliday & Matthiessen 1999:4, emphasis in original)

In this model, realisation is involved not only in interstratal mappings, but also in intrastratal relationships, since there are system/structure cycles at both the semantic and the lexicogrammatical levels (1999:429), selections from systems being realised in structures. Realisation rules for the semantic level are of three types, corresponding to three of the kinds described for the lexicogrammatical level in §5.4: insertion, conflation and pre-selection (1999:43–44). The concept of realisation is thus absolutely central to the current Sydney model of language, and is linked to the notion of ‘construal’ which looms large in recent accounts:

A semiotic system is not some kind of outer garment which may either reveal or conceal what is beneath. Rather, it is a transformation of experience into meanings, and each stratum within the system is construed by, and construes, all the rest. (Halliday & Matthiessen 1999:447)

The semantics, as well as the grammar, is metafunctionally organised, and contains three **meaning bases**,³⁴ corresponding to the ideational, interpersonal and textual metafunctions of the lexicogrammar. The 1999 book is an account of just the ideation base,³⁵ but Halliday & Matthiessen (1999:11–12) comment that this is complemented by (i) an interaction base which includes the semantic strategies which interactants use in dialogue and the social characteristics of these interactants, and (ii) a text base concerned with the status of text components and the flow of the text.

Particularly important in relation to the stratal organisation of SFG is what Halliday calls **grammatical metaphor**, a concept which receives some discussion in *IFG*, and assumes even greater prominence in Halliday & Matthiessen (1999):

34. The term ‘meaning base’ is chosen by Halliday & Matthiessen to contrast with the term ‘knowledge base’ used in much work on natural language processing by computer, in order to emphasise the approach to information as meaning rather than knowledge, which is, of course, consistent with the overall view of meaning as socially constructed and negotiated during interaction rather than as some basically conceptual structure in the individual mind (see Halliday & Matthiessen 1999:2). The development of the concepts involved is intimately connected with work on natural language processing using systemic theory, discussed in Chapter 5 of Part 2.

35. The ideation base will be discussed further in Chapter 8, where we shall see that there are problems in reconciling the accounts given in Halliday (1994b) and in Halliday & Matthiessen (1999).

... for any given semantic configuration there will be some realization in the lexicogrammar – some wording – that can be considered CONGRUENT; there may also be various others that are in some respect ‘transferred’, or METAPHORICAL.
(Halliday 1994b:342, emphasis in original)

An example of grammatical metaphor in the ideational metafunction is nominalisation, the process whereby a situation which would congruently be expressed as a clause is repackaged in nominal form. Examples of interpersonal grammatical metaphor are what are often called indirect speech acts, where, for instance, a directive, congruently realised as an imperative, is instead phrased as a modalised interrogative.³⁶ Halliday & Matthiessen (1999:237) even go so far as to say that if it were not for the phenomenon of grammatical metaphor, there would probably be no need to postulate separate levels of semantics and lexicogrammar.

A further important point is that in modelling the ways in which semantic categories can be realised lexicogrammatically, SFG takes into account not only overt categories but also covert ones. Halliday & Matthiessen (1999:26–29) take over Whorf’s term **cryptotypes** to refer to the covert categories. For Whorf (1956:88ff.), an overt category is one which is explicitly realised in every sentence which contains a member of the category, while a covert category, or cryptotype, is explicitly indicated only in particular kinds of sentence, rather than in every sentence where there is some item belonging to that category. Many categories in Halliday & Matthiessen’s ideation base are recognisable only through what Whorf calls their **reactances**, or distinctive combinations of grammatical properties. For instance, one of the main reasons for distinguishing between participants and circumstances in the ideational metafunction is that the former, but not the latter, can act as Subject in the clause.

It should be noted that despite Matthiessen’s comment, quoted earlier, to the effect that the semantics of a SFG is a semantics of text, not simply of propositions, Halliday & Matthiessen (1999:417) comment that they have not tried to extend their work to cover the semantics of discourse. This is the aim of Martin (1992a), which Halliday & Matthiessen see as complementing their own account. Martin (1992a:16–20) argues for a stratification of the ‘content plane’ of language into a lexicogrammatical and a discourse semantic level, on three sets of grounds. Firstly, there are semantic similarities across very different structural realisations, involving disparate areas of the lexicogrammar: for instance, he demonstrates that behavioural, mental and relational types of process can all be used to indicate particular types of attitudinal phenomenon (e.g. *smile, please, be (happy)*). Secondly, Martin, like Halliday & Matthiessen, points to grammatical metaphor as indicating the need to bring together at a semantic level structures which are distinct at the lexicogrammatical level. Thirdly, he observes proportionalities across sentences which parallel those between clauses (e.g. *because X, Y* vs. *X. Consequently Y*). Martin’s model is thus

36. Nominalisation will be discussed in Chapter 7, and indirect speech acts in Chapter 1 of Part 2. For further discussion of grammatical metaphor, see Halliday & Matthiessen (1999:Chapter 6), Ravelli (1988), Downing (1989, 1991, 2000), Martin (1992a).

designed to generalise across grammatical resources, and to account for relationships not only within, but also between, clause complexes.

I shall return to the semantic level and its relationship with the lexicogrammar in the course of a more critical comparison of theories in Chapter 6.

5.7 Clause structure and meaning in the Cardiff grammar

Fawcett, the principal architect of the Cardiff version of SFG, has always stressed his immense debt to Halliday and pointed out that the Cardiff and Sydney versions of the theory have a great deal in common. There are nevertheless some very fundamental differences, which are discussed in some detail in recent publications by Fawcett (1997, 1999, 2000a, 2000b, 2000c), on which the following summary is based. Fawcett sees these differences in terms of both simplification of the Sydney grammar and extension of the coverage of that grammar. Only those differences relating to the overall structuring of the clause itself will be dealt with here, others being dealt with in the appropriate chapters.

In order to appreciate the differences between the two 'dialects' of SFG (an analogy which Fawcett attributes to a talk by Halliday), some background to the Cardiff grammar is needed. It is the work of a small group of linguists, working mainly at Cardiff University under Fawcett's leadership, whose aims in developing a grammar of English are twofold: to feed into a computer model of how we generate English text (the central core of which is a sentence generator called GENESYS, because it GENERates SYStemically);³⁷ and to provide an account which will be adequate for the insightful description of English texts in language teaching, stylistics, language pathology and other applications. Because the current Cardiff model was developed specifically with computational applications in view, its proponents have striven throughout for a high level of explicitness. It is true that the Sydney model has also been used in computational work, and that this has led to a sharpening of many of the claims made in it; nevertheless, the vast majority of the basic architecture, and much of the detail, of the Sydney model was in place before extensive use was made of it in text generation and parsing.

The overall architecture of the Cardiff grammar can be represented as in Figure 5.7, taken from Fawcett (2000a:36, Figure 4). The boxes under the label 'potential' are concerned with the language as a system, while those labelled as 'instance' refer to the products of particular uses of that system, that is texts, defined as instances of language in use. Both the potential and the instances of that potential have levels of meaning and form, where form is taken to include intonation and punctuation, as well as syntax and lexis. Note that the 'meaning potential' defined by the intersection of the corresponding row and column is unambiguously semantic in nature: that is, the system networks corresponding to those of transitivity, mood, theme, etc., in the Sydney grammar formalise options which are

37. The overall system of which GENESYS forms a part is called COMMUNAL, standing for CONvivial Man-Machine Understanding through NATural Language.

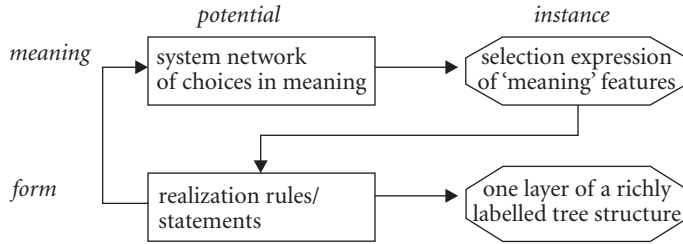


Figure 5.7. The main components of a systemic functional lexicogrammar, according to the Cardiff model

explicitly choices in meaning, and there is only one level of networks involved in the specification of the meaning potential. Fawcett (1997: 62–64, 2000a: 58–59) claims that work in the Cardiff framework has demonstrated the feasibility of pushing the networks of transitivity, mood, theme, etc., all the way to the semantics, so obviating the need for two levels of networks, while maintaining contact with the forms of language through explicit realisation rules. The result of instantiation at the level of meaning is a semantic selection expression, consisting of all the features selected from the semantic networks in the generation of a particular clause (or indeed of any other unit). In this model, the level of form is also regarded as having a potential, consisting of realisation rules and, for some units, templates showing the potential structures which are possible. The results of instantiations at the level of form are the complete structures for the units under generation, normally represented as tree diagrams, though linear representations are also possible. Fawcett shows that tree diagrams can be enriched to show clearly the conflation of different strands of meaning into a single element of structure.

Note that the structural functions Subject, Complement and Adjunct are regarded, in the Cardiff grammar, as elements of syntactic structure, and so do not themselves belong to any particular metafunction. We saw earlier that the Sydney grammar treats these as elements deriving from the interpersonal metafunction, on the grounds that Subject is involved in the specification of Mood, and a Complement is a nominal element which could have been the Subject, whereas Adjuncts have no potential to act as Subject. The Cardiff grammar, on the other hand, recognises a more complex set of properties which militate against an exclusive relationship between the Subject and any one functional layer (Fawcett 1999). Since Subjects in texts are usually (though by no means exclusively) elements with a participant role in terms of the transitivity network, and Complements are defined, and distinguished from Adjuncts, in terms of their ability to be conflated with such a role, these elements are also bound up with the experiential function as well as the interpersonal one involved in Mood selection. Furthermore, it is claimed in the Cardiff grammar that the selection of the Subject as Theme has a different function from the selection of an Adjunct as Theme: the former means something like ‘this is what the clause

is about', whereas the latter sets the scene for the rest of the clause in terms of time, place, etc. To this extent, then, the Subject also has a thematic type of function.³⁸

A further important difference from the Sydney grammar is in the number of metafunctions (or, as Fawcett prefers to call them, 'strands of meaning', emphasising their fully semantic nature) postulated. As we have seen, the Sydney grammar has three metafunctions (or four, if we separate the ideational into experiential and logical, as in some of Halliday's accounts). The current Cardiff grammar, on the other hand, has eight major strands of meaning (experiential, interpersonal, thematic, logical relations, polarity, validity assessment, affective and informational) (Fawcett 2000a:51).³⁹ Furthermore, although some equivalences can be demonstrated, there is not a simple many-to-one relationship between the eight strands of the Cardiff grammar and the three/four of the Sydney grammar. Fawcett believes that the added complexity of his account is necessary in order to remedy the tendency of the Sydney account to underestimate the importance of certain strands of meaning which are given full recognition in the Cardiff model, such as the validity assessment strand, and especially the affective strand, concerned with evaluative assessments made by the speaker or writer and realised in the choice of attitudinally-loaded lexis, often within nominal groups, or by adverbial elements such as *unfortunately* or expressions such as *I'm afraid*.

Because the system networks represent choices in meaning, the Cardiff grammar does not regard them as being networks of the clause as such: this would be to confuse semantic units with units of form. Rather, the networks which specify the meaning potential realised in the clause are said to have the 'situation' as their 'entry condition', where 'situation' is an abbreviation for 'the situation being talked about'.

Recent work within the Cardiff grammar approach has developed and modified the concept of 'lexis as most delicate grammar' now prevalent in Hallidayan linguistics. Work by Fawcett and Tucker (see especially Fawcett, Tucker & Lin 1993; Fawcett 1996; Tucker 1996a, 1996b, 1998) has led to the construction of networks which specify the meanings of a wide range of lexical items. An important point to emerge from this work is that it is misleading to think of lexis as simply at one end of a cline of specificity with 'grammar' at the other end: in order to constrain systemic networks in such a way that they account for the grammatical behaviour of particular sets of words, or even individual words, it is necessary to allow delicate choices specifying lexical items to dictate conditions on re-entry into networks with grammatical outcomes. For instance, Tucker (1998:191ff.) demonstrates that the different complementation possibilities for the adjective *angry* (no complementation, *angry about NP/wh-clause/-ing* clause, *angry with NP (for NP/-ing* clause), *angry + that*-clause) reflect subtly different semantic choices, and that the realisation of these choices involves preselecting certain grammatical properties of the complements through constraints on the features of the units filling the complementing element, expressed by

38. I shall return to the recognition and meaning of the category Subject, and to its relationship with Theme, in Chapter 2 of Part 2.

39. In Fawcett (1980:28), the validity assessment component is termed 'modality', and three minor components, labelled inferential, metalingual and discourse organisational, are also mentioned.

'preferences rules'. This mechanism has also been applied to the specification of complementation patterns for verbs of cognition (Fawcett 1996).⁴⁰ The Cardiff grammar has also given some attention to non-ideational aspects of lexical choice, an area developed within the Sydney approach by Matthiessen (1991a).

A further important aspect of the semantic networks in the Cardiff grammar is the use of probabilities attached to certain systemic features. By default, each feature in a system has a probability of being chosen which is equal to 100% divided by the number of features in the system (e.g. 50–50 for a binary system). When probabilities can be derived from textual studies, or estimated from the linguist's intuition, they can be attached to features (e.g. 90% chance of selecting feature-1 as opposed to 10% for feature-2). Furthermore, probabilities can be reset during the generation of a selection expression: in effect, the preferences rules leading to the selection of the right type of complement for *angry*, mentioned above, reset the probability of choosing certain features to 100% and that of others to 0%. It should be noted that these probabilistic rules can be used to model strong collocation. For instance, such rules can specify probabilistically preferred realisations for the participant roles of particular processes (or, in the terms used in most other theories, the arguments of predicates). Although, as we have seen, Halliday also discusses probabilities in systemic choice, the published work of the Cardiff group makes much more use of them (see e.g. Fawcett, Tucker & Lin 1993; Fawcett 1996).

Turning now to form, there are again some clear and significant differences between the two approaches to the clause.⁴¹ Firstly, the Cardiff grammar differs in the number and type of groups which it allows within the structure of a clause. Apart from the nominal and prepositional groups, which are basically similar to those in the Sydney grammar (though analysed in greater detail), the Cardiff approach recognises two new classes of group: the quality group is headed by adjectives or adverbs, and expresses a quality of the entity represented by a head noun (e.g. *a very fast journey*) or a process represented by the verb (*He drove very fast*); the quantity group deals with measure in expressions such as *He loves her very much indeed* or *He drove far too fast*). The Cardiff grammar does not, however, recognise the 'verbal group' of Hallidayan grammar: Fawcett (2000b, 2000c, forthcoming) presents a number of arguments for treating the Cardiff equivalents of the elements of the Sydney account verbal group as separate direct elements of the clause itself. These arguments will be reviewed in §7.5.1.

A second important difference at the level of form is concerned with constituency and its relationship with rank. Fawcett states that

... the concept of the 'rank scale' has no practical role to play in either the theoretical-generative version of the Cardiff Grammar or in the text-descriptive version that is used for analyzing texts. (Fawcett 2000a:233)

He advances four reasons for the abandonment of the rank scale.

40. See also §8.3.2.4.

41. For a review of Fawcett's (2000a) account of the Cardiff syntax, see Butler (2002a).

Firstly, it is claimed that units do not function directly as constituents of higher units. Rather, the Cardiff grammar decomposes constituency into two types of relation, **componence** and **filling**, which alternate in the structural representation of a unit. A unit is said to be **composed** of one or more elements, and an element may then either be **filled** by another unit (or even more than one if we are dealing with a coordinated structure), or **expounded** by an **item** if we are at the stage where we need to specify, say, a particular word (Fawcett 2000a: 237–238). There is no expectation that an element in any given unit will necessarily be filled by any other specific type of unit; rather, use is made of ‘filling probabilities’ (Fawcett 2000a: 238–244) which specify how likely it is that a given element (e.g. Subject in a clause) will be filled by a particular class of unit (e.g. a nominal group), and conversely how likely it is that a given class of unit will fill a particular element rather than some other, the values of the two types of probabilities often being quite different for a given pairing.

Secondly, the Cardiff grammar recognises only two major units which could be candidates for a rank scale – those of clause and group – and, as Fawcett observes, a rank scale with just two units is somewhat suspect.

Thirdly, in a detailed discussion of positions taken by various linguists in relation to Halliday’s concept of the rank scale, Fawcett (2000a: 309–338) points to a number of serious problems raised in critical reactions to Halliday’s account. Early critical reaction to the concept of rank in Scale and Category linguistics is fully covered in Butler (1985: 29–33) as well as in Fawcett’s discussion. The most substantial debate on rank was initiated by a review of Halliday’s *IFG* by Huddleston (1988), which led to a series of unfortunately acrimonious exchanges between Huddleston and Matthiessen & Martin. Much of this material is discussed in §3.4.1.7 of Part 2. Further problems with rank arise in relation to the verbal group which, as we saw above, is also abandoned in the Cardiff account.

Fourthly, Fawcett believes that his own model provides a more adequate account in that it

... enables us to predict much more accurately what units will occur within what other units in natural texts. (Fawcett 2000a: 238)

Turning now to the realisational component of the grammar, we again note the important effect exerted by the need, from the start, to build a grammar which will be adequate for the purposes of computational text generation. Such a grammar must have a totally explicit set of rules linking semantic choice to structural output, or it will fail to generate semantically and syntactically acceptable language. As can be seen in Figure 5.7, the selection expression of semantic features for a given stretch of language is input to the ‘form potential’, consisting of realisation rules and potential structures. Realisation rules consist of the feature to be realised, any conditional features involved in the specification of the realisation (e.g. features which must be co-selected for this realisation to be applicable), and the action to be taken. Potential structures specify, where applicable, any fixed sequences of elements, such as those in the nominal group. As the sequence of elements in clause structure is very variable, no potential structure is postulated for the clause, though

the realisation rules must, of course, ensure the location of elements in their appropriate 'places', of which about 200 are recognised (Fawcett, Tucker & Lin 1993: 155).⁴²

The differences outlined above may be illustrated by taking example (14)/(17), discussed earlier in relation to the Sydney grammar, and examining how it would be analysed within the Cardiff approach, just as far as the elements of clause structure. The analysis is shown in (28). The top part of the diagram tells us that the clause concerned is composed of three elements: Subject, Main Verb⁴³ and Complement. The Subject and Complement are filled by nominal groups whose structures are not shown here, while the Main Verb is simply expounded by the past tense verbal item *broke*.

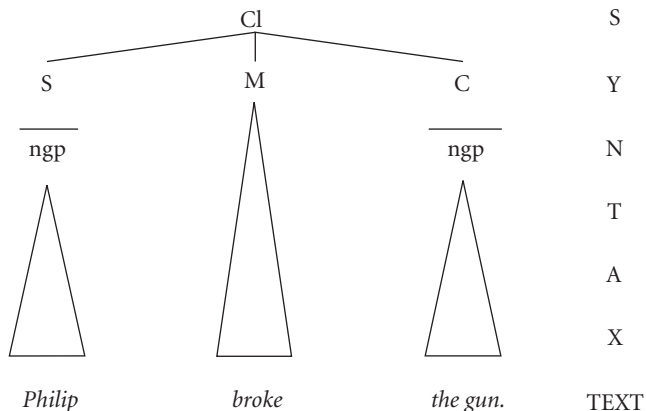
The lower part of the diagram shows the functional elements arising from the appropriate strands of meaning identified in the Cardiff grammar. The Subject *Philip* is shown as bearing the functions of Agent and Subject Theme, and together with the main verb also forms the Information-giver element which is the counterpart to Halliday's Mood element, but with an explicitly meaning-related label showing the function in this particular clause. The Main Verb *broke*, apart from being part of the Information-giver element, encodes a material process, and also bears the tense/aspect and the positive polarity of the clause. The Complement *the gun* is shown as the Affected⁴⁴ participant in the transitivity structure.

42. In Fawcett (1980), on the other hand, a 'starting structure' is proposed for the clause. As the Cardiff grammar has grown in size, complexity and coverage, it has presumably become ever clearer that the concept of a fixed sequence of elements is less appropriate for the clause than for, say, the nominal group.

43. Note that there is no representation of the Finite element here, as there is in the Sydney analysis of this clause. The nearest equivalent to Finite in the Cardiff grammar is the Operator element, but this is included only where there is an auxiliary verb, or main verb *be* or *have* showing auxiliary-like properties in inversion, negation, etc.

44. The use of Agent/Affected rather than Actor/Goal will be discussed in Chapter 8, where we shall see that Halliday in fact proposes two types of transitivity functions, one of which is very similar to that of the Cardiff grammar.

(28)



Experiential	Agent	Material (past)	Affected
Interpersonal	Information-giver		
Polarity		Positive	
Thematic	Subject Theme		

5.8 A note on other approaches derived from SFG

In this section, I shall present a very brief sketch of two approaches which, though deserving of consideration in their own right, have been strongly influenced by the systemic background of their originators: the **Communication Linguistics** of Gregory and his colleagues, and McGregor’s **Semiotic Grammar**.

5.8.1 Communication Linguistics

Communication Linguistics is the name given to the framework for language description developed by Gregory, Malcolm, Asp and others in Toronto, and influenced not only by the work of Firth and Halliday but also by that of Pike, Longacre, Fleming, Grimes and Gleason, among others. Gregory characterises this framework as:

... a stratified, functional, systemic and structural model for the comprehensive description of texts as 'communicative' acts. (Gregory 1985: 119)

Gregory sets out four basic tenets of this model. Firstly, the framework gives attention to both encoding and decoding aspects, seeing language as "a dialectic between user and receiver, rather than as a cause-effect linear sequence" (Gregory 1985: 121). Secondly, it models both intentionally communicative behaviour and the complex code cycle (i.e. the 'grammar') which that behaviour activates in discourse. Thirdly, the model attempts to strike a balance between paradigmatic and syntagmatic patterning, since although encoders make choices and then realise them in structures, decoders are faced with structures which they must then interpret. Fourthly, the framework is

... weighted towards interpretation rather than generation, prepared to be messy (or 'extravagant', as Halliday says when he's being euphemistic) rather than idealized, and directed towards helping people understand, for a host of practical purposes, the nature of real texts. (Gregory 1985: 123)

Intentionally communicative behaviour is analysed in terms of three **planes of experience**: situation, discourse and manifestation. The components of **situation** are three: the **speech community context** (the term used for the individual characteristics and social, geographical and temporal provenances of language producers and receivers); the **generic situation** (potentially or actually relevant aspects of the interactants' experience, their personal relationship, what they are trying to do to/with one another by means of the interaction, and the medium of transmission); and the **referential realm** (consisting of the people, objects, happenings, interactional intentions and attitudes from which the interactants select).

Selections from the plane of situation are realised through the plane of **discourse**, the term being used rather as Halliday & Hasan (1976) use the term 'text', to refer to "a stretch of language activity which functions as a whole in its environment" (Gregory 1985: 126). The term **text** is then reserved for the physical record of a discourse. A discourse has a **discourse plot**, which is seen as the encoding of what the user has selected as the **referential plot** or **message**. Here also we find selections in **register** (field, mode, personal and functional tenors of discourse), selections in **dialect** (temporal, social, geographical and individual), and chaining of events, participants, locations and attitudes. The dynamic aspects of discourse are captured by the postulation of **phases** (stretches of discourse which are fairly consistent in their register selections), linked by **transitions** marked by changes in the type of selection from functional component networks.

The third plane of experience, **manifestation**, refers to the production of sounds, visible marks, and also gestures and other body movements.

The three **strata** of the 'grammar' are semology, morphosyntax and phonology. The stratum of **semology** (a term Gregory prefers to 'semantics', which he uses in the much wider sense given to it by Firth) operates with a rank scale of **proposition** (the conjunction of a predication with a speech function and an organised message, realised in an independent clause), **predication** (which allows for the expression of meaning in dependent clauses and groups), **concept** (referring units) and **component**. This is the stratum at which the systems and structures which specify the meanings of transitivity, mood and

theme are articulated. The stratum of **morphosyntax**, with a rank scale of sentence, clause, group, word and morpheme, deals with the syntactic and morphological structures of complementation, voice, adjunctivisation, grammatical mood, constituent ordering, and so on. Gregory (1985: 130) comments that it is here that the scales and categories of Halliday's (1961) 'Categories of the theory of grammar' could be accommodated. Finally, the stratum of **phonology** is concerned with the rank scale of tone group, foot, syllable and phoneme and the contrasts available within these units.

In later accounts, Gregory (1988, 1995) presents his model in terms of the knowledge of the language user and receiver, the study of which he terms **gnostology**, following Lamb (1971). Two kinds of knowledge are postulated: **contextual knowledge** is knowledge of language as a form of intentionally communicative behaviour, as available in the **communicating community context**, comprising the configuration of temporal, social, geographical and individual characteristics; while **language knowledge** subsumes what the language user knows of dialects, registers and the grammar itself. Such knowledge is acquired through, and also manifested in, **instantial situations** which are individual exemplars of more abstract **generic situations**, comprising a configuration of relationships pertaining to the user/receiver's experience of the world, interaction with other users and deployment of the available media of communication. Generic situation corresponds, in terms of linguistic knowledge, to register, and instancial situation to the discourse. Communicative function as process is still handled through the concepts of phase and transition.

Applications of the communication linguistics framework to conversation and to poetic analysis can be found in Malcolm (1985a, 1985b) and Gregory (1995) respectively. Gregory (2002a) applies phasal analysis to two contrasting discourses, while Gregory (2002b) links ideas from Communication Linguistics to the systemic tradition.

5.8.2 Semiotic Grammar

McGregor's Semiotic Grammar (henceforth SG: for a book-length treatment see McGregor 1997) arose out of his attempts to apply SFG to the description of Australian Aboriginal languages. In the course of his work, McGregor concluded that "there are fundamental flaws in the received or standard model of SFG" (1997: viii). Discussion of McGregor's characterisation of the differences between the fundamental goals and methods of SG and SFG will be postponed until Chapter 6: here, I shall simply give a sketch of the main outlines of Semiotic Grammar, as set out in his 1997 book.

McGregor refrains from characterising his theory as functional, preferring the label 'semiotic', since the theory is based on the grammatical sign, "constituted by a formal or configurational aspect and a semantic aspect" (1997: 6). The avoidance of the term 'functional' is thus partly motivated by the wish to emphasise the integration of form and function within the sign; it is also a way of avoiding "the teleological interpretations which are frequently associated with functionalism in linguistics and other disciplines" (1997: 6), since McGregor's view is that not only is language as it is because of the functions it serves, but also that the reverse position is defensible: language is able to serve its functions because of the structure it has. In particular, there is no claim that everything in language

is functionally motivated. Nevertheless, McGregor's brief discussion of SG in relation to formal and functional theories of language (1997:3–7) clearly aligns it, in most respects, with the latter.

McGregor states the general aims of SG as being to provide:

- (a) an understanding of language as a semiotic system; (b) an understanding of the grammars of particular languages as semiotic systems; and (c) an understanding of the shared or universal architecture of grammars of human languages, and those properties which characterize the organization of grammars as semiotic systems. (1997:7)

Related to these general aims are several more specific ones, including developing descriptive grammars of particular languages, characterising linguistic universals, accounting for how speakers use their language to make meanings and to achieve interactive goals, understanding how the meaning of a text is achieved, understanding diachronic changes in languages, and distinguishing emic from etic patterns. SG accords no significance to generativity or formalisation as goals. Generativity is discounted because a generative (in the sense of 'explicit') account of all the grammatical sentences of a language requires that these form a well-defined set, whereas in McGregor's view they do not: this does not mean, of course, that the theory abjures its responsibility to be as precise and explicit as possible. Formalisation is regarded as unnecessary unless it can be shown to be useful, and it is therefore better to start with the content and only later proceed to formalise it.

SG rejects the concept of an autonomous syntax:

- Morphology, syntax, and semantics are regarded as part and parcel of a single enterprise, grammar. (1997:84)

Within this enterprise, it pays close attention to both paradigmatic and syntagmatic aspects of language, in line with its roots in Saussurean structuralism. These phenomena are discussed in relation to four types of relationship which are based on the SFG metafunctions,⁴⁵ though differing crucially from them in certain respects.

In McGregor's model, **experiential** phenomena are those, and only those, which are realised through **part-whole** (constituency) relations, and this contrasts with Halliday's position, in which, as we have seen, there is an unmarked correlation between the experiential metafunction and constituency relations, but such relations are also to be found in the interpersonal and textual metafunctions. It is only within the experiential metafunction that McGregor's model recognises the category of rank (see also McGregor 1991).

Logical phenomena are defined in terms of realisation through **part-part** relations, that is dependency relations between sister constituents. There is again an important difference from Halliday here, though, in that for McGregor dependency relations can exist between units of different ranks and classes, whereas in Halliday's account they occur only in complexes of units of the same rank and class. Furthermore, in McGregor's model de-

45. Indeed, in early accounts of Semiotic Grammar (e.g. McGregor 1990b), they are actually called metafunctions. In later work, however, this label is regarded as misleading, and the term 'semiotic', as a count noun, is used instead (McGregor 1997:75). The summary which follows is based on the 1997 account.

pendency relations do not necessarily lead to a complex unit. For example in (29) below, a dependency relationship is postulated between *his hanky* and *clean*, but these two units do not form a larger unit of any kind.

(29) *He then wiped his hanky clean on another hanky.* (BNC AMB 2472)

Semantically, while the experiential metafunction relates to externalised ‘things’ which can be experienced, the logical metafunction relates to connections made by the speaker between such ‘things’.

Interpersonal phenomena are defined, in McGregor’s model, in terms of realisation by what he calls **conjugalional** relationships between two or more wholes, rather than between parts of a whole, or a unit and the unit of which it forms a part. These relationships are classified along two dimensions. **Framing** relationships are those in which “the encompassed whole is delineated from the surrounding linguistic context and marked off as to be viewed as a demonstration: as a depiction of its referent, typically a spoken utterance or thought” (1997:66), a typical example being the relationship between quoting and quoted clauses. **Scopal** relationships, on the other hand, “do not involve this sort of marking off; the encompassed whole describes its referent, whether linguistic or non-linguistic, rather than depicts it” (1997:66). As the label suggests, scopal relationships are those in which one item has another within its scope. For instance, in (30), leaving out of account the initial conjunction *but*, the item *perhaps* has scope over the rest, while the negative has scope over *you see the same thing as I do*, as shown in (31):

(30) *But perhaps you do not see the same thing as I do.* (BNC AYK 1457)

(31) perhaps [not [you see the same thing as I do]]

The important difference between McGregor’s account and Halliday’s in this area is clearly the recognition of scopal relations in addition to those realised by prosody.

Finally, **textural** phenomena in McGregor’s scheme are defined in terms of realisation by **linking** relationships which can cross structural boundaries, prototypical of which are those involved in cohesion. McGregor (1997:71) distinguishes five types of link. **Indexical** links are “those in which the linking item, the index, points to something else”, such as anaphora and possibly ellipsis. **Covariate** links⁴⁶ are those which obtain between two text segments because they contain items linked in terms of semantic relationships such as synonymy, hyponymy, etc. **Connective** relations are principally those of conjunction, but also other types of ‘relator’ such as case markers, adpositions and agreement markers. **Collocational** links are defined in terms of the probabilities of items occurring near each other. Finally, **marking** links are those in which the linking items “serve as labels for construction or category types” (1997:71), examples being the case markers or adpositions used to mark particular kinds of grammatical relationship.

The results of defining the four semiotics strictly in realisational terms are firstly that McGregor achieves a classification of signs as such rather than merely of functions as in

46. The term is taken from Lemke (1985).

Halliday's metafunctional model, and secondly that fewer phenomena are assigned to the interpersonal semiotic, and more to the textural, than in Halliday's account. McGregor's account also takes very seriously the claim, made also by Halliday, that each semiotic or metafunction gives a 'window' on only part of the meaning and structural organisation of the clause: he takes rather further than Halliday the idea that many aspects of the clause are 'invisible' to any particular semiotic.

McGregor (1990b, 1997) justifies his account of Semiotic Grammar by demonstrating how it can offer insightful accounts of a range of phenomena in English, Gooniyandi and other languages.

McGregor himself, while recognising that Semiotic Grammar came about as a result of his attempts to revise the foundations of SFG, considers that the considerable differences between the two approaches mean that SG is a theory quite distinct from Systemic Functional Grammar:

These differences are such that it cannot now be seen as a version of SFG: it is a new theory. (McGregor 1997:ix)

In view of the fact that it is non-generative (in the sense defined in §2.8), Semiotic Grammar will not be dealt with in any detail in the present work, though I shall mention interesting ideas from McGregor's work where appropriate.

5.9 Conclusion

As with Chapters 3 and 4, I shall conclude with a brief summary in relation to the relationships between levels, the mechanisms for clause generation, the question of layering and the assignment of functions.

5.9.1 The relationships between levels of linguistic patterning

We have seen that the relationships between semantic and syntactic patterning have shown considerable fluidity in the development of the Sydney version of SFG, but that the current position, as set out most strongly in the work of Halliday & Matthiessen (1999) is that there is a level of semantics (the ideational part of which is discussed in that publication, and the discourse-oriented part of which is described in some detail in Martin 1992a), options from which are realised by those in the lexicogrammar. Both semantics and lexicogrammar are seen as resources for meaning, and form the content plane of language, while phonology/graphology constitute the expression plane, in Hjelmslevian terms.

As implied by the term 'lexicogrammar', grammar and lexis, both construed in present-day SFG as ways of realising options in meaning, are viewed as different in degree rather than in kind: lexis is 'most delicate grammar', in the sense that whereas the least delicate options in systemic networks tend to be realised grammatically, the most delicate options (or, more usually, combinations of these) tend to be realised lexically. A

lexical item can thus be seen as the realisation of a set of very delicate systemic features, which in its totality differentiates that lexical item from any other.

Prosodic patterns are also seen as realising systemic choices: for example, choices in the placement of intonation contours are important in the realisation of options concerned with the distribution of given and new information, and the choice of a particular type of contour can be used to signal different attitudes expressed by the speaker towards the content of what is said.

Morphology, which is not generally discussed extensively in Hallidayan linguistics, is also involved in realisation, for example of tense and plurality in English.

The Cardiff grammar shares many of the above characteristics, but is differentiated from the Sydney version by the fact that what are presented as lexicogrammatical system networks in the Sydney grammar are seen in the Cardiff account as unambiguously semantic in nature, and the choices made from them are realised by a combination of items, syntax and prosody (or, in the written language, punctuation). Work within the Cardiff grammar has also shown that the choice of features leading to realisation as a lexical item can lead to further choices specifying grammatical properties, as in the case of the complementation of *angry* discussed earlier.

5.9.2 Mechanisms for specifying clause structure

Systemic grammars differ fundamentally from others in that the generative heart of the grammar is constituted by interlinked sets of paradigmatic patterns, or systems. Selections from these system networks act as input to realisation rules which specify the structural output. These realisation rules have been worked out most explicitly in connection with the implementation of SFG, both Sydney and Cardiff variants, in computer-based natural language processing systems.

5.9.3 Layering

Halliday was the first to propose that the basic functions of language are integrated into the design of linguistic units themselves, a claim which has since been taken up by other functionalists. Halliday's claim is that there are three major metafunctions, the ideational, interpersonal and textual (the first being split, in some accounts, into experiential and logical subfunctions), which are reflected in the structuring of the clause (and to some extent other units of the grammar), in that each metafunction provides its own layer of functional structure (Actor/Goal and other participant roles from the ideational metafunction, Mood/Residue and modality-related functions from the interpersonal, Theme/Rheme and Given/New from the textual). These strands are woven together in the course of realisation by processes of insertion, conflation, ordering, classification and splitting of functional elements, and by preselection and lexification.

The Cardiff grammar postulates eight major strands of meaning rather than three/four in the Sydney grammar. Some aspects of realisation also differ in the Cardiff model.

5.9.4 The assignment of functions to constituents

In view of the fluidity with respect to semantic and grammatical levels in Hallidayan SFG, together with the rejection of any separate pragmatic component in the linguistic model, it is not surprising to find that no distinction is made between syntactic, semantic and pragmatic functional roles. Subject/Predicator/Complement/Adjunct, Actor/Goal/other transitivity roles, Theme/Rheme and Given/New are all regarded as at the same level of language.

In the Cardiff grammar, transitivity roles, mood-related functions such as Information-giver, and Theme are explicitly semantic in nature. Subject/Complement/Adjunct are elements of clause structure, and so at the level of form.

CHAPTER 6

An interim critical comparison of approaches

Chapters 2–5 provided an overview of the general approaches taken in Functional Grammar, Role and Reference Grammar and Systemic Functional Grammar against a background of other functionally-oriented theories, and then discussed the three theories in relation to the central unit of the grammar, namely the clause. We are now in a position to undertake an interim critical comparison of FG, RRG and SFG with respect to the overall approach and architecture. This is the purpose of the present chapter. I shall concentrate on four major issues, which will involve further critical discussion of many of the points raised in earlier chapters: the overall approach, in terms of what the theories are attempting to account for and why; the approach taken to matters involving levels of linguistic description and their relationship; the treatment of syntagmatic and paradigmatic relationships; and the question of layering. All of these issues will, of course, come up again in the later chapters devoted to specific areas of the grammar.

6.1 Similarities and differences of overall approach

We saw in Chapter 2 that although FG, RRG and SFG share some fundamental tenets which motivate their inclusion in the category of structural-functional grammars, they also show considerable differences of emphasis in relation to what they are trying to model and why.

6.1.1 Communicative function and the rejection of autonomy

Proponents of all three theories take the communicative functions of language as being fundamental to an explanation of why language is as it is, and this leads all three to reject the claim that the linguistic system is autonomous from external factors. All three, then, are ‘integrative’ in the sense of Croft’s (1995) classification of functional grammars. I also pointed out in Chapter 2, however, that SFG is more strongly integrative than either FG or RRG, since the theory is imbued throughout with motivations deriving from sociocultural considerations.

One way of summarising the positions taken in the three theories would be to say that despite the rejection of pragmatics as a separate component in SFG, that theory has in practice demonstrated a stronger commitment to what Dik has called pragmatic adequacy than either of the other two. SFG regards the language system and language use as intimately and inextricably linked, so that the overall system is simply the potential from which speakers and writers select in order to produce actual utterances. Mainstream FG, on the other hand, hives off much of the complexity and richness of language use into an unspecified and largely unresearched theory of verbal interaction, though the recent development of ideas about modularity in FG has led to interesting, if programmatic, suggestions regarding the pragmatics of communication. Nuyts is particularly critical of Dik's position:

Thus FG does not intend to describe the pragmatic rules, it only wants to be compatible with them. But I believe that this criterion is rather a matter for description [...]. A grammar that does not describe these characteristics of expressions is not a FG at all. (Nuyts 1983:383)

Similar opinions are expressed by Butler (1991a:507, 1999a:231), who argues that the grammar must be led by the pragmatics if it is to "reveal the instrumentality of language with respect to what people do and achieve with it in social interaction" (Dik 1989a:3, 1997a:3), and by Siewierska (1991:14), who comments that the view that FG can achieve pragmatic adequacy without describing the pragmatic rules "is rather difficult to reconcile with the precepts of functionalism and is therefore not shared by all functional grammarians".¹ In RRG, it has been made clear that explanations of how people use language in social situations are not a primary concern (see Van Valin & LaPolla 1997:15).

These orientations are paralleled in the stance taken with respect to the autonomy of syntax with respect to semantics and pragmatics. All three theories reject the generativist thesis of autonomy, claiming instead that the syntactic properties of languages do not constitute a self-contained system, but are correlated with, and motivated by, the meanings which the forms convey. But again, there are important differences of degree, which will emerge from our discussion of relationships between levels of linguistic organisation in §6.2.

6.1.2 Typological considerations

A further area of difference is the extent to which typological considerations influence the shape of the theories. We have seen that both FG and RRG have had a very strong commitment to typological adequacy from the beginning, though even in FG, the commitment to typological adequacy is evident more in relation to formal structure than to the underlying semantics (see Gebruers 1994:140), and in certain areas of the grammar

1. Gebruers (1994:134), in his review of Siewierska's book, comments that "[i]n this respect FG is seen to be less consistent with the precepts of functionalism than more sociologically inclined theories like the one advocated by Halliday".

(e.g. States of Affairs, the structure of discourse) there is a strong bias towards English in the exemplification and discussion (see Butler 1999a:250–255). SFG did not regard typological adequacy as a high priority from its inception, and its development has depended very largely on the analysis of English, despite a very substantial increase in work on other languages in recent years. McGregor comments as follows:

Only a scattering of other languages have been described in any detail in systemic terms, and then, unfortunately, all too often they look like English with just a few different words, and slightly different constructions. (McGregor 1997: x)

The difference between the systemic view of typology and that of FG grammarians (and, we could also add, proponents of RRG), is nicely summarised in the following quotation from an interview with Christian Matthiessen:

... all through the 1980s and early 1990s I think it's true to say that in Dik's functional grammar there's been a strong connection between functionalism and typology so they have tended to look at particular areas of language in a typological perspective, thus cutting across languages, whereas in systemic functional work there's always been a very high priority on developing comprehensive accounts of particular languages first. (Hernández Hernández 2000d: 254)

6.1.3 Applicability

SFG has a very strong commitment to applicability, or usefulness, as a criterion in developing a grammar, an emphasis which is not shared by either FG or RRG. As we have seen, Halliday's *An Introduction to Functional Grammar*, is intended primarily as a textbook for those who wish to use SFG for the purposes of text analysis, and this is also one of the applications for which the Cardiff grammar has been developed. This is an orientation which is very far removed from the concerns of practitioners of FG and RRG.

6.1.4 Cognitive considerations

A further criterion discussed in Chapter 2 was that of psychological adequacy. This is formulated as one of the three standards of adequacy which Dik expects a functional grammar to meet, and within RRG there is a commitment to a 'communication and cognition' approach and to explaining how we use language in real time. For Halliday's version of SFG, on the other hand, this is not an aim – indeed, as we saw in §2.5.4, his latest work treats 'cognition' as 'just a way of talking about language'; furthermore, although Fawcett's early work expressed a commitment to model the psychological reality of language, later work has not developed this aspect in any detail.² Moreover, despite the clear commit-

2. The extent to which structural-functional grammars attain various standards of adequacy will emerge from the discussion in both volumes of the current work, and an attempt at an overall evaluation will be made in the Chapter 6 of Part 2. For readers of Spanish, a fairly detailed review of standards of adequacy in FG is available in Butler (1999a). This updates the review of *TFG1* published in English as Butler (1991a).

ment of FG to the attainment of a substantial degree of psychological adequacy, there are those who doubt that this is attainable within the framework proposed by Dik. We saw in §3.6 that Nuyts (1990, 1992a, 2001a) and Hesp (1990a, 1990b) have been particularly critical of Dik's claim that conceptual structures should be modelled in the same way as the structures of underlying predications. Gebruers (1994:141) comments on the difficulty of incorporating a static model of the grammar such as FG into a theory of verbal interaction, which must of necessity be dynamic. Gebruers (1994:142) also notes that a psychologically adequate theory must explain how meaning elements (including those carrying non-denotational meanings and those which are not (fully) compositional), are used for interpretation. Among the approaches reviewed in Chapters 3–5, the one which takes psychological adequacy most seriously is Nuyts' Functional Procedural Grammar which, as we saw in §3.6, is explicitly committed to an investigation of how language fits into the wider framework of cognition, and in particular how we might construct a model of language and language use which is plausible in terms of production. Hengeveld's Functional Discourse Grammar, Mackenzie's Incremental Functional Grammar and Bakker & Siewierska's recent work on expression rules are also very much concerned with increasing the psychological adequacy of FG.

6.1.5 Methodological differences

Finally, there are important differences between SFG and the other two theories in terms of the kind of methodology adopted in order to advance the theory.³ As I noted at the beginning of Chapter 5, SFG has developed through the accretion of new material rather than the constant re-examination of positions. Halliday himself appears to regard this as a positive characteristic of work in SFG:

A feature of systemic work is that it has tended to expand by moving into new spheres of activity, rather than by reworking earlier positions. This reflects an ideological perspective in which language is seen not as unique or *sui generis* but as one aspect of the evolution of humans as sociocultural beings. (Halliday 1994a:4507).

Undeniably, however, it runs counter to the underlying methodological basis of most work in modern theoretical linguistics, and as we shall see at various points in the present book, it can lead to a situation of inconsistency between different accounts. It is often difficult to know whether old positions have been abandoned and simply replaced by others, or whether some or all aspects of the former claims are still regarded as holding. It is very rare indeed to find Halliday explicitly rejecting a former claim and giving reasons for its replacement by a different one. The methodology of setting up explicit hypotheses which are then rigorously tested is not one which finds much favour in the majority of the systemic literature. Indeed, in a discussion in which a Popperian type of methodology is regarded as just one possible way of carrying out the enterprise of linguistics, Halliday &

3. For further discussion see Butler (1989:7–9).

Fawcett argue for a role for an approach which plays down the part played by any kind of rigorous methodological stance:

Often the major steps of progress do NOT come from painstaking methodology – important though this is in its place – but from what has been called ‘the creative imagination’. (Halliday & Fawcett 1987b: 3, emphasis in original)

This claim underlies the pattern which Halliday & Fawcett see as characterising the development of systemic linguistics:

The pattern can perhaps be described as one where a new insight for the overall model is followed by a period of testing, adjustment and a relative tightening up of the model; to be followed in turn by various applications (a very important stage); then possibly new insights and a reinterpretation of the existing model; and further testing and tightening up. (Halliday & Fawcett 1987b: 4–5)

There are, however, important problems with this approach. Firstly, it is not made clear just what the ‘testing’ of insights is to consist of: if it does not mean the cycle of hypothesis generation, rigorous testing and consequent modification of the hypothesis, all carried out in a publicly verifiable manner, then just what is it that is intended? Secondly, if the insights referred to in the quotation are seen as simply accumulative, then we run the danger, not only of inconsistency between accounts, but also of failing to appreciate the effects which new claims may have on the existing theory as a whole, or on particular parts of it. Hasan’s somewhat acerbic comment that “[o]f course, it would be useful if Halliday *put out a flag* every time he considered an alternative position” (Hasan 1995: 217, emphasis in original), but that the same could be said of Chomsky, or indeed of philosophers of science such as Popper and Lakatos, is surely no answer to the problem of a situation in which it is at times unclear just what is and is not being claimed as part of some version of systemic theory at any one time. Related to the ‘accumulating insights’ approach is the paucity of argumentation in SFG which has been commented on even by those working within the theory itself (see e.g. Berry 1980/1989, 1982; Butler 1985) and those who have developed their own approach against the background of Hallidayan linguistics (e.g. McGregor 1997: ix).

In defence of SFG, it should be pointed out that there are some systemicists, notably Berry and Hasan, who have indeed proposed and tested specific hypotheses; much of this work is in the area of textual choices and their relationship with social context, and so will be discussed in Part 2. It could also be claimed that system networks themselves, which are at the heart of Halliday’s theory, constitute predictive hypotheses about what combinations of features are possible, also which of the possible combinations will be unmarked and which marked: indeed, Hasan (1996: 110) makes this very point, observing that “[e]ach [...] SE [selection expression – CSB] is the hypothesized description of some linguistic unit at a certain point in delicacy”. Furthermore, hypotheses of a more general kind can be found in Halliday’s own work: the clearest example is perhaps the claim that the different types of meaning which are represented by the metafunctions are preferen-

tially activated by particular components of the extralinguistic context.⁴ The problem, in my view, is that once formulated, such hypotheses tend to be reinterpreted by practitioners of SFG as accepted fact, rather than submitted to rigorous testing and modification or even outright rejection. In this light, the recent work of Fawcett (see e.g. 1996 and especially 2000a) is especially welcome, in that while it owes a great debt to Halliday's own theory, it challenges many of the claims made in it and argues in detail for alternative accounts of many areas.

A further characteristic of SFG which has been commented on in the literature is its tendency to ignore work done in most other modern linguistic theories: for instance, McGregor observes:

Theories are classified into two groups: the goodies and the baddies. Links are maintained only with the former; the latter are pointedly ignored. (McGregor 1997: xi)

The 'goodies' include stratificational and tagmemic approaches; McGregor states that his own Semiotic Grammar has been much influenced by FG, RRG and WCF. The links which are made by SFG practitioners tend to be with applied linguistics and educational theory, and McGregor (1997: xi) finds this worrying "because it seems to constitute a means of escaping the need to repair the foundations": interpreting McGregor's comments, we may observe that those whose primary concern is to apply the theory may understandably have little interest in questioning and modifying the proposals on which they base their work, and since, as we have seen, systemicists place a very high value on applications and their feedback into the theory, this tendency acts to reinforce the acceptance of hypothesis as received wisdom. As a corollary of this approach, as McGregor also observes, systemicists tend to write largely for a readership of other systemicists, rather than for a wider audience. In fairness to SFG, it should be said that although, by and large, the same attitude still prevails, there is some evidence from recent work (see e.g. Halliday & Matthiessen 1999: Chapter 12; Matthiessen 1996) that SFG linguists are beginning to appreciate the need to defend their claims in relation to those of other approaches. There is still, however, an unwillingness to admit that work within more formally-oriented theories could be relevant, despite Halliday's (1994b: xxviii) recognition of Chomsky's "tremendous achievement".

If we now turn to the methodologies of FG and RRG, we find that there are numerous points at which these theories contain hypotheses which make specific, testable predictions about what should and should not be attested in languages, or what should be most probable and what least probable: examples include the Semantic Function Hierarchy and the factors (e.g. the Language-Independent Preferred Order of Constituents) affecting constituent order in FG, or the Actor-Undergoer Hierarchy and the related Privileged Syntactic Argument Selection Hierarchy of RRG.

FG and RRG also differ considerably from SFG in the extent to which reference is made to work outside these particular theories. Although the standard expositions of FG and RRG naturally refer frequently to work within the theories themselves, Dik's *The Theory of Functional Grammar* makes reference to Halliday, Foley & Van Valin and Givón,

4. However, when this claim is examined in §6.4 we shall see that there are considerable problems with it.

among others, and the bibliography of Van Valin & LaPolla's *Syntax* is very wide-ranging in its coverage, with items by Dik, Halliday, Givón and other functionalists, as well as references to the more formalist literature.

6.2 Similarities and differences in relationships between levels of linguistic patterning

6.2.1 Syntax, semantics and pragmatics

6.2.1.1 *Syntax, semantics and pragmatics in FG and RRG*

Dik makes it quite clear that he recognises pragmatic, semantic and syntactic levels of organisation, even though clear divisions may be elusive. He also states that syntax is there to serve the semantics, and that both are situated within an overall pragmatic envelope:

It will now be evident that in the functional paradigm the relation between the different components of linguistic organization is viewed in such a way that pragmatics is seen as the all-encompassing framework within which semantics and syntax must be studied. Semantics is regarded as instrumental with respect to pragmatics, and syntax as instrumental with respect to semantics. (Dik 1997a: 7–8)

We saw in Chapter 3 that the generation of the underlying structure of the clause starts with the selection of a lexical predicate in its frame and proceeds through a number of levels (in Dik's terminology) or layers (in Hengeveld's model), at each of which further information is added. The full clause structure is input to the expression component of the grammar, which translates the underlying structure into the final string by specifying the form of constituents, their ordering, and the appropriate intonation patterns if we are dealing with spoken language. In the process of building up the underlying structure of the clause, functional information is incorporated: Dik expresses the relationship between functional and categorial information as follows:

... categorial statements specify intrinsic properties of constituents, while functional statements specify the relations of constituents to the constructions in which they occur. (Dik 1997a: 26)

The functional information is of three kinds: semantic functions (Agent, Goal, etc.) are built into the predicate frames from which clause generation starts; syntactic functions (Subject and Object) are incorporated, if appropriate, into the completed predication; pragmatic functions (primarily various types of Topic and Focus) get added when all other aspects of underlying structure are complete. What then, we may ask, is the status of the underlying structure in terms of levels of description? Functionally, it contains semantic, syntactic and pragmatic information, but what about the predicate, the terms filling argument and satellite slots, the operators? Dik himself appears to regard the underlying structure as both formal and semantic:

The underlying clause structure is a complex abstract structure in which several "layers" of formal and semantic organization can be distinguished. (Dik 1997a: 50)

Siewierska's (1991:9) view is that FG is "primarily a theory of syntax", though she does recognise that "its basic theoretical constructs are semantic". The hybrid nature of the underlying representation has been the subject of criticism from two rather different viewpoints.

6.2.1.1.1 *The importance of an explicitly syntactic level of representation.* From what has been said above and in Chapter 3, it will be clear that in Dik's model of clause structure there is no separate syntactic representation as such: the syntax merely arises as a result of the operation of expression rules, the nearest we get to a syntactic representation being the constituent order templates. In this respect, Dik's version of FG differs importantly from RRG, in which, as we saw in Chapter 4, there are separate semantic and syntactic representations for clauses, the former consisting of the logical structures and the semantics of operators and adverbials, while the latter are constituted by core and periphery elements. A further difference is that while in FG, as presented in Dik (1997a) the syntax of a clause is derived from its underlying representation by means of the expression rules, in RRG the relationship between semantic and syntactic structures is one of mapping, not derivation. This difference may, however, be more apparent than real. Van Valin & LaPolla's reason for postulating a mapping relation is no doubt that we need to be able to go both from semantics to syntax (in the generation of utterances) or from syntax to semantics (in language comprehension). Dik (1997a:56), however, has also recognised that in a fully developed FG, the grammar must work in both directions, so that for comprehension we need to reconstruct the underlying structure from the form. He also claims (1997a:58) that the generative mechanisms he describes are useful in computational models not only of language generation, but also of parsing. Nevertheless, it remains true that work in FG is conceived primarily in the productive mode.

Van Valin (1990) has provided arguments for the postulation of a separate syntactic representation and against the position adopted in FG. His basic point is that the lack of an explicit syntactic representation in FG goes against Dik's commitment to typological adequacy:

The problem with providing only semantic representations is that crucial syntactic differences between languages are not captured; ... (Van Valin 1990:201)

Referring to Dik's earliest account of FG, Van Valin states:

Thus one of the problems which must be dealt with in the development of the FG theory of clausal syntax is how semantic representations [...] map into the different types of clause structures found in the world's languages; this is essential if the goal of typological adequacy is to be reached. (Van Valin 1990:224)

The discussion of syntax in Dik (1978)⁵ concerns the syntactic relations of Subject and Object, their morphosyntactic expression, and their role in the grammar; there is no discussion of non-relational syntactic structure per se, and this raises a question

5. Dik (1978a) in the bibliography at the end of the present book.

with respect to the status of non-relational syntactic structure in FG.
(Van Valin 1990:224–225)

What these criticisms fail to recognise is that as we saw in Chapter 3, ‘morphosyntactic expression’ goes well beyond the expression of syntactic relations, to encompass, in principle, the expression of a wide range of semantic properties captured in the underlying structure of the clause.⁶ It is, however, fair to point out that even taking into account the considerable advances made in the recent work of Bakker, which as we saw in §3.4 proposes a new model of the expression component involving hierarchical trees for syntactomorphological structure, the expression component of FG is one of the least developed parts of the theory, and because of this we still cannot say with any confidence whether the expression rules will capture all the aspects of non-relational syntactic structure which are needed for a typologically adequate grammar.

More telling, perhaps, is the argument that syntactic structure is not related in a one-to-one way to semantic structure, so that an explicit syntactic representation is required in order to be able to assess the relationship between the two. Van Valin observes that

... one of RRG’s major goals is to show how syntactic structure and syntactic phenomena are not radically arbitrary, as in Generative Grammar, but are *relatively* motivated (in Saussure’s sense) by semantics and pragmatics. The recognition of syntactic structure as distinct from semantic structure and information/interpersonal structure (pragmatics) is crucial if we are to understand how semantics and pragmatics interact in languages with different systems of syntactic organization.
(Van Valin 1990:225, emphasis in original)

One important aspect is the need to postulate syntactic as well as semantic units. Van Valin (1990) gives three examples of the need for the distinction between core and clause postulated in the Layered Structure of the Clause in RRG:⁷

- As mentioned briefly in Chapter 4, certain Germanic languages such as Icelandic show word order restrictions such that the finite verb must be in second position in the clause (except in yes-no questions). Thus inversion of Subject and finite verb must occur if there is a topicalised NP, a preposed adverbial or a *wh*-word in a question. Inversion is not, however, triggered by complementisers or by left-detached elements. These restrictions can be captured by stating that the finite verb must (except in yes-no questions) be in second position in the **clause**, and that the Subject, which always occurs in a position adjacent to that of the finite verb, must be the first non-verbal element in the **core**.
- The clause/core distinction is also necessary in order to account for differences in clause structure in head-marking and dependent-marking languages. Where the morphosyntactic relationships between a head and its dependents are marked on the head, as in languages such as Lakhota (Siouan), Jakaltec (Mayan) and Abkhaz (Caucasian),

6. Some semantic properties are, of course, expressed through prosody.

7. See also Van Valin & LaPolla (1997:33–34, 38–40, and their Chapter 8).

the pronominal affixes on the verb are the true core arguments of the clause, not the independent NPs, as shown by the fact that where the independent NPs are absent, the result is still a grammatical clause. This was illustrated in Chapter 4 using the Australian language Gooniyandi: the relevant examples are repeated below:

- (1) *nganyi- ngga gardiya gardlooni*
 I ERG white-man hit-I:him.CL
 'I hit the white man.'
- (2) *gardlooni*
 hit-I:him.CL
 'I hit him.'

The pronominal affixes are core-internal arguments, whereas the independent NPs in (1) are clause-internal (since they can, for example, be questioned) but core-external.

- The distinction between core and clause, and also that between the nucleus and the core that contains it, is crucial for the RRG account of complex constructions. This is beyond the scope of the present volume;⁸ the point is that such constructions can be insightfully accounted for in terms of three types of relationship (coordination, subordination and cosubordination⁹), linking the three syntactic units of the LSC (nucleus, core or clause), producing a total of nine different types of linkage.

Of course, if the syntactic units postulated in RRG could be shown to be co-extensive with the semantic units of FG, then it might be the case that the FG units underlie the RRG syntactic units. Van Valin demonstrates, however, that this is not the case, as shown in Table 6.1 below.

Although the clause in RRG corresponds to the extended predication in FG, and the nucleus to the predicate, there is no semantic unit in FG which is co-extensive with the core in RRG. This is because certain elements, such as instrumentals with Accomplishment verbs such as *kill* or *cut*, which are regarded as core arguments in RRG (labelled as 'core arguments₂' in Table 6.1) are treated as satellites in FG.¹⁰

It is possible that FG can provide an equally plausible alternative account of phenomena such as the above, in terms of its single underlying clause structure plus the expression component, but until this is convincingly demonstrated, the lack of an explicit syntactic representation in FG remains a problem. In this connection, we should note that van der Auwera (1990a) has proposed analyses of the 'expression structure' of terms in FG (i.e. the formal structures which express the underlying structures), in terms of a phrase structure model derived from, though differing in important respects from, the X-bar model of Transformational Grammar and Generalised Phrase Structure Grammar. Furthermore, as

8. The treatment of complex sentences in FG, RRG and SFG will be discussed in Chapter 3 of Part 2.

9. Cosubordination is 'dependent coordination', in the sense that although the linked unit is not embedded in the matrix unit, it is dependent on it for the expression of at least one operator.

10. For arguments in favour of the RRG position, see Van Valin (1990:203).

Table 6.1. Correspondences between units of RRG and FG, from Van Valin (1990:202)

FG	RRG: semantic	RRG: syntactic
predicate	predicate	nucleus
argument	syntactically obligatory argument in LS of predicate	core argument ₁
satellite	syntactically optional argument in LS, non-arguments	core argument ₂ , peripheral element
nuclear predication	predicate + syntactically obligatory arguments	core (only core arguments ₁)
extended predication	predicate + arguments + non-arguments	clause (= core + periphery)

noted in §3.3, Anstey (2002) has proposed a separation of semantics and syntax in order to help solve problems with layering in FG. We also saw in §3.4 that the expression rule component as recently proposed by Bakker (Bakker 1999, 2001; Bakker & Siewierska 2002, forthcoming) involves sets of hierarchically ordered templates which in effect constitute an expression syntax for FG, and can be compared with the templates of RRG. Indeed, Bakker (1999:2–3) comments that “[s]ince semantic representations in RRG are not principally simpler than those of FG, it is not clear why FG could do with less syntax”. Since the expression rules of FG are the means of mapping semantic structure (enriched with syntactic and pragmatic functions) on to the final expression structure, Bakker’s scheme is important in providing for FG something akin to the semantics-to-syntax mapping rules of RRG.

6.2.1.1.2 Harder’s model: ‘content syntax’. Harder (1997:229–231) comments on an extended quotation from Dik (1989a:46), which contains the original version of the material cited earlier, in which the underlying structure of the clause is seen as both formal and semantic. For Harder, the postulation of an abstract structure of this dual nature recalls the generative linguistics notion of underlyingness. Harder points out, as an example, that when illustrating his discussion of abstractness through a preliminary analysis of definiteness in English and Danish, Dik (1989a:15), recognising the differences in realisation of definiteness in the two languages (article in English, suffix on the noun in Danish, also pronouns and proper names in both), goes on to postulate an abstract operator ‘d’ which is intended to represent whatever is common to all these manifestations, while allowing for different expression forms. As Harder observes, Dik does not mention in this discussion the fact that what is common is the meaning of the expression forms. Furthermore, although semantic descriptions abound in FG work, Harder suggests they are used “as ammunition, to motivate structures” (1997:232). As an example, he gives Hengeveld’s (1990a) postulation of an ‘abstract predicate’ for illocution, which Harder sees as trying to make the structure do a job which is really concerned with semantic content. The general point is that although “the general impression is that the underlying structure is actually a semantic structure”, in fact it is both formal and semantic as Dik has said, and this opens

the door to criticisms of a kind which can also be levelled at the underlying representations of formal theories (Harder 1997:231).

Harder's own view is that the underlying structure of the clause in FG should be replaced by an explicitly semantic structure, with expression rules then mediating between semantic content and expression, rather than between an abstract hybrid structure and a linguistic expression. Harder's proposed model, in common with much other Danish functional linguistics, owes a great deal to Hjelmslevian concepts. Crucial to his approach is the claim that much of what is dealt with in many other models as syntactic is actually basically semantic in nature. He gives the example of the German phrase *reines Wasser* and its English equivalent *clean water*, in which the relationship between the head and the modifier has two aspects to it: firstly an expression side, involving the ordering of the two expression forms, also in German the morphological marker of concord (*-es*) on the adjective, and potentially an intonation contour; and secondly a content side, involving the combination of the meanings of 'cleanness' and 'water', the same in the two languages. This second aspect Harder terms 'content syntax', as opposed to the 'expression syntax' of ordering, concord, etc.

Content syntax is thus describable as the combinatorial aspect of semantics, while expression syntax deals with combinations of expressions that occur above the level of phonology. (Harder 1997:194)

Harder claims that the relationship between head and modifier can only be understood, ultimately, in semantic terms, and that the hierarchies standardly proposed in syntax reflect the combinations of meanings, rather than expressions, in the clause: for instance, although in the above example concord is used to express a hierarchical relation, that hierarchy is itself composed of the content rather than the expression elements.

Fundamental to Harder's model is the Hjelmslevian concept of the 'commutation principle' (Harder 1997:200), according to which whenever an element is postulated on either the content or the expression side, we must be able to show that it is paired with an element on the other side: content and expression are two indissoluble sides of the linguistic sign. Harder discusses some of the problems this can raise (e.g. in homonymy) and potential solutions to these problems.

Relationships between content elements are specified in terms of operator/operand relations, with scoping. For example, Harder's (provisional) semantic structure for the clause *Did John go?* is as shown in (3) below:

- (3) (= Harder's (12), 1997:214)
interr (past (*go (John)*))

Such formulae are to be interpreted as instructions to the hearer, as in (4):

- (4) (= Harder's (12a), 1997:214)
identify John and construct a mental model of him; make the model instantiate the property 'go'; understand this model as applying to a certain past situation; and consider whether the model is true of that situation.

Harder likens this procedure to the instructions which a recipe provides for the cook, which are again formulable in terms of operators and operands.

Harder thus presents a model in which syntax has a key importance, but in which much of syntax is seen as inherently semantic:

... syntactic capability is just as important as generative grammarians claim, but syntax is a quite different animal than claimed in generative grammar: it is a structure that organizes the process of combining linguistic meanings, not an autonomous level of pure structure. (Harder 1997:221)

Harder (1997:224–228) also discusses briefly how content instructions can be linked to expression instructions.

6.2.1.2 *Levels of linguistic organisation in SFG, and some comparisons with FG and RRG*

Let us turn now to the position (or rather positions, in view of the difference between the Sydney and Cardiff approaches) in SFG with regard to levels of linguistic organisation. Although, as we saw in Chapter 5, Halliday's position with respect to the relationship between semantics and grammar has shown considerable fluidity over the years, what has remained constant is the reluctance to recognise any components of language which can be clearly labelled as syntactic or pragmatic. The term 'grammar' (or, more accurately, 'lexicogrammar'), as used by Halliday, embraces aspects of what in most other theories would be thought of as syntactic, semantic or pragmatic. Thus the terminology used (and that which is deliberately not used) by Halliday, as well as the way in which the grammar is formulated, emphasise not only the total rejection of autonomy, but also the difficulty, within the approach taken to language, of drawing borderlines between levels of patterning.

We can nevertheless make some comparisons between aspects of Halliday's theory and what would be regarded as syntactic, semantic or pragmatic in FG or RRG. The nearest we come to a level of syntactic organisation is, as we have seen, the lexicogrammatical level, embracing the metafunctionally organised networks of paradigmatic options (systems) and their realisation in structures with multi-layered functional labelling of constituents. There is also an 'upper' level of semantic networks, choices from which are realised by those from lexicogrammatical networks. The most detailed picture we have of such networks so far is to be found in Halliday & Matthiessen (1999) and Martin (1992a).

As we saw in Chapter 5, the lexicogrammar itself is explicitly semantic in its orientation. A debate on the advantages and disadvantages of semanticising the grammar in this way can be found in Huddleston (1988, 1991, 1992), Martin (1992b), Matthiessen & Martin (1991), Martin & Matthiessen (1992).¹¹ Huddleston's view is that some of the cat-

11. The debate between Huddleston and Martin & Matthiessen is not only lengthy and complex, ranging over a variety of issues which will also come up for discussion in Part 2 of this work; it is also complicated by Martin & Matthiessen's accusations that Huddleston is operating in what they call the 'dismissal genre', and that he has recast Halliday's work in his own terms. Huddleston, unsurprisingly, offers a rebuttal of these accusations. Indeed, Martin (1992b), Martin & Matthiessen (1992) and Huddleston (1992) have more to do

egories which Halliday claims to be (lexico)grammatical are better regarded as semantic, and that in certain areas,¹² the basing of grammatical analysis on semantic factors leads to serious complication of the grammar. Matthiessen & Martin, on the other hand, defend Halliday's position in the following terms:

... a richer grammar makes possible a richer interpretation of semantics and this in turn makes it possible for the semantics to interface more effectively with contextual considerations on higher levels. (Matthiessen & Martin 1991:52)

What Matthiessen & Martin have in mind here is, for example, the isolation of various 'semantic motifs' which run throughout the grammar, the highly productive concept of 'grammatical metaphor' through which meanings can be expressed in 'non-congruent' lexicogrammatical ways, and the exploration of a 'discourse semantics' which takes the text as its basic unit. Similar points are made by Matthiessen & Bateman (1991:65), who also point out (p. 68) that the way in which semantics is conceived in other models often differs from that of systemic linguistics in any of three ways: they may concentrate on only one type of meaning (usually ideational); they may be defined in terms of the categories of the lexicogrammar (word or sentence meaning, rather than text semantics); and they may be concerned with the meaning of structures (syntagmatic) but not with choice (paradigmatic). Space precludes consideration of the detailed arguments advanced in support of these opposing positions; for this, readers will need to consult the original publications, which cover a wide range of areas and offer a fascinating insight into different ways of 'doing grammar'.

It is also worth noting a corollary of the semanticisation of the grammar commented on by McGregor (1997:x): syntactic phenomena such as raising, control, agreement and island constraints are not much discussed in SFG,¹³ whereas they are of importance for many other approaches. As McGregor points out, computational implementation of systemic grammars has forced their proponents to tackle some of these issues, but the modifications have tended to be *ad hoc* rather than leading to fundamental rethinking of the grammar.

Some of what is currently treated as lexicogrammatical or semantic in SFG would be handled in terms of pragmatics in FG and RRG. In particular, the information structuring aspects of Halliday's textual metafunction (Theme/Rheme, Given/New) correspond at least partially to the pragmatic function assignment of FG (Topic and Focus) and the focus projection of RRG.¹⁴

with ideological attack and counter-attack than with the linguistics involved. I shall not enter here into the debate on the nature of Huddleston's review, except to make two observations: firstly, that in evaluating the claims made by any theory it is certainly important to bear in mind the assumptions and goals of that theory; but secondly, that on the whole I find Huddleston's rebuttal of the accusations against him convincing.

12. For instance the 'verbal group': see Chapter 7.

13. But see Teich (1991) for a treatment of raising and control in German.

14. Note that Van Valin & LaPolla (1997) include their exposition of the focus projection in the entry for pragmatics in the index of their book.

Table 6.2. Expression, mapping and realisation rules

Theory	Source	Target	Rule component
FG	Underlying (basically semantic) structure of the clause	Form and order of constituents, intonation	Expression rules
RRG	Semantic representation (logical structures, semantics of operators and adverbials)	Layered Structure of the Clause	Semantics to syntax mapping rules (focus structure also involved)
	Layered Structure of the Clause	Semantic representation (logical structures, semantics of operators and adverbials)	Syntax to semantics mapping rules (focus structure also involved)
SFG (Sydney)	Selection expressions of features from lexicogrammatical systems	Structures with multi-layered functional labelling of constituents	Realisation rules
	Selection expressions of features from semantic systems	Selection expressions of features from lexicogrammatical systems	Realisation rules
SFG (Cardiff)	Selection expressions of features from semantic systems	Richly labelled tree structures showing constituents	Realisation rules

As seen in §5.7, the Cardiff version of SFG differs from the Sydney version in relation to levels of linguistic organisation and their relationship. In this grammar, the meta-functionally organised networks of transitivity, mood, theme, and so on, are explicitly regarded as semantic. Choices from these networks are realised by syntax, items and intonation. Thus a level of syntactic organisation is recognised, and is represented in the form of richly labelled tree diagrams. In this respect, we can see a similarity between the Cardiff grammar and RRG, though the semantic and syntactic representations of the two theories are, of course, very different, as are the kinds of argument which underpin them.

It is also worth considering the degree of comparability between the realisation rules of SFG, the expression rules of FG and the mapping algorithms between semantic and syntax, and *vice versa*, in RRG. Table 6.2 brings together the information on these components of the three grammars.

It can readily be seen that there is a basic similarity across all theories, if we concentrate on the Cardiff rather than the Sydney version of SFG: a basically semantic representation (the underlying structure of the clause in FG, the logical structures and semantics of operators and adverbials in RRG, and selection expressions derived from the semantic system networks of the Cardiff grammar) is in interrelation with a structure involving

morphosyntactic elements and relations, as well as prosodic information relating to the expression of information distribution. One difference is concerned with the distinction between mapping and derivation: FG and Cardiff SFG are presented as deriving syntactic structures from semantic input, while also recognising the need for the reverse process, whereas in RRG, the relationship between semantic and syntactic representations is said to be strictly one of mapping and not of derivation. RRG is the only theory to have explicitly separate mappings from semantics to syntax and from syntax to semantics, and as we saw in Chapter 4, the algorithms themselves are different. Van Valin & LaPolla defend this position on the grounds that in a psychologically adequate model we would need to account for both the production and the understanding of language. On the other hand, Fawcett (1994:408), discussing the computational modelling of natural language generation and understanding, suggests that although the two are not reverses of each other there is value in “deriving the ‘understanding’ components in a full system from the ‘generation’ ones – precisely because it is the performer’s meanings that the addressee is trying to understand”. Similarly, Dik has claimed that an FG generator is of use, not only in a computational model of language generation, but also in parsing and in the bidirectional relationships involved in machine translation:

Through computational implementation [...] it has been demonstrated that a model which contains an FG generator as described in this book can very well be put to procedural tasks such as producing and parsing sentences, translating them from one language to another, and drawing certain logical inferences from them.
(Dik 1997a:58)

6.2.1.3 *Semantic, syntactic and pragmatic functions and their relationships*

In this section I shall compare and contrast, in fairly general terms, the assignment of functions, or roles, of a semantic, syntactic or pragmatic nature in the three theories under discussion. Given the greater similarity between FG and RRG in this respect than between either of these theories and SFG, I shall look first at semantic functions in FG and RRG, then at syntactic functions and the relationships between functions of the two kinds, and at pragmatic functions, before going on to discuss points of similarity and difference between FG and RRG, on the one hand, and SFG, on the other.

6.2.1.3.1 *Semantic functions in FG and RRG.* In both FG and RRG, two levels of semantic function are discussed: the semantic functions or roles of Agent, Goal, Force, Recipient, etc. correspond to thematic relations in the RRG account; but there is also a more general grouping of such functions, into first, second and third argument types (A1, A2, A3) in FG, and macroroles Actor and Undergoer in RRG. It is at first tempting to seek a parallel between Actor in RRG and the A1 group of semantic roles in FG, and similarly between Undergoer and A2. This comparison, however, turns out to be seriously misleading, since the A1 functions include Zero, the function of the entity which is in some state, and Processed, the function associated with the entity undergoing a Process (a State of Affairs

involving change which is not controlled by the A1). The entities with these functions would be PATIENTS in RRG, and PATIENT is, of course, the prototypical Undergoer.

These discrepancies arise from fundamental differences in the ways in which FG and RRG model the analysis of States of Affairs, and will be discussed in more detail in Chapter 8. For now, I shall simply note that FG proposes a more surface-oriented analysis than RRG, in the sense that predications with closely related meanings will often be analysed in FG as involving different conceptualisations of reality, and therefore different predicate frames with different sets of semantic functions, while in RRG the underlying similarities are captured by preserving the thematic functions relating to entities which have the same role to play in the situation being described. A classic case is alternations of the type *John moved the rock/The rock moved*, where FG would assign the semantic function Goal to *the rock* in the first predication, but Processed in the second (Dik 1997a: 122), while RRG would treat *the rock* as having the THEME thematic relation in both predications, the difference between the two being captured in terms of an additional causative predicate in the logical structure for the first predication (Van Valin & LaPolla 1997: 107). As Mairal Usón & Van Valin (2001: 149) point out, such analyses mean that (as noted above) we cannot equate FG A1 with RRG Actor, since in the intransitive sentence the sole participant is assigned an A1 function in FG, but Undergoer in RRG. Martín Arista (2002) also points out that the A1, A2 and A3 generalised functions in FG do not have consistent grammatical coding or behaviour, and so do not systematically link semantics to syntax. He concludes that these generalisations do not constitute basic explanatory constructs of the theory, and contrasts them in this respect with the macroroles of RRG which, as we have seen, have significant grammatical consequences, and are a crucial factor in the linking between semantic and syntactic representations.

A further important difference between the FG and RRG accounts is that as we saw in §4.10, RRG claims that thematic relations are not arbitrarily assigned, but are fully predictable from the logical structure for the Aktionsart type to which the predicate belongs, and so have no separate theoretical status in the theory. In other words, Aktionsart classes are primary, and semantic roles are derived from them. In RRG, a set of tests is applied in order to determine the Aktionsart class, and this then determines the logical structure type, from which the thematic relations fall out automatically. FG, on the other hand, does not claim total derivability of semantic function from SoA type. As we shall see in Chapter 8, however, some degree of correlation can be demonstrated, and it may eventually be possible to define semantic roles in terms of positions in predicate frames for particular, independently-defined SoA types. Of course, even if such a formulation proved feasible, it would be language-dependent, since Dik's FG rejects the abstract predicates which go to make up the logical structures of RRG, and which make these structures, in principle, language-independent.

6.2.1.3.2 Syntactic functions in FG and RRG. We saw in §3.2.2.5 that FG has a very restricted interpretation of Subject and Object syntactic functions, Subject assignment being recognised only for languages which show voice-type alternations involving differences in mapping between clause constituents and their semantic functions. Syntactic function as-

signment is seen in terms of one kind of perspectivisation of the core predication,¹⁵ the Subject offering a primary perspective, while the Object, if present, allows a secondary perspective to be introduced.¹⁶ Unconventional as this view may be,¹⁷ it does incorporate a strong, falsifiable claim. Also, however, it assumes, without any extensive discussion, the validity of the traditional categories of Subject and Object. RRG, on the other hand, rejects even these categories, on the grounds that unified definitions of them are highly problematic cross-linguistically, and proposes a yet more unconventional analysis in terms of Privileged Syntactic Arguments (syntactic pivots and/or controllers) for particular constructions in a language, which may or may not be the same for different construction types in the language. Where there is consistency across constructions, it may be possible to see the PSA as broadly equivalent to the traditional Subject. There is, however, no syntactic function parallel to the traditional Object, direct or indirect, the properties of what would in other approaches be Objects being handled in terms of semantic macro-roles. As in FG, but for different reasons, some languages are claimed to have no syntactic functions.

6.2.1.3.3 *Relationships between semantic and syntactic functions in FG and RRG.* We saw in §3.2.2.5 that Dik postulates a Semantic Function Hierarchy¹⁸ which constitutes a set of putative implicational universals concerned with the accessibility to Subject assignment (and, secondarily, to Object assignment) of constituents with various semantic functions. This hierarchy is intended to have both intra- and cross-linguistic implications (Dik 1997a:266–269). For a language displaying a particular cut-off point for accessibility to Subject, it should predict not only which semantic functions can and cannot be conflated with Subject, but also, for example, the relative frequencies of the various combinations, which should decrease as we move from left to right along the hierarchy. Cross-linguistically, the hierarchy predicts possible language systems.

The counterpart of the SFH in RRG is the Privileged Syntactic Argument Selection Hierarchy (Van Valin & LaPolla 1997:282). This, as we saw in §4.12, takes the (bidirectional) Actor-Undergoer Hierarchy as the basis for (unidirectional) predictions concerning the accessibility of various types of semantic argument to PSA status within a particular language. The PSA hierarchy can, however, also be taken to make similar claims to Dik's SFH. The unidirectional nature of the hierarchy can be interpreted as a claim that Agent

15. The other kind of perspectivisation is, of course, the selection of the pragmatic functions Topic and Focus.

16. For discussion of some difficulties with the FG conception of Object assignment see Brdar (1994) on Croatian and Falster Jakobsen (1994) on Danish.

17. Siewierska (1991:73), for example, at the beginning of a chapter which offers a detailed critique of syntactic function assignment in FG, notes that "FG offers a very restrictive view of syntactic functions as compared to both traditional grammar and other current grammatical frameworks, most notably RG [Relational Grammar – CSB]". For a somewhat less restrictive, valence-based view of syntactic functions in FG see Herslund & Sørensen (1994).

18. For a critical discussion of the Semantic Function Hierarchy, see Siewierska (1991:104–112).

(corresponding to DO(x)) should, *ceteris paribus*, be the least marked choice for Subject cross-linguistically (see Van Valin & LaPolla 1997: 175). Dik's claims regarding cut-off points on the SFH can also be reinterpreted in terms of the PSA hierarchy, in that Van Valin & LaPolla (1997: 303–308) present reasons, derived partly but not entirely from the PSA selection hierarchy, for the cross-linguistic patterning of the restricted neutralisations characterising languages which are regarded in RRG as having syntactic functions.

The most common neutralisations are of the [Subject, Actor] type, almost all languages (except, of course, those such as Acehnese and Mandarin which have no syntactic functions) having at least one construction showing this pattern; the next most common pattern is the [Subject, Actor, derived intransitive Subject] found in English, where restricted neutralisations also involve the voice-derived Subject of an intransitive verb; next is the [Subject, Undergoer, derived intransitive Subject] pattern, found in only a few languages, and never as the exclusive pattern; the least common pattern of all is [Subject, Undergoer]. Van Valin & LaPolla explain these facts in terms of four factors, agentivity, animacy, topic and focus, which interact with the PSA hierarchy. The factors of agentivity and animacy favour [S, A] neutralisations. Agents are involved in various universal phenomena such as imperatives, causatives and the control of reflexivisation. Speakers tend to pay more attention to animate arguments than to inanimate ones and to talk about them more: the argument of DO which is at the top of the hierarchy is always animate, and the first argument of *do'* almost always, while at the other end, the argument of *pred'(x)* can be animate or inanimate. The [S, U] pattern rules out the agentive, usually animate argument of a transitive verb as the PSA, and it is therefore not surprising, in view of the importance of agentivity and animacy, that this pattern is rare.

The neutralisations involving the derived intransitive Subject can be motivated in terms of discourse pragmatic considerations: animate participants often function as Undergoers, and are also often topical; in syntactically accusative constructions, passives leading to a derived intransitive Subject thus allow the topical, animate Undergoer to become the PSA. Thus the [S, A, d-S] pattern brings together topic, animacy and agentivity. On the other hand, [S, U, d-S] unites focus, animacy and agentivity, and this fits in with the fact that new, focal referents are introduced mainly as Undergoers of transitive verbs or as the single argument of intransitives, the Actors of transitives being primarily topical.

6.2.1.3.4 Pragmatic functions in FG and RRG. We saw in §3.2.2.8 that FG proposes a range of pragmatic functions, some relating to extracausal constituents, others to information structuring within the clause. The clause-internal pragmatic functions, with which we are concerned here, are those relating to topicality (the status of entities about which information is given) and focality (salience in relation to the addressor's aims in modifying the pragmatic information of the addressee, together with the ongoing development of the discourse) (Dik 1997a: 312). In Dik's model, these intraclausal pragmatic functions are as-

signed right at the end of the building-up of the underlying structure of the clause, before the complete structure is input to the expression component.¹⁹

The analogous mechanism in RRG is the focus projection which, as we saw in §4.9, is based on Lambrecht's account of information structuring in terms of topic and focus. For any given language, there is a potential focus domain, within which the actual focus must fall. The focus projection, together with the constituent and operator projections, enters into the mapping relations which define the relationships between syntactic and semantic aspects of the clause.

6.2.1.3.5 *Functional roles in SFG: comparison with FG and RRG.* As we saw in §5.2.1, Halliday's framework tends to avoid classifying linguistic phenomena into syntactic, semantic and pragmatic types, preferring to see the totality of the choices available in the language user's grammar as constituting a lexicogrammatical 'meaning potential'. The proponents of the Cardiff grammar, while agreeing with many aspects of Halliday's position, do, however, draw a clear distinction between semantics and syntax, regarding all systemic choice as semantic, and as realised by syntax, lexical items and prosodic patterns.

It is not, then, surprising that the Sydney grammar resists any distinction between semantic, syntactic and pragmatic functions within the clause. All clause functions (or roles) are regarded as at the same level of description, the major distinction between them being not in terms of level, but of metafunction. The semantic functions or roles of FG and RRG correspond to the transitivity roles of SFG, within the experiential part of the ideational metafunction; the syntactic functions Subject, Predicator, Complement and Adjunct form part of the mood-based functional structure within the interpersonal metafunction; and the pragmatic functions of Topic and Focus in FG and RRG have their counterparts²⁰ in the functions of Theme/Rheme and Given/New within the textual metafunction.

In the Cardiff version of SFG, Subject, Complement and Adjunct are seen as elements of the syntactic structure of the clause, rather than as interpersonal functions: indeed, it is argued that the Subject has a role to play in relation to experiential, interpersonal and thematic meanings. Since the elements of clause structure are clearly relational, they may presumably be regarded as syntactic functions, and so the Cardiff grammar resembles FG and RRG in this area more than does the Sydney grammar. The semantic functions of FG and RRG are experiential roles in the Cardiff grammar, while Theme/Rheme belong to the thematic strand and Given/New to the informational strand.

Despite the above differences, there are clear parallels between the FG and SFG (especially Sydney) conceptions of Subject, in that both Dik and Halliday see the choice of Subject as a way of imposing a perspective on the clause, and as involving alternative mappings

19. In Nuyts' Functional Procedural Grammar, however, as we saw in §3.6, information distribution choices come in at a much earlier stage in the conversion of a conceptual representation to the final form of the utterance.

20. As we shall see in Chapter 2 of Part 2, the SFG functions do not map in a simple way on to those of FG and RRG.

between Subject and semantic (or, in the case of SFG, transitivity) functions.²¹ The concept of perspective, though perhaps implicit in the RRG discussion of Privileged Syntactic Argument selection, is not foregrounded in that theory.

Little attention appears to have been given in SFG to the kinds of transitivity roles which can and cannot conflate with Subject: Halliday (1994b:169) notes that for English, there are various possibilities, including Agent, Medium, Beneficiary and Range,²² as well as constituents functioning as the complements of prepositions (as in *This bed hasn't been slept in*), but there is no theoretical discussion of constraints or hierarchies as in FG and RRG. This is another consequence of the low priority assigned to typological matters in SFG.

6.2.2 Lexical phenomena and their relationship with the rest of the grammar

6.2.2.1 Basic approaches to lexical phenomena

FG, as we saw in Chapter 3, is firmly rooted in the lexicon, and this is even more the case for the Functional Lexematic Model which has been developed through synthesis of ideas from Dik's FG and Coseriu's lexematics. In Dik's theory, the generation of the underlying structure of the clause begins with the selection of a predicate from the lexicon. The predicate frame in which the selected item is stored in the lexicon specifies syntactic information in the form of the part of speech of the predicate, and also semantic information in the form of the quantitative valency (number of arguments) and qualitative valency (semantic function of the arguments), together with meaning postulates showing relationships between the meaning of the predicate and that of other predicates of the language. The FG model, in the productive direction, is thus 'bottom-up', in the sense that the lexical predicate acts as the nucleus for the building up of the structure of the clause, through the insertion of terms to act as arguments and satellites, and the selection of values for operators at the various levels of structuring.²³

The lexicon also plays a vital role in the model of clause structure in RRG, since the heart of the lexical entry for a predicate is the logical structure of that predicate, which is in turn the main element in the semantic structure of the clause. Furthermore, since the LS specifies argument variables which are filled by lexical material, RRG, like FG, takes a basically 'bottom-up' approach to the specification of clause structure.

SFG, whether of the Sydney or the Cardiff variety, presents a radically different picture. The concept of 'lexis as most delicate grammar' reflects a 'top-down' model, in which

21. Siewierska (1991:76) is therefore incorrect in claiming that FG is "the only theory to elevate perspective to the level of a defining criterion of the subject and object functions".

22. These and other transitivity roles will be explained in Chapter 8.

23. Martín Arista (2001:130), however, rightly qualifies this assertion, pointing out that the priority given in FG to functional rather than to categorial information means that the model is to some extent 'top-down', since the assignment of functions to a constituent can be made only in relation to a higher unit in which the constituent under analysis plays a role.

lexical items emerge as the realisations of combinations of usually very delicate options in systemic networks.

These differences in the relationship between lexical items and the rest of the grammar may be illustrated by a comparison of the FG, RRG, Sydney and Cardiff grammar treatments of the verb *give*. As we saw in Chapter 3, the (simplified) predicate frame for this verb in FG is as follows:

- (5) *give* [V] (x_1 : <anim>)_{Ag} (x_2)_{Go} (x_3 : <anim>)_{Rec} (Dik 1997a:91)

This predicate frame would be accompanied by meaning postulates linking the meaning of *give* to that of other predicates. One such postulate might be as follows:

$$give [V] (x, y, z) \rightarrow transfer [V] (x, y, z)$$

Note also that the predicate frame itself is a basis for the comparison of the meaning of *give* with that of other lexemes: the presence of an Agent links it with other agentive verbs; the inclusion of a Recipient is shared with other verbs of transfer.

The predicate frame in (5) could be used as the basis for the generation of underlying structure for a clause such as the one in (6):

- (6) *Evelyn's dad gave it to her mother.* (BNC AEB 2785)

This would involve the insertion of the term *Evelyn's dad* in the Agent slot, *it* in the Goal slot, and *her mother* in the Recipient slot. The predicates *dad* and *mother* would, of course, also be selected from the lexicon in the development of the structure for the terms containing them, while *Evelyn* and *it* are examples of 'basic terms' listed as such in the lexicon.

In the Functional Lexematic Model, *give* would be analysed as the central causative counterpart of *have*, which, together with *belong*, is the base verb of the domain of possession.

Now consider the following logical structure for *give* in RRG:

- (7) *give*: [$\text{do}' (x, \emptyset)$ CAUSE [BECOME $\text{have}' (y, z)$]

We saw in Chapter 4 how this logical structure could be mapped on to the LSC for a clause with *give* as the main predicate. For example (4), x would be mapped on to *Evelyn's dad*, y on to *her mother* and z on to *it*.²⁴ Conversely, the syntactic representation for example (6) could be mapped on to the semantic representation in (7) (plus, of course, semantic representations for the operators involved), again in a similar way to that outlined in Chapter 4.

Lexical relationships between *give* and other verbs are implicit in the sharing of components of the LS: for example, all Activity verbs share the $\text{do}' (x, \dots)$ configuration; all causative verbs share the CAUSE component; all verbs of possession have the have' predicate.

24. The details of the mapping would differ slightly from those given in Chapter 4, because the clause used for illustration there contained a non-oblique NP acting as the first argument of have' .

The distinction between lexical and syntactic phenomena in RRG is claimed to be a clear one:

In the framework we are presenting, the line between the two is clear-cut and falls out from the linking system [...]: lexical phenomena affect the logical structure of the predicate, its argument structure, and actor and undergoer assignment [...], whereas syntactic phenomena deal with the morphosyntactic realization of the macroroles and other core arguments ... (Van Valin & LaPolla 1997:389)

Turning now to the treatment of *give* in SFG, we find two rather different accounts in the Sydney and Cardiff grammars. As we saw in §5.3, SFG recognises three basic types of process (material, mental and relational), plus a few minor ones.²⁵ Halliday (1994b: 145) treats *give* as a material process, with an Actor (*Evelyn's dad* in example (6)), Goal (*it*) and Beneficiary (*her mother*). Fawcett (1987: 143), however, classifies *give* as a relational process, rather than as a material one, the reason being that it is concerned with the semantic area of possession, which SFG relates to processes of being. This is by no means an idiosyncratic decision: it is well known that many languages use a verb of being to indicate possession (e.g. Latin *Mihi liber est*, 'to me book is' = I have a book; S. Welsh *Mae car (gy)da John*, 'there is car with John' = John has a car); further, even in English there is a relationship between having and being, in the sense that if I *possess* something, that thing *is* mine.

Fawcett's account shows exactly how the lexical item *give* is generated as the realisation of a set of features from the transitivity network, according to the view of 'lexis as most delicate grammar'. Possessive, then, is one of three types of relational process (the others being attributive and locational). Figure 6.1 shows the basic choices in the 'transitivity' network, and is adapted from the diagram in Fawcett (1987: 141). Three dots indicate that a feature acts as the entry condition for further options.

Figure 6.2 presents a simplified version of the network in Fawcett (1987: 164), omitting many details not relevant to the understanding of how *give* is generated. The item *give* is the lexical realisation achieved as a result of tracing either of the following paths through the network: [possessive, third party agent, change, having, unmarked having], or [possessive, third party agent, change, having, marked, permanent, free]. In other words, *give* can be used either as the unmarked way of representing a transfer of something to someone else, or it can be used in specific contrast to *sell*, which has the features [marked, permanent, for money]. In the marked usage, *give* contrasts with *lend* in terms of the contrast between [permanent] and [temporary]. *Give*, *sell*, *lend* and *hire* (the last of these having the feature [for money]) contrast as a group with verbs such as *get*, *take*, *buy*, *borrow*, *rent*, *steal* in terms of the feature [having] in the former group and [lacking] (in the sense that one participant causes another to lack something) in the latter.

25. I shall go into more detail on process types in Chapter 8. The present discussion is intended merely to illustrate the concept of lexis as most delicate grammar.

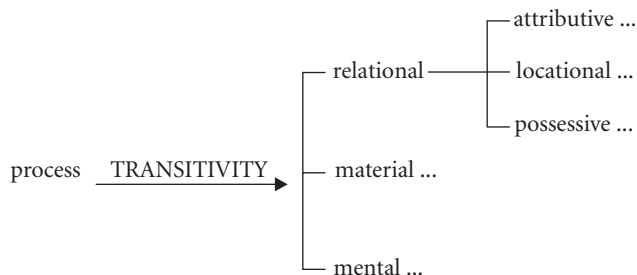


Figure 6.1. Basic choices in transitivity leading to subtypes of relational process in the Cardiff grammar, from Fawcett (1987: 141, Figure 6.1)

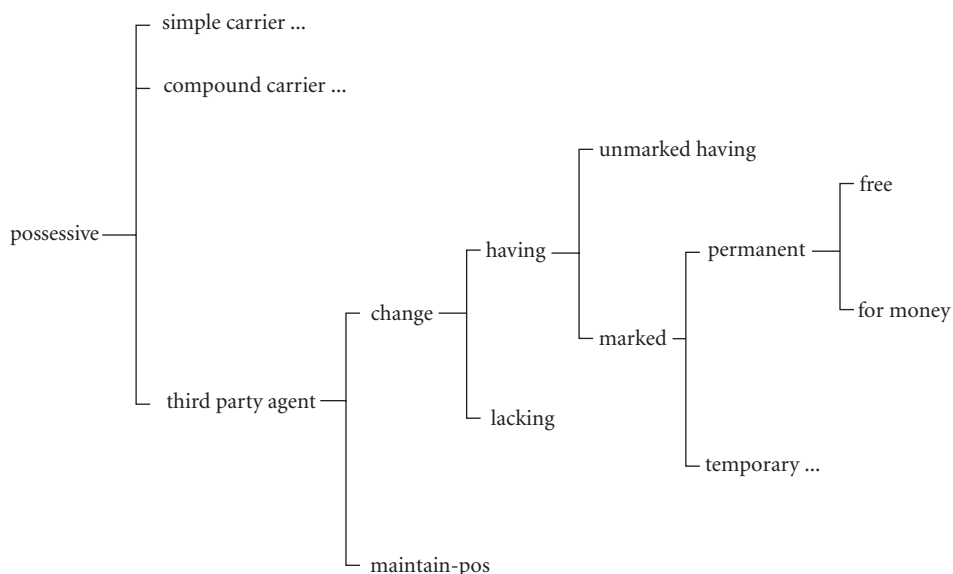


Figure 6.2. A simplified network for some possession processes in English, adapted from Fawcett (1987: 164, Figure 6.7)

6.2.2.2 Meaning decomposition: a more detailed analysis

Apart from the top-down nature of SFG as compared with the bottom-up approach in FG and RRG, there are differences in the way in which the meanings are decomposed in the three theories – more specifically, whether they analyse word meanings in terms of the meanings of other words in the same language, or adopt an abstract semantic metalanguage.

In mainstream FG, we have seen that all lexemes are analysed in terms of other lexemes of the language, in accordance with the procedure of stepwise lexical decomposition. This approach is consistent with the desire to constrain the expressive power, and so the degree of abstractness, of the model. Dik's view is that if we admit abstract predicates, "there is

hardly any limit to the analyses which can be argued to underlie lexical elements” (Dik 1997a: 23).

This view, however, brings a number of problems. If lexemes of a language are defined in terms of other lexemes of that language, then there is no principled way of making comparisons across languages, unless some kind of near-equivalence between items or groups of items can be demonstrated. Dik comments as follows:

... translation will have to be reconstructed in much the same way as is done in a bilingual dictionary. Such a dictionary establishes (partial) correspondences between the predicates of two distinct languages. (Dik 1997a: 102)

This, however, seems to be a back door entry to the recognition of common features across languages, which must necessarily be of an abstract nature.

Further problems with the stepwise lexical decomposition approach have been discussed by Hesp (1990a) and Vossen (1994, 1995). Hesp (1990a: 36–38) points out that Dik’s approach makes no provision for non-discreteness of lexical meaning, as accounted for by the theory of prototypes; also that there is no account of non-denotational aspects of meaning. Furthermore, the definition of concrete lexemes in terms of more general and abstract ones is somewhat dubious from a cognitive point of view: for instance, Hesp observes that *man* is defined in terms of *male*, and yet it is very unlikely that the lexeme *male* would be learned before *man* in the course of language acquisition; similarly, Vossen (1995: 21) points out that we are more likely to explain the concept of ‘liquid’ in terms of that of the more familiar ‘water’ rather than the other way round. Vossen (1994) also points to problems of a more general nature, concerned with the basic assumptions of stepwise lexical decomposition:

... the classical idea that definitions are composed of a category which is specified by differentiae is too strict. What the category is and what properties are specifications can vary, making inheritance principles far more complex. (Vossen 1994: 37)

He observes, for example, that in a taxonomy of body parts, not all the items which would come below *body* in the hierarchy can be said to inherit all the properties of *person* and higher predicates: for instance, it is debatable to what extent *hand* or *nail* can be claimed to have the property of animacy.

Schack Rasmussen (1994: 41) observes that in Dik’s version of FG, where information about a predicate is contained largely within the predicate frame, the meaning definition of the predicate, expressed in terms of stepwise lexical decomposition, plays no part in grammatical analysis. The marginality of meaning definitions has led to a situation in which no attention is given to how they might act upon the configuration of predicate frames. Schack Rasmussen proposes to upgrade meaning definitions in importance, and to provide a typology of such definitions which is intended to resolve some of these problems, and also helps to rationalise and simplify statements regarding semantic functions. A study of semantic patterning in Spanish verbs (Schack Rasmussen 1987) suggested that such patterning could be expressed in terms of the dimensions of **action scheme** and **semantic**

field. Action schemes are of three basic types: position, motion and causative, for each of which there is a basic predicate, associated with generalised arguments, as shown below.

- Position:* ESTAR(E,L) indicates that E is located on L;
Motion: IR(E,L) indicates that E moves on L;
Causative: CAUSAR(K,s)
 (= CAUSAR(K,ESTAR(E,L)) / CAUSAR(K,IR(E,L))) indicates that K causes either the location or movement of E.
 (Schack Rasmussen 1994:47)

These combine with the four semantic fields of Location, Possession, Condition and Circumstance to yield a scheme which, with some additional refinements, is claimed to account for the majority of Spanish verbs. The existence of an obligatorily prominent, profiled element in the structure is signalled by placing that argument in italics. Examples, taken from Schack Rasmussen (1994:50) with some details of the representation omitted, are given in (8)–(15) below.

- | | | | |
|------|--------------------------------|----------------|---|
| (8) | <i>permanecer</i> (stay) | (Location) | ESTARloc(<i>E</i> , L) |
| (9) | <i>transportar</i> (transport) | (Location) | CAUSAR(K,IRloc(<i>E</i> , L)) |
| (10) | <i>pertenecer</i> (belong) | (Possession) | ESTARpos(<i>E</i> , L) |
| (11) | <i>heredar</i> (inherit) | (Possession) | IRpos(<i>E</i> , S, T) [S and T mark the starting and terminal points of movement, a refinement on the basic scheme above] |
| (12) | <i>existir</i> (exist) | (Condition) | ESTARcond(<i>E</i> , L) |
| (13) | <i>enriquecer</i> (make rich) | (Condition) | CAUSAR(K,IRcond(<i>E</i> , S, RICO)) |
| (14) | <i>trabajar</i> (work) | (Circumstance) | IRcirc(<i>E</i> , L) |
| (15) | <i>conducir</i> (drive) | (Circumstance) | CAUSAR(K,IRcirc(<i>E</i> , L)) |

The semantic functions in predicate frames can now be regarded as manifestations of the generalised semantic arguments in structures such as those above (Schack Rasmussen 1994:53ff). This in turn allows a simplification of semantic functions, since certain properties attributed to these functions in the mainstream model can now be accounted for in terms of other factors in semantic decomposition. This aspect of Schack Rasmussen's work will be considered in greater detail in Chapter 8.

It is noticeable that the key elements in Schack Rasmussen's analysis are very basic predicates such as ESTAR, IR and CAUSAR, which might be considered as lexicalisations of good candidates for universal semantic primitives. Schack Rasmussen (1994:45–46) herself, however, regards her proposal as consonant with Dik's rejection of abstract predicates, since the predicates she uses are still language-specific, although general enough to permit easier comparison across languages.

A similar position regarding the degree of abstractness of predicates is taken by Cornish (2002). Cornish is concerned with the inability of the classical FG predicate frame to

accommodate the effects of various specifications made later in the derivation of underlying clause structures, such as the effects of argument and satellite assignment on Aktionsart (e.g. on the feature of control in cases such as *tear* [unspecified for control] vs. *tear accidentally* [–control] vs. *tear deliberately* [+control]), telicity in cases such as *paint a portrait/paint portraits*, or *walk to the station/in the park*), or the effects of Focus assignment on the specific meaning of certain types of verb in French (e.g. *être rangé*, which when focused has the specific meaning ‘be neatly arranged’, but which when unfocused has the more general meaning ‘be located’). In order to account for such phenomena, Cornish proposes a new model for the predicate frame, owing much to the Generative Lexicon approach of Pustejovsky (1995). An example is shown in (16):

- (16) (= Cornish’s (16), 2002:266)
tear (Vt): (e₁: [_{ACTION} *cause* (e₂: [_{EVENT} [_{α CONTROL} *act* (x₁)])]) (e₃*: [_{STATE} *be_torn* (x₂: <thin flexible material>)]))

The details of the formulation are not relevant at this point:²⁶ suffice it to say that it reads as ‘(x₁) acts to cause a state where (x₂) (made of thin, flexible material) comes to be torn’. The inclusion of a Level 1 satellite such as *deliberately* will have the effect of setting the control parameter for the e₂ predication to ‘+’, while *accidentally* will set it to ‘–’, and there will be concomitant effects on the construal of x₁ as Agent (if +control) or as Force (if –control). The important point in relation to our present discussion is that Cornish still conceives of the elements *cause*, *act* and *be_torn* as predicates of the object-language rather than as abstract, language-independent predicates, though he remarks that “it is intended that they be construed in terms of their core senses in such predicate frames, and not as formal lexical units” (2002:261). This, like Schack Rasmussen’s proposal, appears to be a kind of halfway house between Dik’s proposals and those of RRG, to which I now turn.

It will be remembered that in RRG all the elements of a logical structure are abstract, not only those such as BECOME which characterise relationships between verbs of particular Aktionsart classes, but also predicative elements such as *do*’ and *have*’ in example (7) given earlier. The motivation behind the lexical decomposition of verbs, according to Van Valin & LaPolla (1997:90–91), is to account for generalisations across semantically related verbs and their arguments. Their initial examples are from English and Lakhota; I shall illustrate here from the Australian Aboriginal language Dyirbal and from Spanish.

In Dyirbal, there is a productive derivational process by which the addition of *–ma* (or sometimes *–mpa* or *–pa*) to an adjective gives the corresponding causative verb. Yallop (1982:119) gives the following examples: *kulkiri* (‘pretty’), *kulkirimpa* (‘to make pretty’); *kuyi* (‘dead’); *kuyima* (‘to kill’). Addition of a different suffix, *–pi*, yields an intransitive verb which expresses ‘become X’ where X is the original adjective: *kulkiripi* (‘to become pretty’), *kuyipi* (‘to die’). A good lexical representation system should, as Van Valin & LaPolla point out, be able to capture such regularities, and a plausible way of doing this would be to treat the causative verb as semantically decomposed into the adjectival

26. Further aspects of Cornish’s work will be taken up again in the context of the representation of States of Affairs, in Chapter 8.

predicate plus the abstract element CAUSE, and the verb of becoming into the adjectival predicate plus INGR (ingressive).

Now consider the following sets of lexemes in Spanish: *rojo* ('red'), *enrojecer* ('to make red'), *enrojarse* ('to become red'); *negro* ('black'), *ennegrecer* ('to make black'), *ennegrecerse* ('to become black'), *duro* ('hard'), *endurecer* ('to make hard'), *endurecerse* ('to become hard'). Here, the prefix *en-* in the form without *-se* can be seen as causative, but although lexemes such as *enrojarse* appear on the surface to be analysable as 'make one-self/itself/etc red', this would be an inappropriate analysis, since such processes are in fact simply ones of becoming, with no implication that the entity has caused the change in itself. Sets of lexemes such as the above are thus semantically related in the same way as those from Dyirbal discussed earlier. In the case of Spanish, however, the mechanisms for indicating these semantic relationships are not as regular or productive as they appear to be in Dyirbal: for instance, we have *azul* ('blue'), but not **enazular/enazuler* or **enazularse/enazularse*. Furthermore, in some cases sets of adjective, causative verb and ingressive verb are not related morphologically in the same way as those above: *muerto* ('dead', past participle of *morir* used adjectivally), *morir(se)* ('to become dead', i.e. 'die'), *matar* ('to kill'). Nevertheless, a lexical representation system should be able to capture the semantic generalisations which can be made across sets of existing lexemes in a given language, and also across languages, whether these are closely paralleled in the morphology or not. Decomposition, argue Van Valin & LaPolla, is a promising way of doing this, and

... arriving at a decompositional system is a compromise between the demands of semantics (make all the necessary distinctions relevant to meaning) and those of syntax (make syntactically relevant distinctions that permit the expression of significant generalizations). (Van Valin & LaPolla 1997:91)

Lexical decomposition in terms of abstract components, as in RRG, also brings with it a major problem, that of motivating the particular components chosen. Proponents of RRG, like those of FG, are committed to a high degree of typological adequacy, and this is one of the reasons for the adoption of a semantic metalanguage which will hopefully be universally valid. However, although it is plausible that components such as **do'** and **have'** are needed for lexical decomposition in all languages, elements such as **bounce'**, **popped'**, **gurgle'** or **carve'**, all used in examples to be found in Van Valin & LaPolla (1997), are clearly not universal, and indeed RRG does not claim that they are, recognising that such elements are merely placeholders awaiting the development of a more sophisticated, empirically justified decompositional system. One possible solution might be to investigate whether the underlying predicative elements of RRG logical structures could be replaced by the semantic primitives proposed by Wierzbicka (e.g. 1988, 1996), the applicability of which has been demonstrated cross-linguistically. Van Valin & Wilkins (1993:504), while recognising the value of Wierzbicka's approach, are nevertheless critical of it: however, their criticisms focus on the lack of discussion of combinatorial properties and of the syntax and discourse structure of her paraphrases, not on the putatively universal semantic primes themselves, and Van Valin & Wilkins in fact point out that one of the semantic primitives (**think**) which they propose in their analysis of the English verb *remember* and

its equivalents in the Australian language Mparntwe Arrernte is one that also appears in Wierzbicka's account.

Let us now turn to SFG. Here, too, the components of meaning are abstract, in the sense that the systemic features in networks such as those in Figures 6.1 and 6.2 are mnemonics for meaning characteristics which differentiate between (groups of) lexemes. As was observed in earlier chapters, this theory has not placed typological concerns very high on its agenda, so that the search for universal semantic primes would not be expected to be a priority, but there is still a need to motivate the particular distinctions made in system networks. The necessity for justification is fully recognised by Fawcett, who frequently provides reasons for doing things in one way rather than another. For instance, he points out (Fawcett 1987: 143) that Halliday (1985a: 132)²⁷ classifies clauses of the *give* type as material rather than relational, but he then goes on to demonstrate that they show patterns which are common to other clearly relational types of process, so motivating their inclusion in this part of the transitivity network. According to Fawcett (1980: 101, 1987: 178–179), the primary motivation for a systemic feature is that it should have 'some reflex in form'. However, not all features in system networks have realisation rules attached to them, specifying such a formal reflex. Martin (1987: 37) expands the range of 'formal meanings' which systemic features can have (in other words, the types of motivation which are allowed), to include: being an entry condition for simultaneous systems, or a conjunctive or disjunctive entry condition for a more delicate system; being associated with a markedness convention; and being a terminal feature, in a system all of whose other terms are motivated in one of the other ways mentioned.

In a very thorough and perceptive treatment of lexis in SFG, Tucker (1998) points out that the problems of formal motivation are particularly acute in those more delicate areas of system networks which are realised lexically. Lexical items fall into open sets, but if we are to express lexical meaning in systemic terms, then these open sets must be reduced to closed ones. The question is whether this can be done while preserving the criterion of formal motivation of features.

There are formal distinctions between **mass** nouns and **count** nouns, for example, which manifest themselves in the relationship of the noun to structures realizing quantification. With a handful of exceptions (such as **pair only**: *trousers* and **plural only**: *police*, etc.), all nouns fall into the count/mass distinction.

But where do we go from here in terms of formally motivated distinctions? There are, of course, formal distinctions of traditional grammars between **proper nouns** and **common nouns**, but little else beyond this. Other types of subcategorization also seem promising, in terms of representation as a system, such as the distinction between **concrete nouns** and **abstract nouns**. But can this distinction, if represented as a two-feature system, be motivated by formal criteria, or are we at this point embarking upon a purely semantic classification? (Tucker 1998: 96)

27. The second edition of *An Introduction to Functional Grammar* (1994b: 145) gives the same analysis.

A further problem arises from the fact that, as corpus linguistics has clearly shown, each lexical item has its own unique set of (grammatical and collocational) syntagmatic relationships. This has to be balanced against the equally important fact that lexical items enter into paradigmatic relationships with other lexical items, which have traditionally been handled in terms of the sense relations of synonymy, hyponymy, meronymy, antonymy and the like. All such paradigmatic relationships are easily modelled in terms of system networks: indeed, as Tucker (1998:96–97) points out, the semantics of systems at the ‘grammatical’ end of the cline can be interpreted in terms of sense relations: opposite-ness is manifest in the polarity system, ideational synonymy in the relationship between active and passive clauses. Furthermore, meronymic, part-whole relationships are evident in the relationship between units at group and clause ranks, or between the semantic units postulated in the Cardiff grammar (e.g. ‘Things’ and ‘Processes’ are part of ‘Situations’).

Tucker’s approach to a resolution of this problem takes the form of an interesting hypothesis. He notes (1998:98) that lexical relations have an effect on the syntactic structures in which they occur: for example, that in the syntagm *how X is he?* in English, the unmarked lexical choice to fill X is that member of an antonymic pair which expresses the higher degree (*tall* rather than *short*, etc.).

The developing hypothesis is, then, that lexical semantic relations, in terms of the relative semantic similarity and difference between word senses, correlate with structural differences in terms of co-occurrence. (Tucker 1998:98)

These co-occurrence differences are not, however, confined to the syntactic level: Tucker (1998:97) suggests that if we “extend our sense of ‘formal’ to cover less overtly grammatical co-occurrence phenomena such as collocation”, then we are more likely to be able to find formal evidence for the paradigmatic organisation of lexis. As he observes:

Collocational relationships provide powerful evidence of the senses of items in showing that certain items prefer the ‘company’ of other items. (Tucker 1998:106)

In other words, the system networks for lexically realised options are to be motivated in terms of the co-occurrence patterns, both lexical and grammatical, which can be revealed by careful, corpus-based analyses of authentic usage. An example of such motivation (Tucker 1998:106–107) is provided by the collocational behaviour of the items *strong* and *powerful* which, as we saw in §5.5, were used by Halliday in his 1966 exposition of the way in which lexical and grammatical patterns cut across each other. Tucker claims that examination of the sets of collocates for the two items reveals that *strong* collocates with words for things which resist force, while *powerful* collocates with words for things which generate force. This co-occurrence behaviour could be used to motivate a semantic distinction between the two closely related adjectives within the system networks.

Tucker (1996b) has also demonstrated how the collocational and colligational relationships involved in semi-fixed expressions (e.g. *I haven’t the faintest idea* and its limited range of variants) can be modelled in terms of systemic choice. This work responds, in systemic terms, to the repeated demonstration, through corpus-based studies, that words are

often not selected individually: rather, there is co-selection of items to convey particular meaning, according to the ‘idiom principle’ put forward by Sinclair:²⁸

The principle of idiom is that a language user has available to him or her a large number of semi-preconstructed phrases that constitute single choices, even though they might appear to be analysable into segments. (Sinclair 1991: 110)

The claim that there is a systematic relationship between the paradigmatic patterning of the words of a language and the formal properties of those words is, of course, not confined to SFG. Much work has been done on the relationship between semantics and syntax in the English verbal lexicon, both within functional linguistics and outside it.²⁹ As we saw in §3.5, recent work within the Functional Lexematic Model has shown correlations between the position occupied by a lexeme in a semantic hierarchy and the range of syntactic complementation patterns available to that lexeme (the Principle of Lexical Iconicity, Faber & Mairal Usón (1994:211, 1998a:8, 1999:187)). Work within RRG has demonstrated correlations between different senses of the English verb *remember* and its equivalent in the Australian Aboriginal language Mparntwe Arrernte, and the syntactic complementation patterns shown by these different senses, which can be predicted from the decomposed semantic representations for each sense (Van Valin & Wilkins 1993).³⁰ The FLM and RRG have not, however, yet built evidence from collocation into their models.³¹

6.2.2.3 *Towards a synthesis of ideas from FG and RRG: the use of an abstract semantic metalanguage*

Recognition of the force of RRG arguments for an abstract metalanguage has motivated recent work within the Functional Lexematic Model, in which major changes are made to some tenets which the FLM inherited from FG. Like Schack Rasmussen, whose work was summarised briefly in §6.2.2.2, Faber & Mairal Usón (1999:55–56) point out that meaning definitions play a very secondary role in FG theory: stepwise lexical decomposition is not even mentioned in the design of lexical representations in FG, and has no direct role to play in the specification of the underlying structure of the clause. One of the main

28. For further discussion of co-selection, see e.g. Francis (1993), Hunston & Francis (2000: 230–235). Pérez González & Sánchez Macarro (2000) have also called attention to the importance, for systemic linguistics as well as for interlingual and intercultural communication, of the fact that the expression of a single meaning often involves several lexical units and their associated grammatical patterns. Unfortunately, however, they do not investigate in any detail the implications of such expressions for a rank-based model of grammar such as Halliday’s.

29. Of the proposals which have been made within a basically generative framework, two stand out as worthy of particular mention: those of the MIT Lexicon Project (see e.g. Levin 1995, Rappaport Hovac and Levin 1998); and the model of Pustejovsky (see e.g. Pustejovsky 1995). For a summary of these and other proposals, see Faber & Mairal Usón (1999).

30. Complementation patterns involving clause combination will be discussed in Chapter 3 of Part 2.

31. See, however, Butler (1998, 1999b) for suggestions on how collocational information could be used to enrich the information in the FG predicate frame.

aims of the FLM is to place meaning definitions at the centre of a lexically-based grammar, as amply illustrated in Faber & Mairal Usón (1999). In their latest work, however, these authors go a step further, proposing a model in which stepwise lexical decomposition is rejected in favour of an abstract metalanguage for semantic description, as in RRG (Mairal Usón & Van Valin 2001; Mairal Usón & Faber 2002).³² We saw in §3.5 that the FLM postulates a hierarchically organised set of lexical classes (e.g. cognition, physical perception, action, movement, existence, etc.), each of which corresponds to all or part of some conceptual domain. Within each lexical class is a set of subdomains covering a particular area of meaning (e.g. the existence domain has the subdomains ‘to begin to exist’, ‘to continue to exist’ and ‘to stop existing’: see Faber & Mairal Usón (1999:219)). The lexicon itself is seen as a kind of grammar, in which words are specified with their semantic, syntactic, morphological and pragmatic properties. The main idea behind the recent work is thus that

... each lexical class would be conceived as a grammar formed by a set of lexical rules which would ultimately allow the reduction of lexical material in the lexicon. (Mairal Usón & Van Valin 2001:156).

Mairal Usón & Van Valin (2001:157–159) and Mairal Usón & Faber (2002:41ff.) show that the FG predicate frame is poorly equipped to deal with the challenge posed. Firstly, no account is available, within FG, of how predicate frames arise, or how they are connected with the meaning definition of the predicate. Secondly, certain classes of verb permit sets of syntactic alternations: for example, in the case of verbs of cutting, studied by Levin (1993), 18 such alternations are recognised, two of which are illustrated in (17) and the final clause of (18) below:

(17) *The scissors snip and snip.* (BNC A08 2363) (Instrumental Subject alternation)

(18) *The secret to successful royal icing is to beat the mixture for at least 15 minutes to break down so that the cake cuts well.* (BNC C8A 2135) (Middle alternation)

Each such alternation would require a separate predicate frame in FG, and no mechanism is available for representing the information which is shared across a group of predicates, or for showing that particular syntactic configurations occur with systematic distributions relative to lexical classes. Thirdly, there are productive constructions such as the resultative construction exemplified in (19) and (20) which are not adequately accounted for in FG: for instance, it is not clear whether the expression representing the resulting entity should be regarded as a satellite or an argument.

(19) *Chop the potatoes into bite-sized pieces ...* (BNC ABB 1018)

32. The suggestion that abstract predicates should be introduced into meaning representations in FG is not new: Bakker (1994) makes such a proposal, basing his arguments on the need for categories such as ‘animate’ and ‘human’ in the treatment of selection restrictions and the postulation of generalised predicate formation rules, and also the possibility that semantic decomposition by means of meaning postulates may ultimately yield features of a cross-linguistically and cross-culturally valid nature.

(20) *He hacked the pizza into pieces ...* (BNC GWG 1984)

As Mairal Usón & Van Valin and Mairal Usón & Faber observe, these problems can be solved if a system of semantic representation such as that in RRG is adopted. For instance, the state resulting from an Achievement or Accomplishment is represented in RRG by means of the addition, to the logical structure of the predicate, of a component 'BECOME pred' (y)'. Furthermore, the logical structures of RRG can be expanded, in a motivated manner, to account, for example, for instrumentals acting as arguments in examples such as (17) above: Causative Accomplishment verbs such as those of cutting represent a causal chain required for a particular result to be brought about, while, for example, Activity verbs involve no such chain, so that instrumentals are not predicted to act as arguments.

Mairal Usón and his colleagues therefore propose to replace the predicate frame by the more powerful type of representation used in RRG. An important consequence of this move is, of course, the abandonment of FG's rejection of an abstract semantic metalanguage in favour of meaning definitions based on stepwise decomposition of lexemes of a particular language in terms of simpler lexemes of that language.

The key concept in this new account is that of the **lexical template**, a construct which defines a whole lexical subclass.³³ Consider the lexical template for manner-of-cutting verbs postulated by Mairal Usón & Van Valin (2001: 159), shown in (21), also given in slightly altered form in Mairal Usón & Faber (2002: 55):

(21) $[[\text{do}'(w, [\text{use.sharp-edged.tool}(\alpha)\text{in}(\beta)\text{manner}'(w, x))] \wedge [\text{BECOME be-at}'(y, x)]] \text{CAUSE} [[\text{do}'(x, [\text{make.cut.on}'(x, y)]]] \text{CAUSE} [\text{BECOME pred}'(y, (z))]]],$
 $\alpha = x.$

This formula³⁴ can be unpacked in ordinary language as follows:

... an effector (*w*) uses a sharp-edged tool (*x*) in such a way that the tool becomes in contact with a patient (*y*), causing an event such that *x* makes a cut on *y*, and this, in turn, causes that *y* becomes *cut*. Furthermore, a new variable (*z*) is introduced to account for those cases where the final result is further specified (*into pieces, in strips, open* etc.). (Mairal Usón & Van Valin 2001: 159)

The template in (21) makes use of the RRG distinction between external variables, which affect the syntax, and internal variables, which do not affect the syntax but codify other information relevant to the meaning of the word (see §4.10), and so are used in the specification of lexical classes.³⁵ The external variables are *w* (the Effector), *x* (the Instrument),

33. Mairal Usón & Faber (2002: 90) claim that their new concept of lexical template is similar in many ways to the predicate schemas of their earlier proposals. However, this seems misleading, as predicate schemas were still modelled on the predicate frame and were based on the principle of stepwise lexical decomposition.

34. As noted in Chapter 4 the caret symbol (\wedge) is used to mean 'and' where the two processes occur simultaneously, rather than in temporal order, as with & (see Van Valin & LaPolla 1997: 109).

35. Note that the Completeness Constraint of RRG, which specifies that all explicit variables in an underlying representation must be syntactically realised, applies only to external variables. The fact that internal

y (the Goal/affected entity) and z (a resulting state); the internal variables are α and β , referring to the type of tool and any specific manner of cutting respectively. In addition to Instrument and Manner, Mairal Usón & Faber (2002) postulate two further internal variables: a specific type of Affected Object is part of the semantics of verbs such as *saw*, *shear*; while a particular kind of Result is part of the meaning of, for example, *carve* (something into a special shape), etc. As a concrete example, let us take the clause given in (20) above. Using the template in (21), we may analyse the logical structure of (20) as in (22):

- (22) [**rough**' \wedge **violent**' [do' (he, [use.**sharp-edged.tool**' (he, x))] \wedge [BECOME be-at' (pizza, x)]] CAUSE [[do' (x, [make.**cut.on**' (x, pizza)]]] CAUSE [BECOME cut' (pizza)] & [BECOME exist' (pieces)]]]

The component **rough**' \wedge **violent**' indicates the manner of cutting and corresponds to the β variable, while the α variable, for the tool, remains unspecified. This alternation and all the other possible alternations shown by manner of cutting verbs are handled by means of a set of lexical rules which map the canonical representation in (21) on to the appropriate lexical entry. These rules effect reductions of various kinds and are subject to the following Lexical Template Modelling Process:

Lexical templates can be modeled by accommodating external variables, instantiating internal variables and operators (e.g. CAUSE), or else, by introducing elements resulting from the fusion with other templates iff there is a compatibility between the features in the lexical template and the syntactic construction under scrutiny.
(Mairal Usón & Faber 2002: 87)

Mairal Usón & Faber establish reduced templates for various kinds of alternation, showing how they are derived from the canonical representation according to the modelling process.

The claim that the stepwise lexical decomposition approach of FG needs to be replaced by a more abstract specification of meaning is also made by García Velasco & Hengeveld (2002), whose work differs from that of Mairal Usón & Faber in starting from syntactic configurations rather than from the lexicon. This work builds on earlier proposals by García Velasco (1998) who, following Nuyts (1992a), suggests that it may be possible, and desirable, to enrich FG by incorporating a prelinguistic conceptual level. As we saw in §3.6, Nuyts has pointed out that such a conceptual level would take over some of the complexity at present handled within the FG grammar itself, such as that concerned with the specification of selection restrictions. Furthermore, we have seen that Nuyts argues for greater abstractness in the specification of conceptual structures than in the grammar itself. In García Velasco & Hengeveld's model, then, lexical-conceptual structures are represented by abstract meaning definitions. Examples from their paper are given in (23), which shows the meaning definition for the 2-argument meaning of the verb *open*:

variables in representations such as (21) may not receive overt coding does not, therefore, contravene the Completeness Constraint.

- (23) (= García Velasco & Hengeveld's (32), 2002:114)
open [V]
 [f₁: [CAUSE (x₁) [BECOME *open*' (x₂)]]]

In (23), 'f' is a variable designating a relation between two entities, represented by the variables x₁ and x₂. There are clear links with the RRG type of logical structure here, in that the representation makes use of standard primitives CAUSE and BECOME, and also in that García Velasco & Hengeveld accept that the semantic functions of arguments can be read off from their positions in the meaning definition: here, x₁ is the Agent and x₂ the Patient. The definition for *open* with a single argument is shown in (24):

- (24) (= García Velasco & Hengeveld's (35), 2002:115)
open [V]
 [f₁: [BECOME *open*' (x₁)]]]

Meaning definitions such as the above mediate between lexemes and the frames in which they occur. García Velasco & Hengeveld argue, however, that the predicate frame as postulated in FG fails all three of the criteria of adequacy to which the theory aspires.

Firstly, the FG account of predicate frames and their relationships with one another makes predictions which are not borne out by psycholinguistic evidence. The 1- and 2-argument uses of verbs such as *open*, or the difference between '*load* x on to y' and *load* y with x', are dealt with in FG by means of predicate formation rules which take one predicate frame as input and derive another as output. Derived predicates should take longer to process than those which are present in the lexicon, because of the work done in activating the predicate formation rule. García Velasco & Hengeveld cite work from the psycholinguistic literature (Carlson & Tanenhaus 1988) concerned with the time taken to process pairs of sentences such as the following:

- (25) (= García Velasco & Hengeveld's (5), 2002:98)
 a. *Bill set the alarm clock for six in the morning.*
 b. *Bill set the alarm clock onto the shelf.*
- (26) (= García Velasco & Hengeveld's (6), 2002:98)
 a. *Bill loaded the truck onto the ship.*
 b. *Bill loaded the truck with bricks.*

In (25) we have a sense ambiguity (adjust time vs. put in a particular location) which is not resolved until the human processor reaches the prepositional phrase. Carlson & Tanenhaus showed that such sentences took longer to process than ones in which there was no such ambiguity. In (26), on the other hand, we have ambiguity of semantic roles rather than of lexemes as such: the role of *the truck* is not clear until we get to the prepositional phrase. Carlson & Tanenhaus showed that such ambiguities were not associated with increases in processing time. The FG proposals, however, would suggest the opposite of these results, since the two senses of *set* would be present for lookup in the lexicon, while the role ambiguity would need to be resolved by working through the relevant predicate

formation rule which derives the predicate in (26b) from the type in (26a), so predicting that the (b) sentence would take longer to process than the (a) sentence.

Secondly, predicate frames are argued to be lacking in pragmatic adequacy, in that studies such as Butler (2001) on the predicates *give* and *take*, and García Velasco & Portero Muñoz (2002) on the conditions for omitting the Objects of predicates such as *eat* and *find out*, demonstrate that in its present form, the predicate frame is unable to account for the ways in which predicates and their arguments are used in actual communicative discourse. For instance, for the lexeme *give*, used by Dik (1997a:59) as an example in introducing the concept of the predicate frame, examination of corpus data (Butler 2001) reveals that in about 20% of examples the entity in the first argument slot is not animate, as the frame requires: indeed, as García Velasco & Hengeveld observe, such entities do not qualify as Agents at all according to Dik's classification, but rather as Force. The Agent/Force alternation is in fact quite common, for instance with instrumentals which are converted to Force function (e.g. *X cuts Y with Z/Z cuts Y*), and García Velasco & Hengeveld note that although a predicate formation rule could be formulated to account for such alternations, the considerable alterations to the predicate frame obscure the clear semantic relationship between the variants.

Thirdly, predicate frames are claimed to be inadequate from the point of view of typological considerations. Here, the argument is from languages, such as Mundari, Squamish and Samoan, in which any lexeme may be used in any syntactic slot, with consequent systematic variation in the meanings conveyed. In such languages, as García Velasco & Hengeveld point out, the frames in which lexemes can occur are not intrinsic to the lexemes themselves, so that we need to dissociate the set of lexemes from the set of frames. The requirement of typological adequacy then dictates that if such an approach is required for languages with flexible use of lexemes, it must be extended to other languages too.

The dissociation referred to above is achieved in García Velasco & Hengeveld's model by postulating **predication frames**,³⁶ specifying the underlying configurations in which lexemes³⁷ can occur, and forming part of the Fund for a particular language. The authors provide examples of restrictions on predication frames in particular languages: e.g. many Papuan languages restrict the number of verb arguments to a maximum of two. They also point to semantic differences in relation to predication frames: e.g. many languages treat Experiencers in a different way from other types of argument. There are also cross-language differences in the interaction of semantic and syntactic patterns.

García Velasco & Hengeveld provide a general inventory of predication frames for the heads of predicate and term phrases, and for modifiers of these two types of phrase, and of predications and propositions. These frames specify the syntactic environments in which lexemes may occur. Meaning definitions for lexemes are related to the appropriate frames by means of linking rules. For instance, in the case of the meaning definition for *open* given

36. The idea of a generalised frame of this type was first put forward in Hengeveld (1992a:80, 92–94).

37. García Velasco & Hengeveld use the term 'lexeme' so that 'predicate' can be used for lexemes which are used as predicates within particular syntactic contexts.

earlier in (23), the abstract components present in the definition will guide linking towards a transitive predication frame and the lexeme will be the head of a predicate phrase. On the other hand, the components of the meaning definition in (24) will lead to the selection of an intransitive predication frame.

Despite the considerable differences in the proposals of Mairal Usón & Faber and of García Velasco & Hengeveld, there are several key points of similarity. Firstly, both sets of proposals highlight the inadequacy of the predicate frame as conceived in Dik's work, replacing this by lexical templates (in the case of Mairal Usón & Faber) or predication frames (García Velasco & Hengeveld). Secondly, both promote meaning definitions from their somewhat obscure and minor role in Dik's FG, to a position of much more central importance in the model. Thirdly, both reject the technique of stepwise lexical decomposition in the formulation of meaning definitions, adopting instead an abstract system involving a semantic metalanguage. And finally, both proposals take over certain concepts from RRG, though those of Faber & Mairal Usón go further in this respect than those of García Velasco & Hengeveld. It seems likely that these radical changes in the nature of the FG model will gather momentum in the future, with important consequences for the fundamental organisation of FG.

There are already indications that the abstract metalanguage approach is proving fruitful in theoretical and descriptive studies within the FLM. Firstly, it is being assimilated into the word-formation component of the FLM, the basic elements of which were presented in §3.5. As we shall see in more detail in Chapter 7, Cortés Rodríguez & Pérez Quintero (2002) present a detailed account of *-er*³⁸ nominalisations in English which is intended to do justice to the lack of uniformity in the types of base to which the affix can be attached (which go well beyond the class of action verbs), the semantic properties of the resulting forms, and their possible syntactic configurations. They demonstrate that the RRG system of logical structures, using an abstract semantic metalanguage, allows a rich and insightful account of this complex area. Further discussion of these proposals can be found in Mairal Usón & Cortés Rodríguez (2000–2001). Secondly, a number of studies of particular lexical areas have already used the abstract approach to advantage: see, for instance, Cortés Rodríguez & Pérez Quintero (2001) on verbs of healing in Old English, González Orta (2002) on speech verbs in Old English, Goded Rambaud & Jiménez Briones (2002) on English verbs of feeling through physical contact, and Butler (2002b) on a corpus-based study of the verb *CATCH*.

6.3 Similarities and differences in relation to syntagmatic and paradigmatic patterning

We have seen that one of the most fundamental differences between FG and RRG, on the one hand, and SFG, on the other, is concerned with the priority given in the theories to the syntagmatic and paradigmatic axes of linguistic patterning. Both FG and RRG, like

38. This designation is intended to include variant spellings such as *-or*, *-ar*.

formal theories of syntax, are essentially syntagmatically-based grammars: they build up structures directly, albeit through rather different mechanisms. SFG, as we have seen, is a paradigmatically-based approach: the heart of the grammar is the set of system networks representing the options in ‘meaning potential’ which are afforded by the language in question, and structures are derived from sets of systemic features in the process of realisation. This emphasis on modelling the contrasts within a language marks SFG off from all other current linguistic theories, and has arguably been extremely important in making the theory applicable in areas as diverse as stylistics, educational linguistics and computational linguistics.³⁹

Fundamental as this difference in orientation is, there are nevertheless parallels which may be drawn between the system networks of SFG and aspects of the generative mechanisms of FG and RRG.⁴⁰ As we saw in Chapters 3 and 4, both FG and RRG make use of the concept of operators, which are attached to particular layers in the organisation of the clause and can take various values, which can be compared with terms in systems. I shall examine two examples to illustrate the relationships involved.

In FG, tense is handled in terms of a predication operator (Level 2).⁴¹ Dik (1997a: 238) gives a tree showing possible tense distinctions. This is reproduced in Figure 6.3 below. We can very easily re-express this tree as a system network, as shown in Figure 6.4. There is, however, one important qualification to be made here, which is that Dik’s tree is meant to represent the **possible** tense distinctions in the world’s languages, and he claims that languages may stop at the top level (i.e. have no tense distinctions), or at any of the splits represented in the tree. A system network, on the other hand, represents the distinctions available in a **given** language. Nevertheless, the network in Figure 6.3 does indeed represent the situation in a language which has all the distinctions present in Dik’s tree, and we could write networks for all the simpler situations too. A language with no tense distinctions would, of course, not have a tense network at all.

In RRG also, tense is handled as an operator, attached to the clause level of syntactic structure. Again, this operator can take various values:

There is a range of values for each operator, which depends on the operator system in the language in question; for example, in a language with a past/non-past tense system, there are two values for the tense operator, whereas in a language with a past/present/future system, there are three values. (Van Valin & LaPolla 1997: 171).

Such values could clearly be expressed as a system network similar to the one in Figure 6.4.

As a second example of the parallel between operators and system networks let us consider the area of illocution. As we shall see in Chapter 1 of Part 2, there is more

39. For more detail on applications of SFG, also on the relationship between applicability and the paradigmatic orientation of the theory, see Butler (1994), also Chapter 5 of Part 2 of the present work.

40. Matthiessen & Bateman (1991:77) point out that in other theories “[t]he paradigmatic organization represented by the system network of systemic theory is often implicit in the rules intended to specify syntagmatic properties”.

41. This brief treatment anticipates the more detailed discussion in Chapter 9.

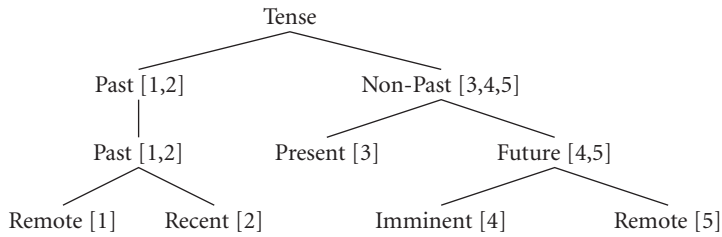


Figure 6.3. Tense distinctions according to Dik (1997a:238, example (64))

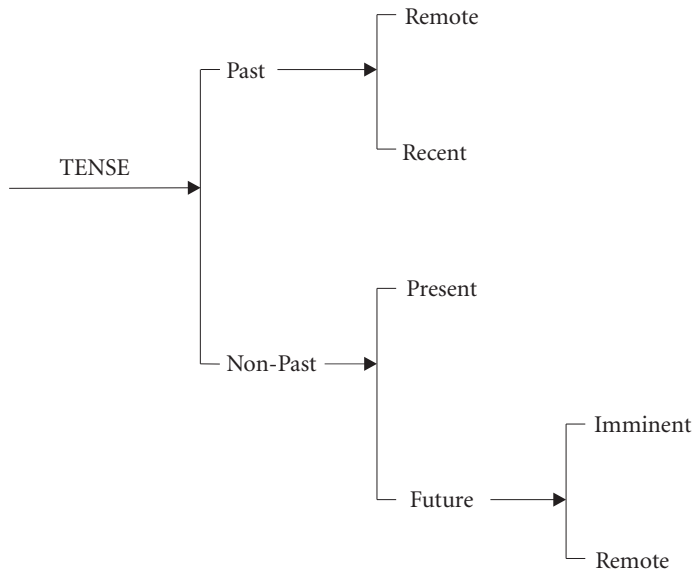


Figure 6.4. System network representation of Dik's tense distinctions

than one approach to this area within FG: here, for purposes of illustration, I shall look only at the initial formulation given by Dik (1997a:300–304), which is expanded in Dik (1997b:Chapters 11 and 12). As we saw in §3.2.2.7, Dik deals with illocution in terms of a set of operators at Level 4 in the layered underlying structure of the clause: Decl(arative), Int(errogative), Imp(erative) and Excl(amative). Although Dik sees these as distinct operators, he also writes (1997a:302) of ‘illocutionary values’, and we shall not seriously misrepresent Dik’s intentions if we re-express his claims in terms of a simple system network for illocution, as in Figure 6.5.

We saw in Chapter 4 that RRG also treats illocution in terms of operators, attached at the clause level. The RRG set of distinctions is slightly different from that of FG:

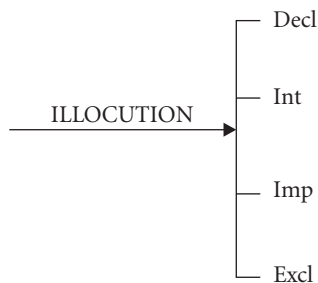


Figure 6.5. A system network for Dik's basic illocutionary distinctions

... we can talk about interrogative illocutionary force, imperative illocutionary force, optative illocutionary force and declarative illocutionary force.
(Van Valin & LaPolla 1997: 41)

Again, however, a simple network could be drawn to capture these distinctions.

What emerges from these two examples is that although FG and RRG do not give priority to paradigmatic relations, those relations are, inevitably, there in the grammar, and are indeed discussed in terms of contrasts between possible values of operators. This is particularly clear in Dik's discussion of operators, where he says that they "typically capture a limited number of crucial distinctions in some semantic domain" (Dik 1997a: 160), and goes on to give examples from the domains of number, tense, polarity, aspect, mood (Dik's cover label for matters of possibility and necessity) and illocution. Furthermore, in the following passage Dik appears to come rather close to ideas from SFG:

... the underlying structure of the clause according to FG is a complex layered network in which a great number of different elements may operate at different levels, creating all sorts of dependencies through the network. The expression rules, which mediate between this underlying network and the actual form of linguistic expressions, again form a complex interface, ... (Dik 1997a: 56)

Clearly, Dik is not using the term 'network' in the technical sense of SFG, but the ideas are broadly similar.

The incorporation of a specifically paradigmatic component⁴² into FG and RRG, systematising the distinctions between values of a given operator, would have a number of benefits. Firstly, if these theories are to attain the psychological adequacy which they claim to be committed to, then they must surely account for the incontrovertible fact that speakers and writers, consciously or unconsciously, make choices from the various possibilities afforded by the language they are using. Explicit formulation of relationships between values, and argumentation about how these relationships should be grouped (cf. Dik's tree

42. There are, however, issues related to where, in the overall theory, such paradigmatic relations should be accounted for. In Chapter 6 of Part 2 I shall raise the question of whether such paradigmatic relations are best captured in the grammar itself or in a conceptual database on which the grammar can draw.

diagram in Figure 6.3) would certainly be helpful in such an endeavour. Secondly, attainment of the goal of typological adequacy would also be facilitated by the systematisation of the options available, within given semantic areas, in different languages. Thirdly, a system network which built in not only the grammatically realised meanings of operators but also the lexically realised meanings of predicates would be able to handle relationships between what in FG would be represented as operators (grammatical realisation) and as satellites (lexical), or in RRG as operators (grammatical) and adverbials. So, for example, the co-occurrence constraints between certain adverbials and tense in English would pose no problems for the SFG approach, while in FG and RRG it would be necessary to formulate special rules relating grammatical and lexical realisations of temporal meanings.⁴³

6.4 Similarities and differences in layering

We have seen in the last three chapters that FG, RRG and SFG all build a layered structure into their model of the clause.⁴⁴ Comparisons of layering in FG and RRG can be found in Van Valin (1990) and Nuyts (1993b:956–965, 1994:164–181, 1998, 2001a:280–287), a comparison of FG and SFG in Butler (1990:42–44), and a survey covering all three theories (though with an emphasis on SFG) in Butler (1996a). In the following discussion, which draws heavily on these sources, I shall go rather more deeply into the question of layering than was possible in the earlier chapters, concentrating on three aspects, within a comparative perspective:

- whether layering applies to the syntactic structure of the clause, its semantic structure, or both;
- what the relationships are between layers;
- what kinds of evidence have been adduced for the proposals.

The credit for the initial proposal to build functional layering into the structure of the major unit of the grammar, the clause, must go to Halliday for his pioneering work in the late 1960s and 1970s, reviewed in Chapter 5. Hengeveld explicitly recognises this, and also his debt to Foley & Van Valin (1984), in formulating his own layering proposals within FG.

The original evidence for the layered structure proposed by Hengeveld and Dik was concerned with the scoping of operators, as outlined in Chapter 3. Hengeveld (1989:142) claims that operators at layer n may impose restrictions on operators of level $n-1$. For instance, in Spanish mitigation of a declarative clause (Level 4) by the use of the subjunctive disallows the inclusion of an adverb expressing certainty (Level 3). In English, desiderative mood (*I wish ...* Level 3) requires the situation referred to in the clause to be non-actual (Level 2). Hengeveld also demonstrates that in a number of languages the preferred order

43. Further evidence for the advantages of a feature-based account of paradigmatic relations will emerge from the discussion of States of Affairs in Chapter 8.

44. We shall see in Chapter 7 that layering is also proposed for some aspects of the noun phrase.

for the expression of operators is $\pi_4\pi_3\pi_2\pi_1$ Pred or Pred $\pi_1\pi_2\pi_3\pi_4$, and claims that the literature suggests that diachronic developments tend to follow the order from first to fourth level operators. All of these phenomena can be used as evidence in favour of the layering hypothesis. Hengeveld's own work on modality in Spanish also supports his model.

Further evidence for the FG layering model can be found in work demonstrating its explanatory power in relation to coding and behavioural properties in various areas of the grammar. For instance, Dik et al. (1990) show that the coding and syntactic behaviour of adverbial satellites can be accounted for in terms of attachment to the representational or interpersonal levels, and to different layers within these. The work of Dik & Hengeveld (1991) and of Bolkestein (1990) demonstrates that different types of complementation can be insightfully accounted for in terms of layering, while Hengeveld (1990b) makes similar claims in relation to types of copular construction.

The layering proposals of RRG are in some ways similar to those of FG, but in other ways very different. The most important difference is that, as pointed out by Van Valin (1990: 199), layering in FG refers to the semantics, while that of RRG is concerned with the units of nucleus, core and clause which, although semantically motivated, are themselves syntactic. Furthermore, as we saw in Table 6.1 earlier in this chapter, these syntactic units are not in a one-to-one relationship with the semantic units of FG, so it cannot simply be the case that the FG units underlie the RRG distinctions.

Like the layers of FG, those of RRG have a hierarchical relationship of inclusion: the core contains the nucleus, and the clause contains the core and periphery. Evidence for the distinctions between the RRG units was discussed in §6.2.1.1.1 in relation to Van Valin's claim that an explicit syntactic representation is needed in the grammar.

There are also similarities and differences between the FG and RRG approaches regarding operators. As we have seen, RRG operators are layered in the sense that each is attached to a particular layer of the clause structure, and it is claimed, as in FG, that cross-linguistically the linear order of operators reflects scoping relations (Van Valin & LaPolla 1997: 49).⁴⁵ However, FG takes operators to be part of the layer to which they are attached, while RRG does not (Van Valin & LaPolla 1997: 46), but provides a separate 'projection' for them, in parallel with the constituent and focus projections. The reason is not hard to find: operators in RRG are said to "modify the clause and its parts" (Van Valin & LaPolla 1997: 40), and the fact that they are included in semantic representations of the clause (Van Valin & LaPolla 1997: 171) suggests that they are to be regarded as basically semantic in nature. Furthermore, the scoping relations of operators in RRG are gradual, rather than being organised in terms of a small set of levels as in FG.

Gradual layering is also a feature of Nuyts' Functional Procedural Grammar model (see especially Nuyts 1998, 2001a: 334–366, forthcoming), but Nuyts argues persuasively that this layering occurs at the conceptual level of organisation and does not need to be duplicated within the grammar itself, although conceptual layering clearly has important effects on grammatical structure and processing. Nuyts' work leads him to postulate a

45. Differences between FG and RRG in scoping with respect to tense and modality operators will be discussed in Chapter 9.

conceptual hierarchy of qualifications from States of Affairs themselves, through qualificational and then quantificational aspect, time, deontic modality, epistemic modality, to evidentiality, and he points out that this cline of qualifications has a clear rationale in human cognitive functioning: going up the cline involves moving from qualifications of the SoA itself, requiring only knowledge of that SoA, to global assessments based on external knowledge; furthermore, this shift corresponds to a basic difference between perceptually-gained information relevant to the specification of the SoA itself, towards an increasing emphasis on speaker interpretation (Nuyts, forthcoming).

Let us now bring in the layering proposals of SFG. We have already noted the influence, on Hengeveld's layering proposals within FG, of Halliday's metafunctional approach to the clause: the representational and interpersonal levels of FG, as proposed in Hengeveld (1989), are closely parallel to the ideational (or, more exactly, experiential) and interpersonal layers of SFG.⁴⁶ Once again, though, there are some crucial differences between SFG, on the one hand, and FG and RRG, on the other.

One obvious difference is that there is nothing in the layering proposals for the clause in FG or RRG which corresponds to the textual metafunctional layer of SFG: phenomena related to information structuring are dealt with by pragmatic function assignment in FG,⁴⁷ and by the focus projection in RRG, which itself lies outside the Layered Structure of the Clause. Halliday himself recognises that in at least one respect the textual function is the odd one out:

From the standpoint of the functions of the linguistic system in relation to some higher-level semiotic that is realized through the *linguistic* semiotic (i.e. from 'above'), it is the textual component that appears as distinct, since the textual component has an enabling function in respect of the other components: language can effectively express ideational and interpersonal meanings only because it can create text.
(Halliday 1978: 130)

There is also a very major difference in the relationships between the layers: while those of FG and RRG are related hierarchically, those of SFG are claimed to be largely independent, parallel strands, mapped on to each in the course of realisation.⁴⁸ As we saw

46. Superficially, analyses of the type presented in §3.7.1 to illustrate Hengeveld's (forthcoming a) latest proposals look very much like the multifunctional analyses of Halliday's *IFG*. The apparent resemblance is, however, misleading, as there is by no means a one-to-one match between Hengeveld's three levels and the three metafunctional layers of the SFG structure. For instance, Hengeveld's expression level is not equivalent to Halliday's textual layer, and the interpersonal layer of Functional Discourse Grammar is crucially concerned with acts of reference and ascription which do not figure in the SFG account of the interpersonal component.

47. We saw in §3.3 that Hengeveld (1989:151) has proposed a fifth class of satellites, σ_5 , which have no grammatical equivalent in the set of operators, and whose function is to allow the speaker to situate the utterance within the context of discourse. Such satellites would be seen as part of the textual metafunction in SFG.

48. Matthiessen & Bateman (1991:73), comparing layering in SFG and other theories, observe that in some theories, including FG, the 'functional components' of the grammar are "modelled in a way that is

in §5.3, one kind of evidence for this is that meanings from one metafunction tend, it is claimed, to interact very little with those from other metafunctions, in terms of systemic dependency. This claim can, however, be shown to be highly dubious. Berry (1982:77) has pointed out that there are clear counter-examples of a very central nature in relationships between options in transitivity (ideational) and mood/modality (interpersonal), voice and theme (both textual). Butler (1996b:156–157) also demonstrates relationships between choices in mood/modality and thematisation. Even Matthiessen & Bateman (1991:166), themselves staunch defenders of Halliday's position, point out, within the context of a computer implementation of systemic grammar for text generation, that the choice of what to thematise (textual) depends on what participants and circumstances (experiential) are available for thematisation.⁴⁹ Although Halliday claims only *relative* independence for choices within different metafunctions, the fact that clear dependencies do exist between options in different components must cast serious doubt on this claim. Furthermore, Fawcett (1980:34–38) regards the independence criterion as insufficient to determine the metafunctional address of networks, and his own criteria, related primarily to the kind of knowledge of the world to which sets of systemic choices are related, lead, as we have seen, to the postulation, in recent versions of the Cardiff grammar, of no fewer than eight strands of meaning. Finally, Halliday's proposals offer no explanations for many of the operator scoping phenomena observed in FG and RRG. Some of these, for instance Hengeveld's observations relating to constraints between operators at levels 3 and 2, present further direct evidence against the independence claim, since they show examples where an operator at the interpersonal level constrains one at the representational level. Others, such as the strong cross-linguistic tendency for the linear order of operator expression to reflect scoping, would simply not arise as a major issue in SFG because of the relatively low priority which has been accorded to typological adequacy in this theory.

In addition to evidence for the metafunctions from within the system networks themselves, Halliday presents arguments for them from two other sources, in what Halliday (1996:16) has called a 'trinocular perspective' on the language system. Firstly, a systematic relationship is claimed between meanings represented by each of the metafunctions, on the one hand, and the types of situational context in which communication occurs, on the other.⁵⁰ Briefly, as outlined in Halliday (1978:142–145), situational context is described in terms of features of field (the type of ongoing social activity of which the language forms a part, including the subject matter), tenor (relationships between people engaged in the interaction, involving scales of familiarity, power relations, and the like), and mode (the channel of communication, basically spoken or written, and the degree to which language

closer to stratal organization; that is, some kind of extrinsic ordering is imposed on the decisions and their consequences”.

49. We shall see in the discussion of text generation in Chapter 5 of Part 2 that Matthiessen & Bateman propose a solution for this problem which sidesteps this problem, at the expense of some complication in the theory.

50. The systematisation of situational context and the relationship between context and meaning choice will be treated in much more detail in Chapter 4 of Part 2.

is self-sufficient, rather than supplemented by other codes, in the interaction). It is then proposed that

... the type of symbolic activity (field) tends to determine the range of meaning as content, language in the observer function (ideational); the role relationships (tenor) tend to determine the range of meaning as participation, language in the intruder function (interpersonal); and the rhetorical channel (mode) tends to determine the range of meaning as texture, language in its relevance to the environment (textual). (Halliday 1978: 117)

This purported relationship is seen as strengthening the case for postulation of the metafunctions in the first place. Certainly, intuition suggests that it is plausible to claim, for instance, that choices in mood, modality and intonationally-realised attitudinal meanings vary with the relationships between those participating in the interaction. However, as with the relative independence criterion, the ease with which counter-examples can be found (see e.g. Butler 1996b: 159–162) suggests that much more work on the purported correlations needs to be done before we can accept their validity. A further problem is that the definitions of field, tenor and mode are themselves somewhat problematic, though work by Martin (1992a) has considerably clarified and refined this area.⁵¹

Secondly, Halliday (1979: 63ff.) claims that the metafunctions have different preferred modes of realisation in the overall structure of the clause, in English at least: the experiential type of ideational meaning is typically expressed as configurations of discrete elements (e.g. the transitivity functions Actor, Process, Goal, etc. – see §5.2.3); the logical type as recursive structures; interpersonal meanings tend to be distributed prosodically throughout the clause (e.g. modalities can be expressed by means of both modal verbs such as *might* and adverbs such as *possibly*); while textual elements tend to be realised ‘culminatively’, by phenomena at the margins of the clause (e.g. Theme is realised by initial placement in English).⁵² Halliday (1979: 70–73) also likens these preferred realisation types to Pike’s (1959) tripartite classification of language as particle (akin to Halliday’s discrete experiential elements), field (parallel to Halliday’s interpersonal prosodic realisations) and wave (likened to the culminative patterns postulated for the textual component). These characterisations of metafunctions in terms of realisation types are repeated in later work (Halliday 1994a: 4506, 1994b: 35). Once more, though, there are problems: the main realisation of mood in English and some other languages involves the position of two discrete elements, the Subject and finite verb;⁵³ and Halliday (1979: 70) himself concedes that the structural tendencies he claims for English may not be universal, though in later work he states:

51. See also Butler (1985: 88–90, 1996b: 159–162) and also the detailed discussion of this area in Chapter 4 of Part 2.

52. See Matthiessen (1992) for a detailed discussion of the textual function, including the preferred realisation of textual options in terms of ‘peaks’ of prominence and ‘troughs’ of non-prominence.

53. For further discussion of this point, see Matthiessen (1991b), who supports Halliday’s position, and Asp (1992), who argues against Matthiessen’s claims.

These are very general tendencies, worked out differently in every language but probably discernible in all. (Halliday 1994b:190)

It is also noteworthy that in practice, Halliday still presents structures of the non-experiential components, as well as the experiential, in box diagrams which clearly imply a constituency approach.⁵⁴ Furthermore, he regards constituency as the central concept:

The model of constituent structure that I presented – the RANK SCALE – is the prototype to which all three metafunctions can be referred. But the actual forms of structural organization depart from this prototype, each of them in different ways. (Halliday 1994b:35, emphasis in original)

Further problems are raised by Matthiessen's (1995:464) postulation of a category of 'juncture prosody' for mood-indicating particles occurring at the boundaries of clauses in some languages: it is hard to see how the classification as a 'prosody' can be justified in such cases, and how they could be reliably differentiated from the 'culminative' realisations which are said to typify textual meanings.

There is, then, considerable doubt about the validity of much of the evidence adduced by Halliday for his layering proposals, which could be removed (or indeed increased) only by extensive and detailed analysis of systemic choices in large bodies of text, their realisations, and correlations with situational features. Until such analyses are available in quantity, we should perhaps adopt Matthiessen's (1995:86) somewhat diluted characterisation of the metafunctions as "perspectives serving as principles of organization". Recent work in SFG confirms that the links between register variables and metafunctional meanings are more complex than Halliday's original proposal would suggest: Thompson (1998) argues that tenor is construed not just by interpersonal meanings, but by a combination of features from different metafunctions; while analysis by Hasan leads to the following conclusion:

There is reason to believe that the three contextual parameters of field, tenor and mode are not just three completely separate ingredients of social situations: it may be in fact more profitable to think of them as three interrelated perspectives on the social context with reference to which speaking is done. (Hasan 1998:272)

Despite the many problems, it is clear that the layering concept itself, first introduced in Halliday's work, is of great explanatory value. Current cross-linguistic evidence suggests that the scoping model of layering is to be preferred over the Hallidayan model of relatively independent layers. Indeed, there is one area within SFG which could be taken as evidence for a scoping model: as we shall see in more detail in Chapter 2 of Part 2, Halliday (1994b:52–54) postulates multiple theme structures in which the theme consists of sub-elements which can themselves derive from different metafunctions. Halliday's own example (1994b:55) of a maximally complex multiple theme structure is shown in (27):

54. For further discussion, see also Fawcett (2000a:139ff.).

(27)

well but then Ann surely wouldn't the best idea be to join the group
 ← → ← →
 Textual Themes Interpersonal Themes Experiential Theme Rheme

Note that the unmarked order of the sub-elements is textual > interpersonal > experiential. It is unsurprising that the textual elements tend to be clause-initial, since many of them are concerned with links between the current clause and the previous one. The unmarked ordering of interpersonal before experiential echoes the scoping relations proposed in FG and RRG.

Before we leave the area of metafunction in SFG and possible parallels with FG and RRG, we should note that McGregor (1990b:8–11, 1997:76) also perceives Halliday's evidence for metafunctional organisation as problematic, and that McGregor's model is in one crucial respect closer to the FG and RRG accounts than to SFG. As we saw in §5.8.2, this model defines the metafunctions solely in terms of the types of structure with which they are associated, but these types of structure differ in important respects from those of Halliday's model. In particular, the interpersonal semiotic recognises the importance of scopal relationships: for example attitudinal adverbials such as *probably* are seen as having scope over the rest of the clause. This is clearly much more in line with the scoping models proposed in FG and RRG, although McGregor stresses that in Semiotic Grammar

... the four semiotics are independent, and none is more fundamental than any other. As distinct from FG and RRG, SG does not assume that clause structure is layered from an innermost to an outermost level, the innermost being of the type SG would classify as experiential, the outermost being interpersonal and textual. The semiotic components are not layered; they are assigned to a given set of linguistic units by means of what is referred to in computer science as parallel processing. (McGregor 1997:86)

Finally, we should note work by Martin (1988, 1995) and by Taylor Torsello (1996) which suggests that logical relationships are more pervasive in the grammar than allocation to a separate metafunctional component might suggest. Martin (1988:248ff.) reviews all the structures of English which might be seen as hypotactic, and classifies them as realising three types of meaning: **taxonomising** meanings are those involved in classification of the Head noun by means of modification in nominal groups (see §7.2.3.3); **reorienting** meanings are deictic in function, and link the here-and-now of the speech interactants to other times or spaces, as in the recursive tense system proposed by Halliday for English (see §9.4.1.1); **source** meanings are those concerned with successive displacement of what Martin (1988:261) calls the 'arguability' of a clause, as for example in structures of the type 'A told B to tell C to tell D to leave'. Taxonomic systems are seen as experiential in nature, reorienting systems as textual, and source systems as interpersonal. Martin (1988:264) claims that he is using these labels loosely, to refer to types of meaning rather than to metafunctional components in the grammar. Nevertheless he concludes:

The fact that these systems are plausibly open to this kind of metafunctional interpretation underlines the sense in which the logical metafunction is a metafunction unlike the others; it seems to exist more as a structural resource whereby recursive systems can be used to repeat meanings than as a meaning making metafunctional component in its own right. (Martin 1988:264)

Martin's (1995) work on the linking particle *na/-ng* in Tagalog points in the same direction: this particle is used in hypotactic clause linkage and in nominal group modification, both of these being parallel to the situation in English. It also has interpersonal uses, in modalisation, negativity and exclamation. Again, Martin argues for the 'co-option' of recursive structures in the service of a metafunction other than the logical, in this case the interpersonal:

One way to approach this region of meaning would be to argue that logical structures are being co-opted here to realise interpersonal systems – systems which are not themselves recursive. (Martin 1995:218)

Taylor Torsello (1996) develops this theme, arguing for a position in which the logical component is seen as "an added function available for combination with each of the other three, and related equally to each of these" (1996:151). She adduces evidence for this proposal from various areas of the lexicogrammar, concluding that:

Logical meaning always combines with interpersonal meaning because in the logical function the speaker or writer acts as relator, performing a communicative function of relating. (1996:179).

The relating function is shown to combine with the experiential, or both experiential and textual functions, in particular types of grammatical construction. Taylor Torsello leaves the exact status of the logical component, whether a metafunction or merely a component/element of meaning, open for further debate.

6.5 Conclusion

The discussion in this chapter has shown that although FG, RRG and SFG share some fundamental similarities, arising from basic structural-functionalist assumptions, they also show important differences in overall approach, which we may summarise as follows:

- Although all three theories are integrative in the sense of Croft's (1995) classification of functional grammars, SFG is the most strongly integrative of the three, being strongly influenced throughout by its goal of showing the relationships between language and the sociocultural environments in which it is used. SFG is thus much more committed, in practice, than FG or RRG to the study of the relationship between the linguistic system and its actual use: indeed, for RRG explanations of how language is used in social contexts are not of primary interest.
- FG and RRG are strongly committed to criteria of typological adequacy, whereas in SFG this is not stated as a high priority.

- SFG, in contrast to FG and RRG, has a very strong commitment to the applicability of descriptions derived from the theory, and many practitioners are also committed to the concept of linguistics as a form of social action.
- Both FG and RRG make a theoretical commitment to criteria of psychological adequacy, whereas recent mainstream SFG tends to see cognition in terms of language rather than *vice versa*, and although Fawcett's early work had a cognitive orientation, this aspect has not been highly developed in his more recent work within the Cardiff grammar approach.

The three theories also show fundamental differences with respect to the relationships between levels of linguistic patterning:

- In FG, syntactic, semantic and pragmatic phenomena are recognised, though the boundaries are not always expected to be clear. RRG also accepts this division into levels. Halliday, on the other hand, prefers to avoid the traditional labels, working instead with the concept of 'lexicogrammar', together with a partially specified 'higher' semantic level. Nevertheless, the scope of SFG ranges over phenomena which in other theories would be regarded as syntactic, semantic or pragmatic. The Cardiff variant of SFG does recognise syntactic and semantic levels of patterning.
- Although FG recognises the existence of syntactic phenomena, it does not postulate an explicit syntactic level of representation. In RRG, on the other hand, a clause has both a syntactic and a semantic representation, and Van Valin has argued against the FG position, giving evidence that both are required in order to give an adequate account of the differences between languages, and so to fulfil criteria of typological adequacy. The units of FG are not in a one-to-one relation with the syntactic units of RRG.
- There are some interesting parallels between the expression rules of FG, the mapping rules of RRG, and the realisation rules of SFG, though there are also important differences: for instance, RRG has two different sets of mapping rules, one for going from semantics to syntax, the other for mapping from syntax to semantics; FG and Cardiff SFG, on the other hand, suggest that the rules needed for language production are also useful in language understanding. The differences may not, however, be as great as they might seem, since in many crucial respects the two sets of mapping rules in RRG are inverses of each other. It should also be said that the RRG rules are much more explicit than those proposed in FG,⁵⁵ and have been tested on a wide range of data.
- There are some clear points of similarity and difference between syntactic, semantic and pragmatic functions in FG and their counterparts in RRG. The semantic roles of FG are similar to the thematic relations of RRG, with the important proviso that the latter are claimed to be independently motivated rather than arbitrarily assigned. The FG Subject and RRG Privileged Syntactic Argument are by no means equivalent, the latter applying to individual constructions rather than to whole languages: nevertheless, where the same PSA operates in a variety of constructions, it may be seen as roughly equivalent to the Subject. The pragmatic functions of Topic and Focus in

55. As we have seen, the recent work of Bakker & Siewierska is a step on the way to remedying this situation.

FG have their counterparts in Lambrecht's theory of information structure, as taken over into RRG. SFG presents a very different picture from the other two theories in that no distinction is made in the Sydney grammar between syntactic, semantic and pragmatic functions, though parallels can still be drawn.

- There are also major differences in the relationship between lexical and other kinds of patterning in SFG as compared with FG and RRG. FG is lexicon-based, the structure of the clause being built up, in the classical FG model, from a predicate frame selected from the lexicon. The lexicon also plays a key role in the specification of clause structure in RRG, since it contains information regarding the logical structures of predicates, constituting the backbone of the semantic representation, which can be mapped on to the syntactic representation. Both FG and RRG thus have a basically 'bottom-up' orientation, deriving clause structures from information on predicates. SFG, on the other hand, adopts a 'top-down' approach, in which lexical items, rather than being selected at the beginning of the generation process, are the output of delicate stages in the traversal of system networks, the less delicate options in which are often realised grammatically. Present-day SFG, then, regards lexis as 'most delicate grammar'.
- Dik's account of FG does not postulate abstract components in the specification of lexical semantics, but adopts the principle of stepwise lexical decomposition, according to which the meaning of a lexeme is defined in terms of that of a simpler lexeme. RRG and SFG, on the other hand, operate with abstract components. In the logical structures of predicates in RRG, elements such as BECOME and INGR are part of a semantic metalanguage, rather than words of any individual language, and predicative elements such as cry' are also seen as placeholders for an eventual decomposition in terms of such an abstract metalanguage. In SFG, lexical items are defined in terms of sets of what amount to componential features, selected from system networks. The use of predicates of the language under analysis raises problems in relation to typological and psychological adequacy and translatability, while the adoption of abstract components demands the justification of these components. We have seen that recent work by Mairal Usón & Faber and by García Velasco & Hengeveld has recognised the problems caused by stepwise lexical decomposition in FG and has adopted a position very similar to that taken in RRG.
- All three theories have postulated relationships between the semantics of paradigmatically related sets of lexemes and their syntactic behaviour.

Further key differences can be seen in the treatment of syntagmatic and paradigmatic relations:

- FG and RRG, like formalist theories, are essentially syntagmatic in their orientation; SFG, on the other hand, gives explicit priority to paradigmatic relations, in the sense that the options provided by a language are seen as the generative heart of the grammar, structures being derived from sets of systemic features by means of realisation processes.

- There are nevertheless interesting parallels to be drawn between the operators of FG and RRG and the system networks of SFG, such that sets of values for operators can readily be re-expressed in network terms. The development of the operator concept in terms of networks showing explicitly the relationships between values might offer advantages for the attainment of psychological and typological adequacy, and also for the integration of relationships currently handled in terms of operators (grammatical expression) and satellites (lexical expression) in FG, and in terms of operators and adverbial elements in RRG.

Finally, the three theories show similarities and differences in the kinds of layering they propose for the clause:

- In Hengeveld's earliest version of the underlying structure of the clause in FG, representational and interpersonal levels are proposed, the former consisting of the term and predication layers, the latter of the proposition and clause layers. The representational level corresponds fairly closely to the ideational (more exactly, experiential) metafunction of SFG, and the interpersonal level to the metafunction of the same name in Halliday's theory. There is, however, no layer in FG corresponding to the textual metafunction of Halliday's theory, certain aspects of this function being dealt with in terms of pragmatic function assignment. Hengeveld's latest Functional Discourse Grammar model retains certain similarities, but also shows important differences, with respect to the SFG layering approach.
- The structures to which layering applies are essentially semantic in FG and also in the Cardiff version of SFG, but are seen as overarching principles reflected in the semantic and lexicogrammatical organisation of languages in the current version of the Sydney grammar. The layering proposals of RRG, on the other hand, relate to the syntactic representation of the clause in terms of the units clause, core and nucleus.
- The relationship between layers in FG and in RRG is a hierarchical one: each layer includes any lower layers. In SFG, on the other hand, the metafunctional layers are regarded as relatively independent and parallel. The evidence adduced for parallel layers is problematic, and certainly cross-linguistic patterns favour the scoping claims of FG and RRG.
- Operators in both FG and RRG are also layered, though with differences. In FG the operators at each layer are part of that layer, whereas in RRG there is a distinct operator projection, but each operator is attached to, though separate from, a particular layer in the syntactic structure. Operators in both theories show scoping relations.

CHAPTER 7

The structure and meaning of phrasal units

7.1 Introduction

In this chapter I shall discuss the accounts given, in Functional Grammar, Role and Reference Grammar and Systemic Functional Grammar, of the structure and meaning of phrasal constituents of the clause. Much of the chapter will be devoted to nominal expressions which designate entities, and so can fill the argument positions in predicate-argument structures, and also some non-argument constituents ('adjuncts') in the clause. As part of this discussion, I shall bring in adjective-headed phrases. I shall also give brief consideration to adpositional and adverbial phrases, and to the 'verbal group' postulated in Halliday's version of SFG.

7.2 The structure and meaning of noun phrases

A useful starting point for the discussion of the entity-designating nature of the noun phrase is Lyons' distinction between first-, second- and third- order entities. First-order entities are physical objects; second-order entities are "events, processes, states-of-affairs, etc., which are located in time and which, in English, are said to occur or take place, rather than to exist"; and third-order entities are "such abstract entities as propositions, which are outside space and time" (Lyons 1977:443).¹ Lyons treats first order entities as basic:

First-order entities we take to be more basic than either second-order or third-order entities in that their ontological status is relatively uncontroversial and the process of nominalization, which is used to form nominals that refer to second-order and third-

1. In later work, Lyons (1989:171ff.) replaces the unidimensional distinction of first, second and third order entities by a two-dimensional analysis, distinguishing between (i) an extensional world consisting of a set of individuals with particular properties, and an intensional world which models or describes an extensional world, (ii) first and second order entities. Under this analysis, what were previously seen as third order entities become second order intensional entities, while first order intensional entities are individual concepts, just as first order extensional entities are individuals. In what follows, I shall retain the simpler terminology which, as we shall see, has been adopted into FG.

order entities, operates characteristically upon sentence-nuclei that contain nominals whose reference is to first-order entities. (Lyons 1977:445)

First-order entities are straightforwardly referred to by means of noun phrases; second- and third-order entities, however, are unmarkedly referred to by means of clauses. Nevertheless, we can also refer to higher-order entities by means of a noun phrase. Consider the stretches in bold type in the following examples from English:

- (1) *Eat **your carrots**.* (BNC CE0 436)
- (2) *That had been **a long meeting**.* (BNC CJT 2125)
- (3) *Modern science could only have come from **a belief that there was a God who had made all things to a certain design**.* (BNC B2G 585)

In (1), *your carrots* is a term referring to a first-order entity, existing in space. In (2), *a long meeting* refers to an event, a second-order entity, while in (3), *a belief that there was a God who had made all things to a certain design* refers to a propositional, third-order entity.

In this chapter we are not concerned with the structure of sentences in which entities acting as arguments are expressed clausally, since this would take us beyond the simplex clause into the area of clause combining.² Rather, we shall be looking at the structure and meaning of noun phrases, with a particular emphasis on their designation of first-order entities.

7.2.1 The noun phrase in Functional Grammar

The material in this section is based largely on Dik (1997a: Chapters 6 and 7), which is particularly indebted to the work of Rijkhoff (1990, 1991, 1992), and also builds in aspects of the work of Keizer (1991, 1992a) and Hengeveld (1992a).

7.2.1.1 Entities

7.2.1.1.1 Entities as mental constructs. As we saw in Chapter 3, the FG model of the underlying structure of the clause posits a predicate frame with slots for the arguments of the predicate, into which are placed **terms** which “can be used to refer to entities in some (mental) world” (Dik 1997a:55). The qualification ‘mental’ is important here: Dik (1997a:129) makes it clear that the entities to which terms refer are “things in the mind”, conceptualisations of ‘things’ in some (real, hypothetical or fictional) world, not the ‘things’ themselves. This approach is necessary for three reasons: we can talk about things which do not exist; we can refer to things in the ‘real world’ only to the extent that we have some mental representation of them; and we can talk about things when they are not perceptually available. Note that although we commonly talk of terms referring to

2. Clause combining will be covered in Chapter 3 of Part 2. There are some inevitable overlaps: in particular, it could be argued that some of the material discussed in the sections on nominalisation properly belongs in Part 2. It is included here in order to provide a coherent and comprehensive view of the whole area of nominalisation.

Table 7.1. Types of entities as referred to by terms

Structural unit	Designation	Variable	Order of entity
Predicate	Property/Relation	f	0
Term	Spatial Entity	x	1
Predication	State of Affairs	e	2
Proposition	Possible Fact	X	3
Clause	Speech Act	E	4

entities, we should more properly put this in terms of a speaker using a term to refer an addressee to an entity. By the use of a term, the speaker orients the addressee towards the entity of which s/he wishes to predicate something.

7.2.1.1.2 Orders of entities in FG. Dik's classification of entities extends Lyons' classification to include zero- and fourth- order entities. Zero-order entities are required in the model because properties and relations (at the structural level of the predicate) can be referred to by terms, as in (4), where *beauty* refers to the property of being beautiful.³

(4) *Beauty is only skin-deep.* (BNC C8N 763)

Fourth-order entities refer to speech acts, as in (5), where *your promise* refers to the act of promising.

(5) '*Oh, but I must have your promise, too, Miss Kyte!*' exclaimed Mrs Tiverton.
(BNC HGV 4489)

We thus arrive at the picture in Table 7.1, based on Tables 5 and 8 in Dik (1997a: 55, 137).

7.2.1.1.3 Types of first-order entities. Dik (1997a: 138–140) demonstrates that the set theory approach to entities, according to which entities are discrete individuals which can be grouped into sets, is insufficient to account for different types of terms in language: for instance, it does not cover terms involving mass nouns, which represent entities which cannot be individuated. Dik therefore adopts a model proposed by Bunt (1985), which makes a distinction between **sets** and **masses**, both being types of **ensemble**, having both parts and size. Sets have members which can be counted; masses have no members, so cannot be counted, though they can be measured. **Individuals** are characterised as one-member sets, and a set with more than one member is a **collection**. The classification of first-order entity types in Table 7.2 is adapted from Table 9 of Dik (1997a: 140).

Recursive definition of entities is possible, leading to complex types such as sets of sets, sets of individuals, sets of masses, masses of masses, and so on.

First-order terms can thus be divided into subtypes: mass (e.g. *some beer, little money*), individual (*Peter, that book*) and collection (*those books, this crowd*). Nouns can also be classified in this way, but as many nouns can be used to refer to different types of entity,

3. For further discussion of zero order entities see Keizer (1991, 1992a, 1992b).

Table 7.2. Types of first-order entity

Entity type	Countability	Number of members
Ensemble	neutral	neutral
Mass	no	–
Set	yes	≥ 0
Individual	yes	1
Collection	yes	>1

Dik subcategorises them according to their unmarked usage, and then postulates that they can be converted into other subcategories. So *coffee* would be classified as a mass noun, but can be converted into an individual (count) noun for use in constructions such as *Make me a coffee*. Dik (1997a: 142) sees such conversion as a form of predicate formation. Dik (1997a: 142–146) also argues for the recognition of ensemble nouns and set nouns. Ensemble nouns are those, in classifier languages, which take sortal classifiers (those indicating ‘a unit of type x ’, as in Dik’s pseudo-example *three animal elephant*, his (39), p. 143) and can be used to refer to ensembles without forcing any distinctions in terms of set/mass or individuation and quantification. Such nouns, when used without a classifier, do not indicate individuation or number, and so cannot themselves be count nouns, although when combined with a sortal classifier they can be used to refer to sets of individuals. Set nouns are those which are used to refer to entities which can be counted, but which do not specify how many entities are being referred to. They thus indicate one or more entities of some particular type. Such nouns are found in a range of genetically unrelated languages.

7.2.1.2 Underlying term structure

7.2.1.2.1 *Basic term structures.* The structure of first-order terms can be represented as in (6) below (Dik 1997a: 132):

$$(6) (\omega x_i: \varphi_1(x_i): \varphi_2(x_i): \dots : \varphi_n(x_i)) [n \geq 1]$$

Here, x_i stands for the **term variable**, which takes as its value the set of potential referents of the term; ω stands for one or more **term operators**; and each occurrence of $\varphi(x_i)$ represents an ‘open predication in x_i ’, that is one in which one term position is left unspecified, being occupied by the variable x_i . The colon indicates that information to the right of it specifies, or restricts, the possible values of x_i at that point in the specification of the term. Consider example (7):

$$(7) \text{A big brown otter, cleverly mounted, looked up at me with bright eyes.}$$

(BNC ADM 1969)

The structure of the term *a big brown otter* is shown in (8):

$$(8) (i1x_i: \text{otter [N]} (x_i)_\emptyset: \text{brown [A]} (x_i)_\emptyset: \text{big [A]} (x_i)_\emptyset)$$

This can be read as follows:

- indefinite (i) singular (1) entity (x_i)
 such that the property 'brown' applies to x_i
 such that the property 'big' applies to x_i .

The symbols 'i' and '1' represent term operators for indefiniteness and singularity. The symbol \emptyset indicates that the entity represented by x_i has Zero semantic function (the function of the argument in a one-place stative predication) with respect to the adjectival predicates *brown* and *big*.⁴ Each part after a colon is a **restrictor**, which narrows down the specification of the referent; later restrictors act on the specification of the term as built up as far as that point in the structure. So in the term under discussion, assuming a restrictive rather than a non-restrictive meaning for each adjective, the first restrictor specifies x_i as a member of the class of things called otters, the second narrows the description down to the subclass of brown otters, and the final one restricts this still further, to the sub-subclass of big brown otters. The first restrictor is the head of the term (Dik 1997a:397).⁵

The 'stacking' of restrictors as shown in (8) is important for the interpretation of certain types of noun phrase, such as those in (9) and (10):

- (9) *Indian Muslims, wooed by Congress, have been especially angered.*
 (BNC ABE 1165)
- (10) *Two young Muslim Indians blew themselves up in Johannesburg...*
 (BNC HH3 14055)

In (9), *Indian Muslims* represents a term structure in which the first restrictor is *Muslim* and the second *Indian*: in other words, the set of Muslims is selected first, and then narrowed down to those Muslims who are also Indian. In (10), on the other hand, the first restrictor is *Indian*, and the reference of the term is then narrowed to those Indians who are Muslim (and, of course, then further restricted to the subclass of Muslim Indians who are young, before the numerator *two* is applied).

There are two conditions which influence whether an open predication can be used as a restrictor in a given term structure (Dik 1997a: 148–151). Firstly, the property specified by the restrictor must normally be one which can meaningfully be applied to the entity (e.g. the property of being pregnant is not normally predicable of an entity specified as a man, since the selection restrictions on the predicate *pregnant* say that its argument should be female). Secondly, the restriction imposed by the restrictor must be expressible in the language concerned: for instance, as Dik points out (his examples (58) and (59), p. 150), the open predication 'I saw John with x_i in New York' can be used to restrict in a term such as *the girl with whom I saw John in New York*, but the open predication 'I saw John and x_i in New York' cannot, because the conjuncts in the coordinate structure are not accessible to relativisation, as witness the ungrammaticality of **the girl and who I saw John in New York*.

4. For further details of semantic function, see Chapter 8.

5. Van der Auwera (1990a:16, 1990b:116) refines the definition of head of a term, stating that it is the predicate of the first restrictor. He also makes a number of proposals about the properties of heads, some of which have been challenged by Mackenzie (1990a).

Dik (1997a: 151) also points out that languages differ in their solutions to the situation in which there is no explicit nominal predicate as a first restrictor: whereas English uses the dummy *one*, Dutch leaves the Head position empty (compare his examples (60a) and (b) *the blue one/de blauwe*).⁶

7.2.1.2.2 *Coordination in term structures.* Dik defines coordination as follows:

A coordination is a construction consisting of two or more members which are functionally equivalent, bound together at the same level of structure by means of a linking device. (Dik 1997b: 189)

The linking device in a coordinate structure may be covert (in the case of juxtaposed members) or overt (using one or more coordinators). Examples from the English noun phrase are given below.

- (11) ... down to Australia, then *the Far East, Thailand, Malaysia, Singapore* before coming back. (BNC K1T 1444)
- (12) *Rapes, murders, assaults, kidnaps and muggings* are reported daily in newspapers and in the media. (BNC KM0 290)
- (13) ... people I know still won't buy *a television, or a video, or a satellite dish, or a microwave*. (BNC KSN 2327)
- (14) *Are you concerned with equality of opportunity for both boys and girls, for example?* (BNC KRH 2664)

In (11) we have simple juxtaposition, only the commas indicating the coordinated list structure; in (12), (13) and (14) we have explicit coordinators linking the members of the construction: *and*, *or* and *both...and*, respectively. Coordinators can be **prepositive**, coming before the second conjunct as in the English examples above, or **postpositive**, coming after the second conjunct. Where more than one coordinating item is used, as in (14), the coordinators can be either **repetitive** or **correlative**. Contrast the following from English and Spanish:

- (15) *It's thought the attackers used either a knife or a wooden stake.* (BNC K1M 1459)
- (16) ... *ya tenía una idea de hacer o Románicas o Clásicas.*
 already have-IMPERF.1SG an idea of do or Romance or Classical
 '... I already had an idea to do either Romance or Classical languages'.
 (HCM 4, 63)

6. As Lachlan Mackenzie (personal communication) has observed, a more satisfactory account of these examples would be to say that structurally they have the same representation, but that the expression rules for English generate *one* (which could surely not be a predicate, and so not a restrictor either), whereas those for Dutch have zero realisation of the operator. Such a solution would also be preferable in terms of typological adequacy.

English uses a correlative construction (*either ... or*), while Spanish uses a repetitive one (*o ... o*).

An important point to bear in mind is that Dik's definition of coordination is phrased in functional rather than structural terms: that is, the conjuncts should be equivalent functionally, which as far as term coordination is concerned means that the members should share the same semantic, syntactic and pragmatic functions (Dik 1997b: 192). Examples (17)–(19) demonstrate this for semantic function: .

(17) *They kept going all day* (Duration) *and most of the night* (Duration) ...
(BNC GW8 3004)

(18) *They rode all day* (Duration) *and into the night* (Duration). (BNC FSE 1925)

(19) **They rode all day* (Duration) *and into the forest*. (Direction).

Coordination of two terms with the semantic function of Duration (17) produces no problems. Note also that in accordance with Dik's claim that it is function rather than structure which is important for compatibility in coordination, (18), in which a term expressed as a noun phrase is coordinated with another expressed by a prepositional phrase, is also fine. (19), on the other hand, is not possible because the semantic functions of the two conjoined elements are different.⁷

(20) and (21) demonstrate the need for identity of syntactic function if coordination is to succeed:

(20) *She gave Tash* (RecObj) *and John* (RecObj) *her old one*. (BNC KC3 1386)

(21) **She gave Tash* (RecObj) *and to John* (Rec) *her old one*.

Finally, (22) and (23) illustrate the impossibility of coordinating elements with the pragmatic functions Topic and Focus:

(22) *In the evening we met Ian Lamb, ...* (BNC KAL 111)

(23) A. *Who did you meet in the evening?*

B. *We* (Top) *met Ian Lamb* (Foc) (*in the evening*).

B. **We* (Top) *and Ian Lamb* (Foc) *met* (*in the evening*).

Note that as deletions are banned in FG, Dik (1997b: 193–196) rejects the approach favoured in some theories, which would involve interpreting (24) as a reduction of (25).

(24) *Jackie and Tony came round*. (BNC KBB 6294)

(25) *Jackie came round and Tony came round*.

Dik demonstrates that such an approach cannot account for examples such as (26):

(26) *Nikos and Maria are a lovely couple*. (BNC JXW 4043)

7. Dik (1997b: 193) notes one exception to this general rule: question words can often be coordinated even if their semantic function is different (e.g. *where and when ... ?*).

(27) **Nikos is a lovely couple and Maria is a lovely couple.*

and also that in sentences of some syntactic complexity, this approach is implausible in that it leads to the postulation of a large number of underlying sentences or to failure in terms of psychological adequacy. In view of these arguments, Dik adopts what he terms a 'direct approach' to coordination, defining the rules in such a way that they apply locally, at various places and levels in the underlying structure.

Not only terms, but also restrictors within terms, can be coordinated. We saw above that the term in example (7) can be taken as referring to a brown otter which is further specified as being big. On the other hand, the term could be used to refer to an otter which is big and brown, rather than a brown otter which is big, as could be made clear if the noun phrase were punctuated as in (28):

(28) *A big, brown otter ...*

The representation of the term structure would then be different, as shown in (29), the form given for similar cases in Dik (1997a: 136).

(29) (i1x_i: otter [N] (x_i)_∅: big [A] (x_i)_∅, brown [A] (x_i)_∅)

In Dik (1997b), coordination and stacking of restrictors is discussed in more detail. One problem with coordination (1997b: 202–203) is exemplified by (30) and (31).

(30) *Think about their implications for you and for your partner.* (BNC CGE 2503)

(31) *Think about their implications for you and your partner.*

In (30), the marking by means of *for* on both conjuncts suggests, though it does not enforce, the interpretation that the implications may be different for the addressee and his or her partner. In (31), although it is possible to obtain the same interpretation, an alternative is that the implications are to be thought about in relation to the pair constituted by the addressee and his/her partner. For such cases, Dik postulates two different analyses of the coordinated terms. In (30), we have two separate terms, while in (31) we have a complex term referring to the pair formed by the entities designated by the two terms, and of the form (x_i {(you) and (your partner)}). Such complex terms would be formed by a rule of 'coordinated term predicate formation'.

Dik (1997b: 206) presents a slightly different structure for examples such as the terms in (7) and (28) from that given in Dik (1997a), as shown in (32) and (33) below.

(32) (i1x_i: otter [N]: (f_j: brown [A]): (f_j: big [A])) [= example (7)]

(33) (i1x_i: otter [N]: (f_j: big [A] & (f_j: brown [A])) [= example (28)]

Coordination of restrictors as in (33) is also distinguished from the creation, by compound predicate formation, of a compound restrictor with a single, complex property, and it is here that the formulation using the predicate operator 'f' comes into its own. Compare (34) with (35).

(34) ... *the livery of the last Spitfire operation in Malaya, black and yellow bands.*
(BNC CLV 1451)

(35) *The black and yellow caterpillars of the cinnabar moth ...* (BNC B7B 446)

In (34), it is most likely that the correct interpretation is that each band is either black or yellow, while in (35), the caterpillars are no doubt being described as a mixture of black and yellow, rather than some black, some yellow. The different interpretations can be represented as in (36), in which there are two different predicates, each instantiating a different predicate variable, and (37), in which there is a single, compound predicate 'black-and-yellow', instantiating a single predicate variable.

(36) (f_i : *black* [A]) and (f_j : *yellow* [A])

(37) (f_i : *black* [A] and *yellow* [A])

Dik also makes a distinction between the coordination of restrictors and the coordination of terms which is relevant to examples such as (38).

(38) *What would you like now, pie or ice-cream?* (BNC GUM 2957)

In such cases, there are a number of possible intonation patterns, of which two are shown below.⁸

(39) *What would you like now, pie or ice-cream?*

(40) *What would you like now, pie or ice-cream?*

Dik's interpretation is that for (39), possible answers would be *Pie* or *Ice-cream*,⁹ whereas for (40), the reply could be *Yes* or *No*, since what the respondent is being asked is whether they would like something which can properly be described as *pie* or *ice-cream*. In the former case, we have a disjunction of two terms, while in the latter, the disjunction is between two restrictors, as shown below (only the structures of *pie* or *ice-cream* are shown).

(41) (x_i : (f_i : *pie* [N]))_{Go} or (x_i : (f_i : *ice-cream* [N]))_{Go}

(42) (x_i : (f_i : *pie* [N]) or (f_i : *ice-cream* [N]))_{Go}

8. There is a third pattern, with rising intonation on *pie* as well as on *ice*, which signals an open list question (pie? ice-cream? or something else?). Dik does not discuss the specific intonation patterns, except to show that there is an intonational nucleus on each member of the coordination in examples such as (38), and he does not mention the open list question type at all.

9. Interestingly, the corpus reveals that the respondent actually replies *Both please*, so frustrating expectations!

7.2.1.3 Term operators

7.2.1.3.1 Classification of term operators. As we saw briefly above, operators, representing meanings which are expressed grammatically, occur within term structures as well as at the various layers of clause structure. Dik (1997a: Chapter 7) follows Rijkhoff (1990, 1992) in dividing term operators into three types, Quality, Quantity and Localisation, according to their semantic domains and scope relations. Rijkhoff (1992: 13–15) points out that these semantic domains are similar to those in the underlying structure of the clause, in that the type, or *Aktionsart*, of a clause predicate can be seen in terms of Quality, distinctions of frequency and habituality in terms of Quantity, and tense distinctions in terms of Localisation.

7.2.1.3.2 Qualifying term operators. Qualifying term operators (i.e. those indicating Quality) are of three kinds: those connected with ‘modes of being’ (*‘Seinsarten’*, parallel to the *‘Aktionsarten’* recognised for States of Affairs – see Chapter 8), sortal classifiers, and collectivising and individualising operators (Dik 1997a: 163–166). By ‘modes of being’, Dik means the distinctions between ensembles, sets, masses, individuals, etc., which are reflected in the types of noun reviewed earlier. Some such categories can be specified further, or converted, by grammatical means, which we may characterise as qualifying term operators.¹⁰ We saw earlier that in languages which have sortal classifiers, the head noun can be seen as an ensemble noun. Dik presents arguments for treating the sortal classifier itself as an operator. Finally, some languages whose basic nouns give no information on number have affixes whose function is to make it clear that reference is being made to a collection of individuals, or to a single individual.

7.2.1.3.3 Quantifying term operators. Dik (1997a: 166–180) describes a number of different kinds of quantifying term operators.

I have already mentioned sortal classifiers as examples of qualifying term operators: some languages have mensural classifiers, which indicate a measure of something, rather than its kind. In Dik’s pseudo-examples *three bag tobacco* and *three pound tobacco* (his example (16), p. 166), the mensural classifiers *bag* and *pound* (or, rather, their equivalents in a language with this type of classifier) indicate the unit of measure, and can be treated as quantifying term operators in a structure of the following (simplified) kind, in which ‘ens’ stands for ‘ensemble’ (Dik’s (18), p. 167):

(43) (i 3 pound x_i ; *tobacco* [N, ens])

Such a structure correctly indicates that we are talking about a measure of tobacco equal to three pounds, rather than about a collection of three of the entity ‘pound of tobacco’.

10. Rijkhoff (1992: 73ff.) refers to such quality distinctions in terms of ‘nominal aspect’, arguing that for nominal predicates they indicate the manner in which a property or relation is represented in the spatial dimension, just as verbal aspect is concerned with how a property or relation is represented in the temporal dimension.

Dik also treats quantifiers such as English *all* and numerators such as *eight* as quantifying operators. The structure of the noun phrase in bold in (44) is analysed as in (45):

(44) *All **teachers** are managers, for they have to manage the learning process.*
(BNC B28 1103)

(45) (*all* x_i : *teacher* [N])₀

This analysis is, of course, very different from the logical analysis using the universal quantifier, as in (46):

(46) $(\forall x) (teacher(x) \rightarrow manager(x))$

Dik (1997a: 168) points out that the logical analysis does not explain why there is such a large difference between the proposed underlying representation (e.g. (46)) and the linguistic form (e.g. (44)), nor why languages do not express this type of quantification in a manner which more closely parallels the logical structure.

Note that quantification with the ‘all’ operator is close to, but not identical with, generic reference as in (47):

(47) *Cats are smaller and more secretive than dogs, and correspondingly harder to control.*
(BNC B79 292)

Dik (1997a: 177) analyses examples such as (47) in terms of a generic operator:

(48) (*i m g* x_i : *cat* [N])

As Dik observes, this operator can also combine with definite and singular operators:

(49) *So **the cat** is, after all, not one of our more recent animal companions, but one of our oldest.* (BNC BMG 1425)

(50) (*d l g* x_i : *cat* [N])

or with indefinite and singular:

(51) *A **cat** is a carnivore and if it is to be kept as a pet it must be given a carnivorous diet.*
(BNC BMG 414)

(52) (*i l g* x_i : *cat* [N])

Although generic meaning in such examples is close to that of the ‘all’ operator (as in *all cats*), the two are not identical, since ‘all’ can be applied to any ensemble, while the generic operator applies only to the universal ensemble (here, all the entities which have the properties of cats).

Let us now consider the analysis of numerators. The representation of term *eight patients* in (53) is as shown in (54):

(53) ***Eight patients** were ‘reformed’ drinkers ...* (BNC HU2 6104)

(54) (*i 8* x_i : *patient* [N])

Eight is an example of an absolute non-proportional quantifier, contrasting with the absolute proportional quantifier in *eight of America's big hub airports* in (55), where the numerator *eight* selects just a proportion of the class of entities defined by *America's big hub airports*. The representation of the term in bold in (55) is as in (56):

(55) *At **eight of America's big hub airports** where one airline commands 75% or more of departures, air fares are more than 18% higher per mile travelled than the national average.* (BNC ABH 2349)

(56) (i 8 / d m x_i : *airport* [N]: *hub* [N]: {d1 x_j : *America* [N]})_{Poss})

The operator complex here shows that an indefinite eight have been selected from the multiple, definite set of entities progressively defined as airports, hub airports, and America's hub airports.¹¹

In parallel with the absolute quantifiers, which specify a particular number of individuals, we have relative quantifiers, both non-proportional and proportional, which specify quantity relative to some norm. (57) shows a term containing a non-proportional relative quantifier:

(57) *Many firms believe production will fall ...* (BNC CH6 6155)

According to Dik's (1997a:172) analysis, *many* here "presupposes some implicit norm with which the number of members of the set is compared". The representation of the term is as in (58):

(58) (i many x_i : *firm* [N])

On the other hand, in (59) we have a proportional relative quantifier, in which a number higher than the implicit norm is selected from a group identified as *the local traditions*:

(59) *Many of the local traditions have passed away since those days.* (BNC B0G 188)

(60) (i many / d m x_i : *tradition* [N]: *local* [A])

The final type of quantifying term operator is the ordinator, illustrated in (61) and (62):

(61) *The fourth wall was constructed of rows of teak slats, ...* (BNC ECK 550)

(62) *The next of the great Brazilians, Nelson Piquet, made an unimpressive start in 1978.* (BNC EX1 281)

Dik (1997a:178–180) treats ordinators as operators rather than adjectival restrictors because they indicate the location of the referent in a series rather than specifying independent properties of that referent, and also because they can take numerators in their scope. Ordinators, like numerators, can be absolute or relative, proportional or non-proportional. The item *fourth* in (61) is an absolute non-proportional ordinator, analysed as in (63):

11. The possessive term here arises through a predicate formation rule, from the predicate *America* – see Dik (1997a:208) for details, also §7.2.1.6 in the present chapter.

(63) (d 4° x_i: *wall* [N])

while *next* in (52) is a relative proportional operator, selecting the following member, in some order, from the set of the great Brazilians, as shown in (64):

(64) (d next° 1 / d m x_i: *Brazilian* [N]: *great* [A])

7.2.1.3.4 Localising term operators. Localising operators are said to “characterize the intended referent in terms of the position it takes in cognitive space” (Dik 1997a: 180). The clearest examples of localising term operators are the demonstratives. These are, cross-linguistically, definite, and depend for their interpretation on the concept of a ‘deictic centre’, consisting of the complex of speaker, addressee, and the time and place of communication (Dik 1997a: 40). The demonstratives of English can be described in terms of the operators ‘prox(imate)’ and ‘rem(ote)’, corresponding to *this/these* and *that/those* respectively. Note that demonstratives can be used, as in the following examples, to indicate distance within the discourse model of speaker and addressee, in terms of recent or more remote mention, rather than just physical distance.

(65) *In developing economies these two propositions are not incompatible.*
(BNC BMV 345)

(66) (d prox 2 X_i: *proposition* [N])

(67) *But despite those structural changes, there will continue to be a large market for coal.* (BNC HHW 9601)

(68) (d rem m e_i: *change* [N]: *structural* [A])

Many other languages have more complex demonstrative systems, and Dik (1997a: 182) gives a list of the most frequent distinctions made.

In (65) and (67) above, identification of the referent by the addressee is guided by the speaker’s use of a demonstrative. In other cases, however, the speaker may choose simply to indicate that the referent should be available within the discourse model for the addressee to pick up. In such cases, the unmarked definite term operator can be used:¹²

(69) *She pledged that the Government would safeguard those that did not opt for trust status, but she expected this to be a minority.* (BNC AL5 32)

(70) (d 1 x_i: *Government* [N])

Here, the speaker expects that the addressee will be able to identify the referent of *the Government*, probably through long-term knowledge rather than through previous mention. This identifying type of reference is distinguished from ‘constructive reference’, by means of which the speaker signals that the addressee is expected to construe a new referent. Typically, while definite terms (of whatever kind: unmarked, demonstrative, etc.) are used for identifying reference, indefinite terms are used to establish constructive reference. In (67)

12. For further discussion of definiteness in FG, see van der Auwera (1990a: Chapter IV), Keizer (1992b).

above, the definite term *those structural changes* invites the addressee to identify which changes are involved, while *a large market for coal* introduces a new referent which the addressee is expected to construe.

Whether reference is definite or indefinite, it may also be specific or non-specific (Dik 1997a: 188–189). In (71), *the rapist* refers to a specific individual seen by a witness, while in (72), the same noun phrase could refer either to a specific individual already identified, or to whatever unknown individual committed the crime:

(71) *The rapist, believed to be aged 20 to 22 years, was described as lean but muscular and about 5ft 8in tall.* (BNC A49 568)

(72) *The rapist is thought to have stalked the girl to find out her routine.*
(BNC CBF 14013)

Dik takes the specific case as the unmarked one for definite expressions, and so marks only non-specificity, as in the appropriate reading of (72), represented as follows:

(73) (d-s 1 x_i: rapist [N])

Similarly, in (74) *a road and oil pipeline ...* refers to a specific road and pipeline, while in (75), *a book ...* is most readily interpreted as referring to a non-specific book written by any academic on a canonical author, topic or period.

(74) *Conoco, a subsidiary of the US-based chemicals corporation Du Pont, wants to build a road and oil pipeline penetrating 100 miles into Huaorani lands from the Napo River.* (BNC J2U 653)

(75) *Certainly, any academic who wants to write a book on a canonical author, topic, or period, is likely to get a contract without very much formality ...* (BNC A1A 1173)

The choice of specific or non-specific reference can have other grammatical correlates in some languages. For example, in Spanish, the verb in a relative clause restricting a specific head noun is in the indicative (76), while if reference is non-specific, the verb is in the subjunctive (77):

(76) *pues éste es un tema que me gusta mucho ...*
well this be-PRES.3SG a subject which to-me please-PRES.3SG much
'well this is a subject I like a lot ...' (HCM 10, 168)

(77) ... *buscaré un empleo; en principio, si puedo lograr*
look-for-FUT.1SG a job in principle if be-able-PRES.1SG succeed
uno que me guste, pues, una, una doble satisfacción;
one which to-me please-PRES.SUBJ.3SG then a a double satisfaction
si no, un empleo que me solucione, porque ya
if no a job which me solve-PRES.SUBJ.3SG because already
estoy en edad y en disposición de buscar soluciones,
be-PRES.1SG in age and in readiness of look-for solutions

*independientemente de la vocación y el gusto con que me
independently of the vocation and the pleasure with which REFL
dirija a ella.*

direct-PRES.SUBJ.1SG to it (HCM 6, 100)

‘... I’ll look for a job; in principle, if I can get **one that I like**, then that’s a, a double satisfaction; if not, **a job that will solve my problems**, because I’m already at an age and of a mind to look for solutions, regardless of **the vocation and the pleasure I approach it with**.’

Note that even though the antecedent of the last relative clause in (77) is definite, it is still non-specific in that the sense is ‘regardless of whatever vocational value it may have and whatever pleasure I can approach this with’.

7.2.1.4 *The representation of personal pronouns*

Dik (1997a: 152–153) treats personal pronouns as basic terms, listed as such in the lexicon. Distinctions such as those of person, number and gender are represented as ‘abstract predicates’ over the term variable. For English, we have the system shown in Table 7.3, adapted from Dik’s example (65) (1997a: 153).¹³

Table 7.3. Personal pronouns in English

Specification of structure	+Subject	–Subject
(d1x _i : [+S,–A])	I	<i>me</i>
(d1x _i : [–S,+A])	<i>you</i>	<i>you</i>
(d1x _i : [–S,–A,+M])	<i>he</i>	<i>him</i>
(d1x _i : [–S,–A,–M])	<i>she</i>	<i>her</i>
(dmx _i : [+S, ...])	<i>we</i>	<i>us</i>
(dmx _i : [–S,–A])	<i>they</i>	<i>them</i>

The information coded in the abstract representation allows the formulation of rules for Subject-Verb agreement.

7.2.1.5 *Rijkhoff’s recent model of the underlying structure of the noun phrase*

Rijkhoff (2002) presents a very detailed typologically-oriented study of the noun phrase, using a sample of 52 languages, carefully chosen to be representative of the world’s language types. As part of this study, which concentrates on lexical noun phrases with an underived noun as head, used to refer to discrete first-order (spatial) entities, Rijkhoff (Chapter 7) proposes a modified and extended model of the underlying structure of the noun phrase in FG.

Chapter 2 of the book discusses in detail the concept of Seinsarten, or ‘modes of being’, which subcategorise spatial nominals as found in the language sample investigated. A

13. Dik does not include *she/her* in his table. The reason for this is not clear, but could perhaps be concerned with the problems of motivating the use of –Male rather than +Female as abstract predicate.

classification of six basic Seinsarten is proposed, based on the two spatial features of shape and homogeneity. [-Shape] nouns are not marked with number distinctions, but may be modified by a numeral, in which case they require a classifier.¹⁴ Within [-shape] nouns there are **general** nouns showing no distinctions of homogeneity, and taking 'general' classifiers, but also **sort** nouns (-homogeneity) taking a sortal or numeral classifier, and **mass** nouns (+homogeneity) taking mensural classifiers. Similarly, [+shape] nouns can be divided into **set** nouns which are transnumeral (i.e. not associated with either singularity or plurality), **singular object** nouns (-homogeneity) and **collective** nouns (+homogeneity), all of which can take cardinal numerals.

The quality, quantity and location layers of noun phrase structure are still present in the revised model, the distinctions involved being discussed in detail in Chapters 4, 5 and 6 of the book respectively. As in previous work, Rijkhoff shows that the three layers are in a scopal relation, the localising layer having scope over everything in the quantity layer, which in turn has scope over the quality layer. For the quality layer, the nominal aspect markers act as operators, and Rijkhoff now sees all such operators as concerned with the changing or further specification of the Seinsart of a noun (cf. Dik's characterisation, summarised in §7.2.1.3.2). Adjectives (in languages which have them) specifying more or less inherent properties of a referent (size, age, colour, etc.) are seen as quality satellites. In languages without adjectives,¹⁵ other constructions can serve a similar modifying function. At the quantity layer, we have operators giving grammatical indications of number, as well as satellites consisting of lexical numerals. At the location layer there are operators for, for example, proximity systems, realised as demonstratives, and satellites which are lexical representations of location, such as prepositional phrases with spatial prepositions, possessive constructions, or restrictive relative clauses indicating location in time.

A further important modification of Rijkhoff's original proposals is his suggestion (2002: 227–229) that the underlying representation for the noun phrase should contain variables not only for the linguistic construction (i.e. the noun phrase itself) but also for the referent of the noun phrase. This proposal formalises the dual nature of the noun phrase: in its **descriptive** role, it is concerned with the referent's properties as a spatial entity, while in its **referential** role, it relates to an entity being talked about in the discourse. Thus in Rijkhoff's representation the variable 'x', familiar from standard FG structures, does not represent the referent of the noun phrase (for which Rijkhoff uses 'X', not to be confused with the symbol for propositional content in standard FG), but rather symbolises the descriptive role of the noun phrase.

This proposal then allows Rijkhoff to distinguish between **descriptive** modifiers (whether operators or satellites), of quality, quantity and location, and **discourse** modifiers relating to the occurrence of the referent in the world of discourse. In this way, Rijkhoff can account for a number of phenomena such as the well-known Fregian sense/reference

14. Rijkhoff takes a rather broad view of nominal classification systems – see Chapter 3 and §11.4 of his book.

15. Rijkhoff (2002: 143) proposes, as a typological universal, that only languages with [+shape] nouns can also have adjectives.

distinction exemplified by *The Morning Star is the Evening Star*, where the referent (X) variables of the two noun phrases have the same value, but the descriptive (x) variables are different.

Rijkhoff goes on to suggest that articles, which, as we have seen, are treated by Dik as realisations of localising operators, are better regarded as representations of discourse operators, specifying whether the speaker sees the referent as identifiable (definite article) or not (indefinite article) by the hearer.

Finally, we should note that the parallels between the underlying structures of the noun phrase and clause, proposed in Rijkhoff's earlier work, are also extended here, in that clauses, like noun phrases, describe an entity and refer to that entity in the discourse world. In the case of the clause, the distinction is between the speaker's description of a State of Affairs (the clause itself) and the event referred to. Clausal discourse operators and satellites then distinguish between events represented as actual or non-actual (e.g. realis/irrealis moods, adverbials such as *actually, really, already, no longer, etc.*).

7.2.1.6 Non-verbal predicates involving nominal or adjectival expression

Consider the following examples:

- (78) *'Angel is stupid,' went on Alejandro.* (BNC CA0 1761)
 (79) *DEC veteran Dominic LaCava is president, and a further eight to 12 staff should come on board this year.* (BNC CNJ 14)
 (80) *It may be a tactical vote against candidates of Party C.* (BNC EW4 258)
 (81) *Europe is the loser.* (BNC AMK 31)
 (82) *He's in the garden at the moment.* (BNC FS2 1114)

In each of these examples we have a predicate which is not a verb: in (78) an adjectival predicate, in (79) a bare nominal, in (80) an indefinite term, in (81) a definite term and in (82) an adpositional phrase. In the first two cases, the predicate can be immediately applied to the argument to give the underlying structure:

- (83) *stupid* [A] (d1x_i: *Angel* [N])_∅
 (84) *president* [N] (d1x_i: *Dominic LaCava* [N])_∅, *DEC veteran* [N]_∅¹⁶

An expression rule of copula support then supplies the verb *be*:

- (85) COPULA SUPPORT IN ENGLISH: BE-SUPPORT
 input: π predicate [Type] (x₁)(x₂) ... (x_n)
 conditions: π = any specified π -operator
 Type \neq V
 output: π *be* [V] predicate [Type] (x₁)(x₂) ... (x_n) (Dik 1997a:199)

16. No attempt is made here to analyse the structure of the phrase *DEC veteran*, since structures of this type have not, to my knowledge, been discussed within FG.

When applied to (83) and (84) with Present Tense as the operator, the rule in (85) yields (78) and (79) respectively. Dik (1997a:197–200) argues for such an analysis on the grounds that some languages can, under certain conditions at least, express adjectival and/or bare nominal predicates without any copula (e.g. adjectival predicates in Hungarian), and also that in languages, such as English, which do have copular verbs, there are often construction types which omit the copula.

For cases such as (80) and (81), we need a way of converting a term (indefinite or definite) into a derived predicate. For (81), for example, the predicate *loser*¹⁷ is first turned into a definite term *the loser*, and this term is then converted into the derived predicate we see in the example. The derivation of a predicate from a term is achieved by means of a general rule:

(86) TERM PREDICATE FORMATION

input: any term (t)
output: {(t)} (x₁)_Ø (Dik 1997a:205)

This rule will take the terms *a tactical vote against Party C* or *the loser* and turn them into predicates with the Zero semantic function characteristic of states, and the argument can then be filled, by *it* in (80) and by *Europe* in (81).

Finally, in the case of (82) we have an adpositional phrase, *in the garden*, which functions as a predicate. The term structure underlying the predicate is:

(87) (d1x_i: *garden* [N])_{Loc}

and this term can then be used as input to the term predicate formation rule in (86), to yield a predicate whose argument can then be filled by *he* to give the basis of the clause in (82). Note that the term in (87) could also be used as a term restrictor, in attributive function, as in (88):

(88) *Kirstie Alley solves her problem by moving to a tent in the garden.* (BNC EFG 1027)

Here, the structure of *a tent in the garden* is:

(89) (i1x_i: *tent* [N]: {(d1x_i: *garden* [N])_{Loc}})_Ø

Note that term predicate formation can also be invoked to account for attributive and predicative possessive constructions:

(90) ... *it would have been irresponsible to put John's work at risk.* (BNC AT3 1787)

(91) (d1x_i: *work* [N]: {(d1x_i: *John* [N])_{Poss}})

Mackenzie & Hannay (1982) and Mackenzie (1983) have posed objections to this account of term predicate formation. As they point out, a semantic function cannot be intrinsic to a term, but rather expresses the relationship between a term and either a predicate (if the

17. The predicate *loser* is itself derived by the predicate formation rule of Agent Noun Formation – see §7.2.1.7.

term is an argument) or the entire predication (if the term is a satellite). Yet it is not at all clear what could be the predicate or predication with which the terms marked as Locative or Possessive in the above representations are linked. The alternative analysis offered by Mackenzie (implicit, though not explicitly stated, in Mackenzie 1983, 1985, 1996) avoids this problem by analysing *in the garden* in (88) as a satellite to the first (and only) restrictor predicate *tent*. The analysis which would result from this suggestion is shown in (92):

(92) (i1x_i; *tent* [N] (d1x_j; *garden* [N]))_{Loc}

The analysis of possessives such as (90) would run along similar lines, but with Poss as the semantic function of the satellite.¹⁸

A much more detailed account of non-verbal predication than that in Dik's work is given in Hengeveld (1992a). Here, I shall deal only with nominal and adjectival predicates, leaving work on adverbials until §7.4.1. Hengeveld (1992a:26) takes the term 'non-verbal predication' to apply to any construction in which there is a non-verbal main predicate, irrespective of whether a copula is present or not. The essential difference between such predicates and verbal predicates is that verbs can only be put to non-predicative use through further modification such as nominalisation or participialisation, whereas non-verbal predicates can be used non-predicatively without further modification: for instance adjectives can be used attributively, and nouns as the heads of terms (p. 27).

Hengeveld assumes Dik's concept of copula support, and discusses the properties which can be used to distinguish copulas from other, related categories which he calls semi-copulas and pseudo-copulas (pp. 30–45). Basically, a copula (e.g. *be* in English or *ser* in Spanish) is an auxiliary which makes no contribution of its own to the meaning of the sentence, as reflected in the omissibility of this element under particular circumstances in some languages. Semi-copulas, such as *become* or *remain* in English, or *estar* in Spanish, are shown to share a number of properties with true copulas (in particular, in both cases it is the main predicate which determines the selection restrictions and the number of arguments permitted), but differ from them in that they can never be omitted without changing the meaning of the construction. Pseudo-copulas are lexical predicates, such as *seem* in English, which are readily mistaken for (semi-)copulas, but do not actually link a non-verbal predicate with its arguments: unlike semi-copulas, they can take their own copular complement (*seems to be ill*/**becomes/remains to be ill*). The question of the status of semi- and pseudo-copulas will be taken up again in §8.4.3.2.5, in the context of the characterisation of States of Affairs in FG.

Hengeveld (1992a:Chapter 5, 1992b) goes on to define the different types of non-verbal predicate, as well as verbal predicates, in terms of their functioning in the underlying structure of utterances: both verbal and nominal predicates act as heads, and the former restrict the main predicate variable, while the latter restrict a term variable; adjectival predicates act as modifiers of a nominal head (and, as we shall see later, manner adverbials are treated as predicates modifying a verbal head). Hengeveld (1992a:60–62) discusses how the types of non-verbal predicate can be recognised cross-linguistically, and

18. For a concise summary of FG proposals on term predicate formation, see Mackenzie (2002:28–31).

goes on to look at parts of speech systems in languages which do not have all four classes of non-verbal predicate (pp. 62–72).

An exhaustive classification of non-verbal predicates is then provided, based on the predicate type (nominal, adjectival, adverbial), the type of arguments taken, and for some subclasses the pragmatic and semantic functions of the first argument: for a full list of types see Hengeveld (1992a: 124). A distinction is drawn between equative and ascriptive predications: equatives can be identifying or classifying, while ascriptives can be presentative (either possessive or localising, the latter including existentials and presentative locatives) or non-presentative (based on adjectival or bare nominal predicates, and locative or possessive types of adpositional construction). I shall return to this area in discussing the representation of situations in Chapter 8.

Hengeveld (1992a: Chapter 6) also investigates the extent to which the various possible types of non-verbal predication occur in a sample of 37 languages selected for maximum variability across linguistic types. He also discusses the alternative strategies used by languages which do not have particular types of non-verbal predication (Chapter 7), and the means by which linguistically predicable non-verbal predication types are expressed in the various languages of the sample (Chapter 8), finally arriving at some general correlations between expression types, parts of speech systems and the ways in which they use constructions without a copula. Hengeveld also discusses the role of grammaticalisation in the area of the copula (Chapter 10), and non-verbal predication types with specialised uses (Chapter 11).

7.2.1.7 Nominalisation in FG

We saw earlier that noun phrases can be used to refer not only to first-order entities but also to states of affairs such as events, to propositional entities such as beliefs, and to speech acts. The examples given earlier involved cases where a higher-order entity was encoded in a single lexical noun such as *meeting* (2nd order), *belief* (3rd order) or *promise* (4th order). In a sense, these are nominalisations, in that they represent a non-first-order entity in nominal form. More usually, however, nominalisation refers to “an embedded construction which has one or more properties in common with a primary, nominal term” (Dik 1997b: 157).

Dik distinguishes between headed and non-headed nominalisations. The headed type is exemplified in (93), where the embedded construction is adjoined to the general head noun *fact*:

- (93) *The fact that he won re-election suggested that the working-class independent unionist vote was only temporarily lodged with the DUP while Johnny McQuade was alive.* (BNC AD2 1191)

In the non-headed type, the predicate itself acquires some nominal properties, as in (94):

- (94) *This did not augur too well for Patrick's chances of winning £30,000.* (BNC HTJ 2559)

Here, *winning £30,000* shows the typical nominal property of being preceded by a preposition. Note the following alternative ways of expressing the same representational content:

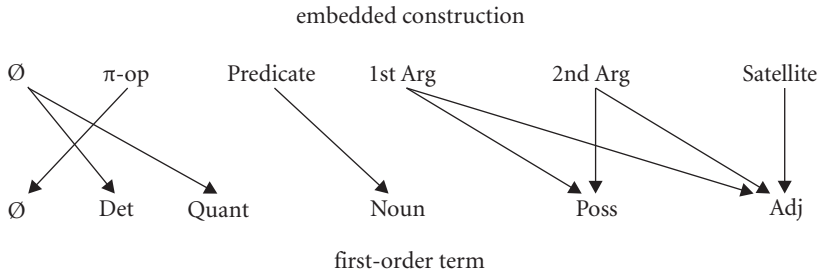


Figure 7.1. Formal adjustments in nominalisation (from Dik 1997b: 158, example (55))

- (95) *This did not augur too well for the chances that Patrick would win £30,000.*
 (96) *This did not augur too well for Patrick's chances to win £30,000.*
 (97) *This did not augur too well for the chances of Patrick's winning £30,000.*

In (95), the postmodifier of *chances* is a subordinate clause with *win* as main verb; in (96), the expression of the action is non-finite, but still clearly verbal; in (97), there is the possibility of the possessive *Patrick's* which, like the preposition in (94), indicates clearly the partially nominal nature of *winning*. Finally, in something like (98), there is an even stronger move towards nominal expression, in that *winning* has not only a premodifying possessive but also a postmodifying *of*-phrase:

- (98) *Patrick's winning of £30,000 surprised us all.*

Dik (1997b: 158) regards nominalisations as “embedded constructions which to some degree have adjusted to the typical expression pattern of primary, nominal terms”, this being an example of the Principle of Formal Adjustment, stated as follows:

PRINCIPLE OF FORMAL ADJUSTMENT (PFA):

Derived, secondary constructions of type X are under pressure to adjust their formal expression to the prototypical expression model of non-derived, primary constructions of type X. (Dik 1997b: 158)

Dik then provides a schematic representation of the kinds of adjustment which can be involved in nominalisation, as shown in Figure 7.1.

As an illustration of some of the possibilities set out in Figure 7.1, consider the following examples:

- (99) *The acceptance of these two assumptions as fact is all-important.* (BNC BM2 460)
 (100) *His acceptance of the condition was made with an easy mind ...* (BNC FRJ 2123)
 (101) *The Defence Minister, Mr Yitzhak Rabin, welcomed the Egyptian acceptance of the Baker plan, ...* (BNC A95 393)

- (102) *The **wide acceptance of secularisation** is not a strong enough reason for us to cease applying Biblical social teaching as directly as possible to the world in which we live.*
(BNC CDW 856)

In each case, the nominal expression in bold type is a nominalisation related to a clause with *accept* as the verb: for instance, *he accepted the condition* for (100). In each case, the predicate of the embedded construction appears as the noun *acceptance*, and there is a determiner in front of this noun. In (100) the first argument of the embedded construction appears as the possessive *his*, whereas in (101) it is present as an adjective *Egyptian* (cf. *the Egyptians accepted the Baker plan*). In all four examples the second argument of the embedded construction appears as an *of* phrase, which Dik analyses as Possessor. In (102), what would be a satellite in the clausal version of the embedded material (*secularisation is widely accepted*) turns up as an adjective in the nominalised version. Dik notes that the more strongly nominalised a construction is, the less readily it takes the π -operators which form part of the underlying structure of the clause: for instance, although the constructions in (94)–(97) could take the Perfect operator (*of having won/that Patrick would have won/to have won/Patrick('s) having won*), those in (99)–(102) are at a level of abstraction such that they are atemporal.

With regard to the role of Possessor elements in nominalisation, Dik (1997b: 160–162) notes that it is rare for two arguments of a nominalised two-place predicate to be expressed by means of possessive constructions of the same type (contrast (101) with **the acceptance of the Egyptians of the Baker plan*). Indeed, Dik claims that in actual usage only one argument is normally expressed, so that we get expressions such as *the acceptance of the Egyptians/the Egyptians' acceptance* and *the acceptance of the plan/the plan's acceptance*. Clearly, in the case of a one-place predication there is only one argument to express. Dik therefore summarises the position in terms of the tendency for the single overt argument to be expressed in possessive form.

As far as typological aspects of nominalisation are concerned, Dik cites the work of Mackenzie (1987a), who studied a sample of 30 languages of various types, and found that nominalised constructions could be ordered in a hierarchy from completely verbal (Degree 0: embedded material expressed as finite dependent clause), through three intermediate types (Degree 1: embedded verb characterised as dependent, non-finite; Degree 2: embedded construction marked in a way which normally applies to nominal terms; Degree 3: one or more arguments occurs as Possessive, with some loss of π -operators), to completely nominal (Degree 4: nominalisation has further nominal properties such as term operators, gender, number, adjectival modification). These degrees of nominalisation form an implicational hierarchy such that a language with properties of a given degree will also display the properties of lower degrees.

As for the formalisation of nominalisation in FG, Dik (1997b: 164–168) takes the line that the quantitative and qualitative valency of the predicate is preserved. For instance, the predicate *accept*, used in the sense which is nominalised in examples (99)–(102), would have the following predicate frame:

- (103) *accept* [V] (x₁)_{Ag} (x₂)_{Go}

The nominal *acceptance* would have exactly the same set of semantic roles associated with it:

$$(104) \text{ acceptance [N] } (x_1)_{\text{Ag}} (x_2)_{\text{Go}}$$

Thus the representation of the nominalisation in (100) would be as follows:

$$(105) (d1e_i: [\text{acceptance [N] } (d1x_i: [-S, -A, +M])_{\text{Ag}} (d1x_j: \text{condition [N]})_{\text{Go}}])$$

Mackenzie (1985, 1986, 1996) argues persuasively for a rather different view of valency in nominalisations. He demonstrates that nominalisation has a number of syntactic, semantic and pragmatic advantages related to the additional compactness it achieves:

Syntactically, a noun phrase with a nominalized head is treated by grammatical rules as being simpler, with a distributional potential that is denied to a corresponding finite clause; semantically, such a noun phrase is available for typification, for presenting a verbal notion stripped of its accoutrements; and pragmatically, noun phrases with nominalized heads show up where there is a need for condensation of information, for backgrounding and for cohesion. (Mackenzie 1996: 334)

He therefore wishes to formulate an account of nominalisation within FG which naturally includes the notion of compactness. As an alternative to Dik's valency preservation model, Mackenzie puts forward a hypothesis according to which fully nominalised predicates are avalent, and nominalisations are the result of predicate formation rules which reduce the valency. The 'genitive-gerund' construction exemplified in (97) above comes about as a result of the following predicate formation rule (Mackenzie's (21), 1996: 339),¹⁹ resulting in a verbal noun.

(106) GENITIVE-GERUND FORMATION

Input	Pred [V] Arg1 Arg2
Output	Pred [VN] Arg2

On the other hand, the nominalisation found in (98) would result from the following rule, which makes the predicate avalent:

(107) PRODUCTIVE NOMINALISATION

Input	Pred [V] Arg1 Arg2
Output	Pred [N]

The examples in (99)–(102) show a comparable construction, though it is debatable whether it can be derived from the predicate frame of *accept* by general rule, since clearly not all verbs form a nominalisation in *-ance*. The fact that the original arguments of the predicate can still be important in the nominalisation is captured by postulating that these become 'implied satellites'. This idea was already present in Dik's early work and is restated in both the 1989 and 1997 editions of *The Theory of Functional Grammar*. The point is that

19. Mackenzie uses the older notation for showing the Type of a predicate, found in Dik (1989a). This has been updated here.

certain satellites are implied by the nuclear predication itself: for instance, an action will normally be taken to have been carried out in a certain manner. In a sense, then, such satellites are as integral to the underlying structure of the predication as are the arguments of the predicate. Mackenzie labels such satellites ‘y-satellites’, in contrast with non-implied, truly optional ‘z-satellites’ (and, of course, ‘x-arguments’). Mackenzie’s analysis of genitive-gerund nominalisations such as that in (97) proposes that the Possessor (corresponding to the removed argument of the original predicate) is a y-satellite to the verbal noun (since we cannot reasonably conceive of, for example, ‘winning’ without implying that someone wins something). In nominalisations such as those in (98) and (100) the Possessor equivalent to Arg 2 is a y-satellite, and that which is equivalent to Arg1 is a z-satellite. Mackenzie (1996:340–342) provides convincing arguments for this position, which will not be reviewed here. The basic structure of (100) would thus be as follows:

(108) (d1e; *acceptance* [N] (d1y; *condition* [N]))_{POSS} (d1z; [-S,-A,+M])_{POSS}

the postulation of two Possessors being unproblematic because one is an implied satellite, the other a non-implied satellite. Invoking work in cognitive linguistics, Mackenzie (1996:342) observes that nominalisation involves the reconceptualisation of a process as if it were a thing, and that since this is presenting something as what it is not, then it is a kind of metaphor.²⁰ If, then, the process is being metaphorically construed as a thing, it is natural that it should be metaphorically capable of being possessed.

Mackenzie also shows how, in English, the transition from finite clause, through gerund and genitive-gerund, to productive nominalisation and finally to non-productive nominalisation (as in his example (3e) *My horse’s victory in the race* as opposed to *My horse’s winning of the race*) is accompanied by the progressive loss of utterance properties (agreement, modal and certain aspectual and tense distinctions, negation with *not*), and the parallel gaining of properties of more typical referring expressions (preposition attachment, restrictors, demonstrative, definite and indefinite operators, quantifying operators), as well as the transition from full verbal valency to avalency. Each of these turns out to have formal properties which can be incorporated into the 4-layer hierarchical model of the clause in FG.

Van der Auwera (1990a:221–222) argues against Mackenzie’s analysis in terms of implied and non-implied satellites. Modifying an example given in Mackenzie (1990a:143), van der Auwera claims that in the sentence reproduced as (109) below, regardless of whether *in Belgium*, *in France* and *in Austria* are taken to be implied or non-implied, there are two occurrences of one of these categories, so violating the general rule that the same semantic function cannot appear twice.

(109) (= van der Auwera’s (27), 1990a:221)
In Europe, John relaxes in cafés in Belgium, in restaurants in France, and in coffee houses in Austria; in America, he relaxes on the beach.

20. We shall see in §7.2.3.6 that there is an interesting parallel here between Mackenzie’s treatment of nominalisation within FG and Halliday’s within SFG.

It is surely significant here that *in Europe* is an extraclassical constituent with scope over the whole of the rest of the first clause, the other three locative satellites in this clause specifying contrasts within the broader category 'Europe', in a Parallel Focus structure. However, we do not need to examine such complex examples in order to see that double occurrence of the same satellite function is in fact not barred. In (110), for example, both *in hospital* and *in Safi* are locative, and they are clearly independent satellites, since they could occur in reverse order. Furthermore, they could both be claimed to be implied, since if someone is held, in this sense of the predicate, there is an implication that they are held in some particular place.

(110) *He is now held in hospital in Safi.* (BNC A03 584)

Van der Auwera (1990a, 1990b) himself offers a different analysis of terms headed by verbal nouns. Consider the example in (111):

(111) *As Fleming shared a Nobel Prize for the discovery of penicillin with Chain and Florey in 1945, ...* (BNC ARF 327)

Van der Auwera would analyse the relevant term in the following way:²¹

(112) $(d1x_i: \textit{discovery} [\textit{VN}] (x_i): \{(ix_j: \textit{penicillin} [\textit{N}] (x_j))_{\text{Go}}\} (x_i))$

so claiming that *of penicillin* is a restrictor having the semantic function of Goal with respect to *discovery*, and reflecting the status of the head *discovery* as a verbal noun, since ordinary nouns do not select for Goals.

Mackenzie (1990a:141–142) argues against such a representation on two sets of grounds. Firstly, as argued in Mackenzie (1985, 1986), the argument status of adnominal elements such as *penicillin* in (111) is questionable, especially in view of the demonstrably high frequency of their omission in texts. Furthermore, since nominal predicates normally denote States, this rules out the possibility of a Goal argument, which would not be compatible with States. Removing the Goal argument simultaneously removes the motivation for classifying *discovery* as a special type of noun with argument-taking properties. Secondly, as we saw briefly in §7.2.1.6, a term, such as *penicillin*, cannot simply be given a semantic function inherent to itself, since such functions express a relationship between a term and either a predicate (if the term is an argument) or a whole predication (if the term is a satellite). Van der Auwera (1990a:224–225) recognises this argument, but as he believes Mackenzie's own analysis, in which *of penicillin* would be a satellite to *discovery*, to be flawed, he maintains his own position. We have seen that van der Auwera's objections to these proposals are, in fact, answerable.

Nouns such as *discovery* can, of course, have a different type of postmodifier, in what van der Auwera calls a 'clausal complement term'. An example is given in (113).

21. The subscript notation for the class of predicate in the original publication has been replaced by the more modern notation.

- (113) *But the discovery that it depleted the brain of certain transmitters made it a valuable tool in investigating brain mechanisms.* (BNC ARF 1454)

Van der Auwera objects to the analysis of such postmodifying clauses as second restrictors, on three sets of grounds: it fails to indicate that *discovery* is a verbal noun with the *that*-clause as its argument; it claims *discovery* and *that it depleted the brain of certain transmitters* apply to the same entity when, according to van der Auwera, they are different entities; and it fails to account for the observation that we cannot add another such clause modifying the same head, something which is perfectly possible with, for example, relative clauses:

- (114) **The discovery that it depleted the brain of certain transmitters that it sent people mad ...*

Van der Auwera (1990a:216–217) also argues against a proposal by Mackenzie (1990a:142) to the effect that since the *that*-clause can itself be an argument (see (115) below), this strongly suggests that it is in restrictive appositive relation to the head.

- (115) *That it depleted the brain of certain transmitters was clearly evident from their experimental results.*

Van der Auwera offers three reasons for rejecting Mackenzie's proposal. Firstly, he claims that clauses introduced by *whether* cannot by themselves be arguments, giving the example in (116):

- (116) (= van der Auwera's (19), 1990a:217)
**Whether the earth was round surprised nobody.*

Secondly, he objects that, just as in Dik's proposal, the analysis implies that *discovery* and the *that*-clause refer to the same entity. Thirdly, Mackenzie's proposal does not represent *discovery* as a verbal noun. Let us look at these arguments in turn. Firstly, it is clearly untrue that *whether*-clauses cannot act as arguments, as witness examples such as (117):

- (117) *Whether it comes about depends as much on politicians as on scientists.*
(BNC ANX 817)

The unacceptability of (116) stems not from the reason van der Auwera adduces, but from the properties of the predicate *surprise*, which requires as its first argument something which is regarded as a fact, or at least an objective possibility, so ruling out a clause which directly reflects the uncertainty of actualisation of the SoA contained in it. The second and third of van der Auwera's points are linked, in that it is because *discovery* is a verbal noun that there is a particular relationship between it and its postmodifier, which is not straightforwardly one of identity of reference. As van der Auwera points out, there is a parallel between sentences with the modified verbal noun and sentences with the corresponding verb, the second argument of the verbal predicate being semantically related to the postmodifier of the verbal noun. Thus, corresponding to (113) we have (118):

- (118) *Someone discovered that it depleted the brain of certain transmitters.*

Van der Auwera, as we have seen, takes this to mean that the head and the *that*-clause do not refer to the same entity. However, verbal nouns such as *discovery* have both a process and a product interpretation: a discovery is not only an act of finding out (emphasising the verbal side of the verbal noun), but also what is revealed by that act (emphasising the nominal side). It is in the second sense that it does indeed seem reasonable to regard the head and postmodifying clause as referring to the same entity, namely what is found out.

Van der Auwera's third point, that Mackenzie's proposal fails to represent *discovery* as a verbal noun, becomes vacuous if we accept Mackenzie's arguments, discussed earlier in relation to example (111), for not treating the postmodifier as a Goal.

It is reasonable to conclude, then, that we may analyse examples such as (113) in the manner proposed by Mackenzie, though with the added statement that there is a systematic relationship between the nominal appositional structure and the corresponding verbal predicate plus Goal structure.

Finally, we should note that a much simpler kind of nominalisation than those discussed above, namely the conversion of verbs to agentive nominals, is accounted for in terms of a simple predicate formation rule in FG, which is formulated by Dik (1997b:3) as follows (his example 3):²²

(119) Agent Noun Formation

input: pred [V,+contr] (x₁)_{Ag/Pos} ... (x_n) [n ≥ 1]

output: {Ag pred} [N] (x₁)_∅ ... (x_n)

meaning: 'a person who has the property of being (habitually) involved in the action of pred-ing'

An example would be:

(120) input: *bake* [V] (x₁)_{Ag} (x₂)_{Go}

output: *baker* [N] (x₁)_∅ (x₂)_{Go}

meaning: 'a person who is (habitually) involved in the action of baking'

An alternative, valency-reducing account of such nouns has been offered by Mackenzie (1990b), who formulates a rule for 'partial first argument nominalisation' in which the input predicate has at least one argument and the output is a verbal noun with zero valency, but with any further arguments of the original predicate being expressed as satellites.

The work of Cortés Rodríguez (1994, 1997a, 1997b, 1997c; Cortés Rodríguez & Pérez Quintero 2001; Mairal Usón & Cortés Rodríguez 2000–2001), however, demonstrates that the formation of agent nouns is in fact much more complex than Dik's account suggests. We saw in §3.5 that in the Functional Lexematic Model predicate formation is rejected as an inappropriate mechanism for word formation, on the grounds that it is an overly syntactacist approach, which overplays the parallels between word formation and other phenomena of a much more regular nature, and also reduces the descriptive power of the grammar by not providing a detailed account of morpholexical relationships between dif-

22. Note that '+contr' here stands for the feature 'controlled', i.e. the state of affairs in which the predicate is involved must be one under the control of some entity, See Chapter 8 for further detail.

ferent forms. As stated briefly in §6.2.2.3, the most recent account of *-er* nominalisations (Cortés Rodríguez & Pérez Quintero 2002) is situated within the hybrid approach which imports the RRG system of abstract semantic representation into the FLM.

Cortés Rodríguez & Pérez Quintero (2002:215) point out that nominalisations with *-er* (and the spelling variants *-or/-ar*) can be formed not only from action verbs, but from all RRG Aktionsart classes (States (e.g. *owner*), Activities (e.g. *worker*), Achievements (e.g. *flasher*) and Accomplishments (e.g. *learner*)), from nouns (*gunner*) and even from adjectives (*Britisher*), and that it is difficult to see how a single predicate formation rule could account for all of these formations. Furthermore, nominalisations such as *diner* present problems in that the profiled component is not even an argument of the corresponding verb, let alone an Agent, but rather the location of the activity.

In the FLM approach, productive affixes are considered as part of the mental lexicon, rather than merely as products of the expression rules, as in Dik's account. Cortés Rodríguez & Pérez Quintero (2002:219–222) give a detailed entry for the suffix *-er*, consisting of various types of information: the graphemic alternants of the suffix, its phonological description, its morphophonological behaviour (internal structure of the derived words, rules for morphophonological readjustment), and a syntactico-semantic description of the kinds of base words to which the suffix can be attached. The authors point out that this last component is essential in order to predict the formal and semantic behaviour of the complex lexeme, and also to choose between this particular affix and others (e.g. *-ant* or *-ist*) which are involved in similar nominalisations, since the specification of underlying structure allows a statement of the lexical semantic domains in which particular affixes are operative. Underlying structures for verbal lexemes are specified using RRG logical structures, and those for nominal lexemes using the system of qualia proposed by Pustejovsky (1991, 1995) and adopted into RRG (see §7.2.2.2.1). Finally, a maximally generalised affix schema is presented for the *-er* suffix, with variables for a predicate, a profiled entity towards which the nominalisation is oriented (which can have various semantic functions, e.g. Agent (*baker*), Instrument (*cutter*), Location (*diner*) and so on), and a logical structure involving the profiled entity. Cortés Rodríguez & Pérez Quintero provide a detailed account of how their account of the *-er* suffix fits into the general analytic-synthetic FLM model of word formation which was summarised in §3.5. Further discussion of these proposals is available in Mairal Usón & Cortés Rodríguez (2000–2001), where templates for the affixal lexicon are fully integrated into the lexical template model discussed in §6.2.2.3.

7.2.1.8 An alternative view of term structure

As we have seen, the orthodox view of term structure proposes structures of the type shown in (121):

(121) (d1x_i: *man* [N] (x_i)_∅) 'the man'

which can be read as 'definite singular entity such that the property "man" is predicated of that entity'. Mackenzie (1987b; see also Mackenzie 2002) has argued that such representations are equivalent to logical-semantic formalisms, and fail to capture the essentially

pragmatic nature of both reference and predication, as attempts to communicate to the addressee the identity of the intended referent. As Mackenzie points out,

... the use of language involves a creative quest for the words which provide the receiver of the message with the best clues, in the given setting, to the meaning the Speaker wishes to communicate. (Mackenzie 1987b: 3)

Mackenzie proposes to model this attempt to pinpoint the referent of a term by adopting a slightly, but significantly different formalism for term structure, as shown in (122):

(122) (d1x_i: *man* [N]) ‘the man’

In this structure, there is no co-indexing of the ‘x’ variable on the left hand side of the colon with a further occurrence of this variable on the right. Rather than identifying the referent as a man, as in (121), (122) should be read as indicating that the speaker tenders the description ‘man’ in order to orientate the addressee towards the intended referent.

This proposal has consequences for the representation of nominal predicates in the fund. The predicate *man* will now be represented simply as in (123), as avalent rather than monovalent as in the orthodox account:

(123) *man* [N]

Mackenzie discusses possible objections to this simplification, and proposes answers to these. Van der Auwera (1990a: 14) feels that one can accept the fundamentally pragmatic nature of reference without abandoning the traditional representation.

7.2.1.9 Referring to non-entities: the analysis of expressions referring to places, times and manners

We have seen that in Dik’s account of terms, reference is made by the speaker to an entity, about which something can then be predicated. Mackenzie (1992a, b) has proposed that speakers can also refer to phenomena which are not entities. In particular, he argues for a distinction between entities and places. Space precludes the detailed consideration of Mackenzie’s arguments here. He first examines the philosophical background to the place/entity distinction, and then argues for a subcategorisation of nouns, not only in the ways proposed by Dik, but also into entity-denoting and place-denoting types. He then goes on to show that although entity-denoting nouns are usually the first restrictor predicate of an entity-referring term, and place-denoting nouns of a place-referring term, other combinations of denotation and reference are possible, such as when *at the car* means *at the place where the car is*. Mackenzie gives a number of tests for place-reference versus entity-reference: for instance, place-referring terms can be elicited by *Where?* and can be followed by the parenthetical expression *of all places* (cf. *of all things/people* for entity-referring terms). Terms are then classified according to (i) whether they have a locational or a non-locational semantic function, (ii) whether they denote an entity or a place, and (iii) whether they refer to a entity or a place. Places are indicated in term structures by using the variable ‘p’ instead of the entity variable ‘x’. An example is given in (124), analysed as in (125):

(124) *As he lifted the receiver he saw that Hilary was standing at the door.*
(BNC C8T 926)

(125) (d1p_i: f_i: door [N])_{Loc}

Olbertz (1998) takes up a suggestion in Mackenzie's article that a similar treatment might be extended to times. Mackenzie himself (1998b:245–246) later proposes that manner adverbs in *-ly* refer to something which is equivalent, referentially, to a term headed by *way*, and that this 'something', like that involved in the treatment of places and times, is not an entity. He dubs such referents 'manners', and symbolises them by means of a variable 'm'. This proposal has the effect of analysing manner adverbs as underlyingly adjectives (e.g. *beautifully* as the equivalent of *in a beautiful way*).

7.2.1.10 *Individuation in the nominal lexicon*

Detailed work on nominal lexis in FG has been undertaken by Vossen, who has investigated 'individuation' in the nominal lexicon, defined "to cover the communicative effect of 'naming' something by a particular noun instead of another noun, both in terms of divisions of things and in terms of the conceptualizations of these things" (Vossen 1995:1). For instance, as Vossen points out, we might describe a collection of vehicles as *some cars*, *traffic* or *a tailback*, among other possibilities, and each of these expressions presents a different way of looking at the vehicles concerned. Similarly, *freedom fighter* and *terrorist* might be used by different people, with different viewpoints, to describe the same person. Vossen discusses how we can represent the different kinds of effects nouns can have in a computational lexicon, in such a way that the correct use of the nouns can be accounted for. He also examines the ways in which such information is currently stored in dictionaries and how it can be extracted from these sources.²³

7.2.1.11 *Prototype effects in reference*

The work of Keizer (1992b) demonstrates that the concept of referring expression, which is taken for granted in the standard account of reference in FG, is actually not at all clear cut. Keizer proposes to recognise prototype effects in this area: the prototypicality of an expression as a referring expression can be related to its properties along the three dimensions of order of entity referred to, form of expression and clause function.

... the clearest example of a referring expression is an expression referring to a first-order entity (object or individual), containing a non-relational nominal head, specified (potentially) by all term operators, and taking argument position.
(Keizer 1992b:360)

To the extent that an expression deviates from any or all of these properties, it is less prototypical as a referring expression. Keizer takes the last criterion (appearance as an argument in the clause) as a cut-off point for referentiality: only those expressions acting as argu-

23. Vossen's work will be mentioned again in Chapter 5 of Part 2, in connection with computational applications of FG.

ments can be referential. This allows us to maintain the distinction between reference and predication: a clause will normally contain both referring elements, about which something is predicated, and predicating elements which are non-referential but are used to predicate a property in relation to some other entity.

7.2.2 The noun phrase in Role and Reference Grammar

The development of a theory of noun phrase structure and meaning in RRG is relatively recent, and is summarised in Van Valin & LaPolla (1997:53–69, 184–195), on which the following account is based. The most detailed study of noun phrases within the RRG framework is that of Nunes (1993), the main results from which are incorporated into Van Valin & LaPolla's account. As would be expected from the RRG account of the clause, the noun phrase is analysed in terms of a syntactic and a semantic structure. I shall deal with each of these in turn.

7.2.2.1 *The syntactic structure of noun phrases*

7.2.2.1.1 *The layered structure of the noun phrase.* Van Valin & LaPolla (1997:53–54) point out that relational nouns such as *father* can take what may be analysed as arguments, and that just as clauses can act as arguments within other clauses, so the same is true of the corresponding nominalisations, as shown in (126) and (127):

(126) ... *Helena Swanwick confided her belief that 'no real building can come out of revolutions which make a dust and a mess and bitterness and reaction.'*
(BNC CE7 840)

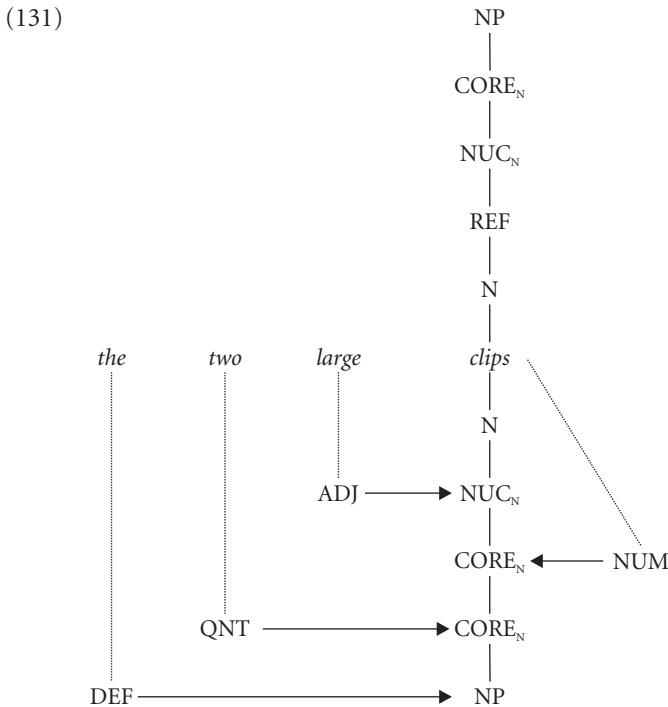
(127) ... *she believed that 'no real building can come out of revolutions which make a dust and a mess and bitterness and reaction.'*

It is therefore posited that noun phrases, like clauses, have a layered structure (the 'layered structure of the NP', or LSNP). A crucial difference between the layered structures of the clause and the noun phrase is that while verbs predicate, noun phrases refer, so that while the NUC element of a clause dominates a PRED node, that of a noun phrase dominates a REF node. The LSNP for the noun phrase in bold in example (128), headed by a deverbal nominal, is given in (129).

(128) *A fairly dispassionate analysis by Best (1980) indicates that the initiation of area bombing of cities resulted from the rejection of strategic in favour of indiscriminate bombing by those in charge of British Bomber Command, and the acceptance of their arguments by Churchill in August 1940, ...* (BNC CHC 91)

nal modifiers of the head noun as realisations of quality operators.²⁴ Both types of quality operator modify the nucleus, in that they express qualities of the referring expression. On the other hand, quantity operators, expressed through devices such as grammatical number, numerals and quantifiers, modify the core of the noun phrase, since they have scope over the quality operators. Localisation operators (or, as Van Valin & LaPolla call them, locality operators), modify the noun phrase as a whole, having scope over both quantity and quality kinds. These distinctions are exemplified in (131), which gives the constituent and operator projections for the noun phrase in bold in (130).

(130) *At last the stiff damp straps were unbuckled and **the two large clips** unfastened.*
(BNC CAB 2770)



7.2.2.1.3 The noun phrase initial position. Van Valin & LaPolla (1997:60ff.) argue for a position at the beginning of the noun phrase in some languages, which they term simply the noun phrase initial position (NPIP). The argumentation proceeds from the analysis of noun phrases with deverbal nouns as heads, as exemplified earlier in (100), repeated for convenience as (132) below:

24. Compare Rijkhoff's proposal that adjectives expressing inherent properties of a reference are quality satellites. This position appears reasonable, since adjectives are lexical modifiers.

(132) *His acceptance of the condition was made with an easy mind.* (BNC FRJ 2123)

Such double-possessive constructions are very rare in the world's languages, and Van Valin & LaPolla, following Nunes (1993), argue that they should not be treated as entirely parallel to the clausal version (here, *he accepted the condition*). For one thing, the possessive expression appearing as a premodifier may not be capable of acting as Subject, and indeed need not be an argument at all, as witness examples such as (133):

(133) *At yesterday's meeting of the Club's Disciplinary Committee, Willett, 33, was declared a disqualified person for 20 years.* (BNC A5C 574)

Here, the possessive premodifier would represent a peripheral adjunct rather than an argument in the corresponding non-nominalised form (*yesterday the Club's Disciplinary Committee met*). Furthermore, this adjunct is in the left-detached position, suggesting a parallel between this position and the NPIP.

Although the discussion offered by Van Valin & LaPolla is rather brief, it is clear that they wish to generalise from constructions of the above type to all prenominal possessive constructions, since they also treat noun phrases such as *Fred's book* as having the possessive in the NPIP (Van Valin & LaPolla 1997:61). They then go on to claim that demonstratives and *wh*-words can also occupy this position, as in (134) and (135):

(134) *It gave him a good feeling, it was satisfying, just to think as he walked up the stairs, those floors are mine, this carved wood, these moulded ceilings.* (BNC CDB 1722)

(135) *Which newspaper do you take regularly and which book are currently reading?* (BNC BM5 0375)

The analysis which would be given to the noun phrase *this carved wood* in (134) is shown in (136).

This proposal means that there is a different analysis for articles, on the one hand, and demonstratives, on the other: the former are analysed purely as realisations of locality operators such as DEF, while the latter are treated as pronouns in the NPIP position, as well as realising the locality operators DEF and DEIC(TIC). Van Valin & LaPolla (1997:62–63) defend this analysis on the grounds that in languages such as Lakhota and Mparntwe Arrernte articles and demonstratives can co-occur. The two operators are the outermost ones within the NP, though they appear in a different order for the two languages. Van Valin & LaPolla cite the work of Dryer (1992), who uses differences in cross-linguistic ordering patterns to support the claim that demonstratives and articles are members of different categories.

- (138) NP1[gooroogooroo]_{NP1} VP[dajgila]_{VP} NP1[jalandi]_{NP1}
 black I-wear-it belt
 ‘I’m wearing a black belt’

In (137), the embedded noun phrase NP2 is split by the postposition *-yoo*, and in (138) the object noun phrase is split by the whole word *dajgila*, which constitutes the verb plus the pronominal arguments.²⁵ In the RRG representation of this structure, the discontinuous modifier would be linked to the head noun via the operator projection of the NP. With regard to such structures, Van Valin & LaPolla (1997:64) claim that the representation in terms of both constituent and operator projections “yields a simpler analysis which requires no special rules or abstract levels of representation”. A similar claim is made with respect to noun incorporation phenomena in languages such as Greenlandic Eskimo (Van Valin & LaPolla 1997:64–65).

7.2.2.2 The semantic structure of noun phrases

7.2.2.2.1 *Qualia structure.* Nominal semantics in RRG is based on the theory of qualia proposed by Pustejovsky (1991, 1995), according to which the meaning of a nominal expression may be described in terms of four roles (Pustejovsky 1991:426–427; cited in Van Valin & LaPolla 1997:184–185):

- a. *Constitutive role:* the relation between an object and its constituents, or proper parts
 - 1 material
 - 2 weight
 - 3 parts and component elements
- b. *Formal role:* that which distinguishes the object within a larger domain
 - 1 orientation
 - 2 magnitude
 - 3 shape
 - 4 dimensionality
 - 5 color
 - 6 position
- c. *telic role:* purpose and function of the object
 - 1 purpose that an agent has in performing an act
 - 2 built-in function or aim that specifies certain activities
- d. *agentive role:* factors involved in the origin or ‘bringing about’ of an object
 - 1 creator
 - 2 artifact
 - 3 natural kind
 - 4 causal chain

The lexical entry for a noun contains a set of values for these qualia, giving the main semantic properties of the noun. In this way, qualia are to nouns what logical structures

25. See Chapter 4 for more detail on Gooniyandi as a head-marking language.

restrictions on predicates: for instance, the x argument of the logical structure *see'* (x, y) must normally be filled by an NP with 'higher animate being' as part of its qualia structure.

7.2.2.2.2 *The semantics of possessives.* In RRG possessive phrases are analysed semantically in the same way as in clauses indicating possession, i.e. in terms of the predicate *have'*. For instance, the noun phrase containing possessive *the woman's* in (145) has the same semantic analysis as the clause in (146), except that the difference in the nature of the head is represented by underlining the head where it is a noun. The analyses are shown in (147) and (148) respectively.

(145) *I left **the woman's house** as soon as I found work and a room to rent.*
(BNC A0U 1533)

(146) *The woman had a house.*

(147) *have'* (woman, house)

(148) *have'* (woman, house)

Van Valin & LaPolla (1997:190) note that choosing the noun referring to the possessed entity as head in an example such as (145) is an example of what cognitive linguists refer to as 'profiling', and that it is also possible to profile the possessor rather than the possessed entity, by making it the head of the phrase, as in (149), analysed as in (150).

(149) *the woman with the house*

(150) *have'* (woman, house)

Van Valin & LaPolla (1997:190–192) also discuss the difference between alienable and inalienable possession. Inalienable possession, in which the possessed forms part of the possessor, is analysed in terms of the predicate *have.as.part'*, as in example (151), with the structure in (152), while alienable possession, as in (145) above, involves the simple predicate *have'*.

(151) *The woman's eyes were eager but anxious.* (BNC CCM 2708)

(152) *have.as.part'* (woman, eyes)

Van Valin & LaPolla point out that the difference has consequences in terms of semantic acceptability and grammaticality. For instance, (149) above, involving alienable possession, is perfectly acceptable, while (153), with inalienable possession, is decidedly odd. Furthermore, inalienable possession sometimes allows the compounding of possessor and possessed, as in (154), whereas alienable possession does not, as witness the ungrammaticality of (155).

(153) [?]*the woman with eyes*

(154) *She leaned from **the car window**, waving back.* (BNC CK8 1586)

(155) **the woman house*

What Van Valin & LaPolla do not point out, however, is that animate possessors cannot be compounded in this way, even in cases of inalienable possession, as shown in (156):²⁶

(156) **the woman eyes*

Finally, Van Valin & LaPolla (1997: 190–191) recognise subtypes of possession, for example in languages, such as many Australian Aboriginal languages, where there are special forms for kinship relations. For instance, Mparntwe Arrernte (Wilkins 1989) has special pronouns and constructions for the expression of possession involving kin terms, and McGregor (1990a: 252) states that special possessive suffixes can be used with kin terms in Gooniyandi.

7.2.2.2.3 *The semantics of adjuncts in noun phrases.* The semantic structures proposed for postnominal adjuncts to nouns, as in (157), reflect those for clausal adjuncts, as can be seen in (158).

(157) *We are passing through England's history, under the M4, Windsor with St George's Chapel and the castle on the hill, Eton, Runnymede meadows.* (BNC BMF 1218)

(158) **be-on'** (hill, castle)

Note that these structures are quite different from those for postnominal prepositional phrases such as that in (149), which have the possessive predicate in their underlying structure, as shown earlier.

7.2.2.2.4 *The semantics of pronouns.* Personal pronouns are represented in logical structures by designations such as '3sgM', which are then converted into the appropriate forms during the linking from semantics to syntax. The clause in (159) would thus receive the analysis shown in (160).

(159) *She ate the food, ...* (BNC HNJ 2821)

(160) **eat'** (3sgF, food)

7.2.2.2.5 *The semantics of nominalisation in RRG.* As we saw in §7.2.2.1.1, following Nunes (1993), Van Valin & LaPolla (1997: 186–189) assume that deverbal nominals are alternative expressions of the same logical structure as for the corresponding verb, the relationship being expressed by lexical rules. So the deverbal noun *belief* in example

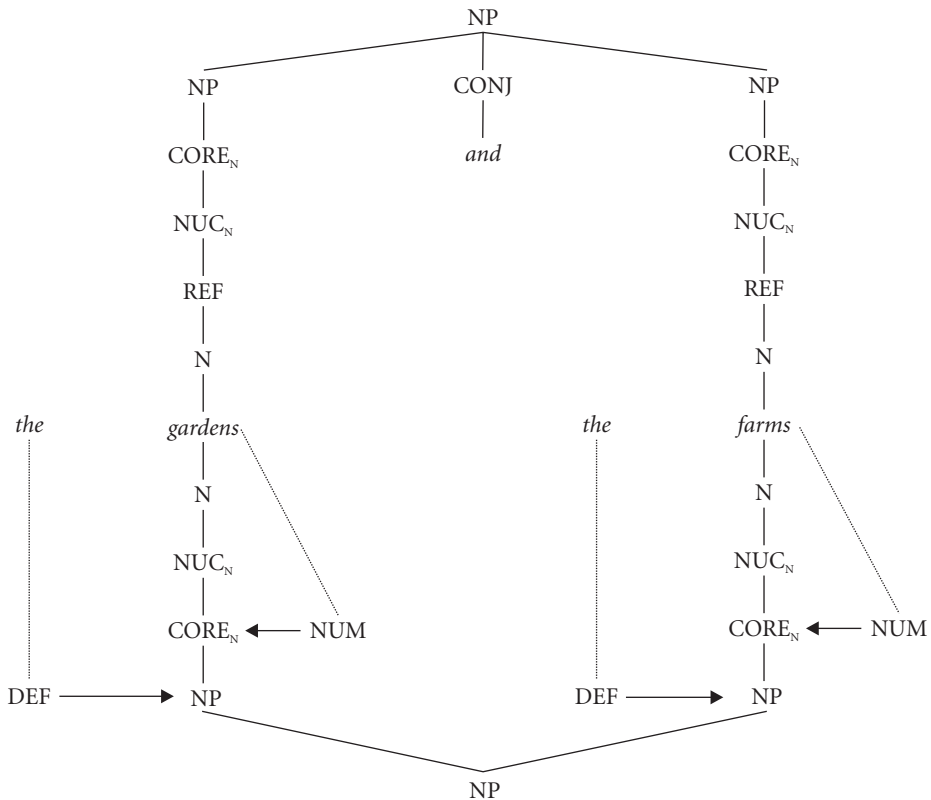
26. As Lachlan Mackenzie (personal communication) has pointed out to me, the situation is actually rather more complex than this discussion would suggest, since there are situations where an animate noun can be used in compounding, as in *She looked at me with her witch eyes*. Furthermore, *the woman with black eyes* is perfectly acceptable, despite the inalienability of eyes. In both cases, however, we have a modifier which characterises the inalienable body part in a manner which distinguishes it from other exemplars. Mackenzie also points out that compounding affects the semantics of the modifying noun, causing it to lose its referentiality.

Cosubordination refers a relationship in which there is dependence between units, but not in structural terms: rather, there is operator dependence; “[t]hat is, the non-matrix unit(s) must be dependent upon the matrix unit for the expression of at least one operator *at the level of juncture*” (Van Valin & LaPolla 1997:455, emphasis in original). The term is taken from the work of Olson (1981) on the Papuan language Barai.

The above definitions make use of the concept of **level of juncture**. This refers to the fact that in the languages of the world taken as a whole, each of the above nexus relations can involve any of the three levels of unit taken as fundamental in RRG: nucleus, core and clause. Furthermore, we have seen that there are strong parallels between the structures of clauses and of NPs. It is not, therefore, surprising that Van Valin & LaPolla (1997:492) postulate a similar set of juncture and nexus relations in clauses and NPs. We can thus find examples of coordination, subordination and cosubordination at the NP level itself, but also at the core and nucleus levels within the NP. Here, I shall deal only with those relationships which do not, in traditional terms, involve clausal modification within a NP (i.e. relative and appositional clauses), leaving the latter to Chapter 3 of Part 2. NP coordination is illustrated in (168), with the structure in (169).

(168) *Even the rain is good for the gardens and the farms.* (BNC AYK 852)

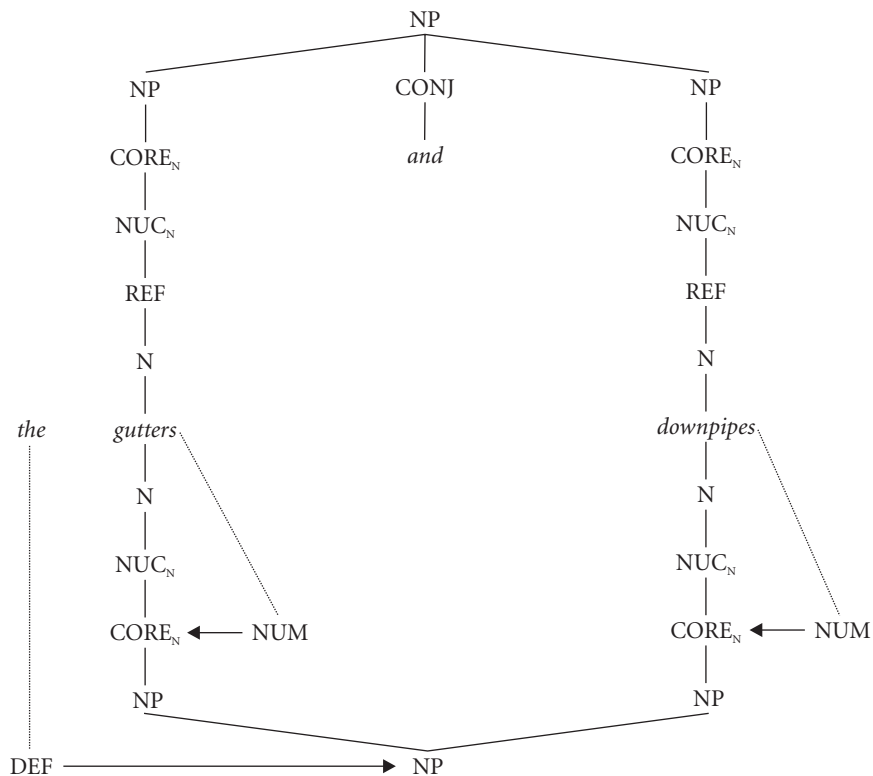
(169)



In (170) we have an example of NP cosubordination, in which the two NPs share the definiteness operator, as shown in (171).

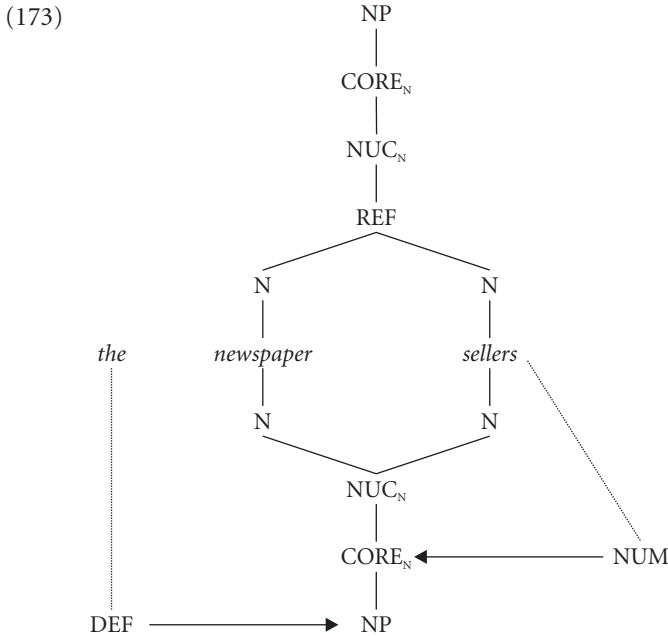
(170) *Look at **the gutters and downpipes** for damp patches, ...* (BNC AS1 1086)

(171)



Finally, compound nominals such as that in (172), which form part of a paradigmatic pattern (the corpus also has examples of *flower sellers*, *house sellers*, *book sellers*, etc.), are analysed in terms of a nuclear juncture, as in (173): here, there is no contrast of nexus relations, this type being the only one possible.

(172) *By mid afternoon the piles of papers had shrunk significantly and **the newspaper sellers** were optimistic about shifting the remainder.* (BNC K5F 1227)



Note that any operators in such constructions (e.g. the definiteness operator in (173)) have scope over both parts of the complex nucleus.

7.2.3 The nominal group in Systemic Functional Grammar

As we saw in Chapter 5, SFG uses the term ‘nominal group’ for what most linguists call the noun phrase. I shall first examine the ‘Sydney grammar’ account of the nominal group, as given in Halliday (1994b), Matthiessen (1995) and Halliday & Matthiessen (1999),²⁷ and then describe the account given in the Cardiff grammar of Fawcett and his colleagues.

7.2.3.1 *Metafunctional organisation in the nominal group*

Halliday claims that the metafunctional organisation described in Chapter 5 for the clause is also evident at group rank in the grammar, but that there are differences between the two:

Although we can still recognize the same three components, they are not represented in the form of separate whole structures, but rather as partial contributions to a single structural line. The difference between clause and group in this respect is only one of degree; but it is sufficient to enable us to analyse the structure of the group in one

27. The work of Martin (1992a: Chapter 3) on the ways in which English nominal groups are used to identify participants is oriented towards the study of discourse and will therefore be discussed in Chapter 4 of Part 2 rather than here.

operation, rather than in three operations as we did with the clause.
(Halliday 1994b: 179)

Furthermore, in describing groups, we need to split the ideational component into experiential and logical sub-components.²⁸ Matthiessen expresses the role of the three major components in the nominal group as follows:

... nominal groups are multifunctional – (i) they construe participants as things with qualities, etc., (ii) they enact them as information being given or demanded, as persons (interactant or non-interactant) and they enact attitudes, (iii) and, finally, they present and contextualize discourse referents. (Matthiessen 1995: 648)

In the following sections, I shall look first at the experiential aspects of structure and system in the nominal group, then at the logical, interpersonal and textual aspects.

7.2.3.2 *Experiential aspects of the nominal group*

7.2.3.2.1 *Structure*. The experiential structure of the nominal group specifies, in its head word, a class of things to which the referent belongs, and may also specify some category or categories within this class. Consider the nominal group in bold type in example (174):

(174) *A Christian view of the world emphasises **those two critical moral standards which the market economy requires**.* (BNC CDW 354)

The experiential structural analysis which would be assigned to this nominal group in Hallidayan grammar is shown in (175):

(175) *those two critical moral standards*
Deictic Numerative Epithet Classifier Thing
which the market economy requires
Qualifier

I shall discuss each of the elements of experiential structure in the following sections.

7.2.3.2.1.1 *Thing*. The central element, which Halliday (1994b: 189) refers to as “the semantic core of the nominal group”, is the Thing, which can be represented by a common or proper noun or a personal pronoun. Things, in this sense of the term, are categorised in English grammar as one of two subtypes:

English recognizes a basic distinction of things into two semantic categories: (1) discrete, and therefore countable, realized as ‘count nouns’; (2) continuous, and therefore uncountable, realized as ‘mass nouns.’ (Halliday 1994b: 190)

7.2.3.2.1.2 *Deictic*. The Deictic element “indicates whether or not some specific subset of the Thing is intended; and if so, which” (Halliday 1994b: 181). Such elements can be

28. This split is also needed in the description of tense (see Chapter 9) and the relationships between clauses in ‘clause complexes’ (see Chapter 3 of Part 2).

specific or non-specific. A classification of specific Deictics is given in Table 6.1 of Halliday (1994b: 181). Specific Deictics are either demonstrative or possessive, and either determinative or interrogative.

Demonstratives in English are distinguished in terms of the features ‘near’ (*this, these*) and ‘not near’ (*that, those*), in relation to the deictic centre, which normally centres on the ‘speaker-now’, though it is recognised that other languages may have more complex demonstrative distinctions. Possessives are clearly distinguished in terms of person (and 3rd person singular pronominal possessives also in terms of gender),²⁹ and *one’s* from the rest by being of a more generalised nature. The definite article is of a special kind:

The word *the* is a specific, determinative Deictic of a peculiar kind: it means ‘the subset in question is identifiable; but this will not tell you how to identify it – the information is somewhere around, where you can recover it’. (Halliday 1994b: 181)

Halliday states that the information required is either supplied by some other element of the nominal group (for instance, in a simplified version of the nominal group in (125), *the standards which the market economy requires*, the information resides in the postnominal relative clause), or will be obvious from the situation, or supplied in the preceding discourse. The alignment in the table of specific Deictics given by Halliday suggests that he wishes to treat the interrogative Deictic *what(ever)* as ‘neutral’ in the same way as *the; which(ever)*, clearly selects from a set, while *what(ever)* is non-selecting. Within the 3rd person possessive and interrogative Deictics, Halliday makes a distinction between pronominal forms such as *his/whose* and nouns with a non-pronominal nominal group with a possessive marker, such as *my father’s/which boy’s*, and an obvious expansion of Halliday’s table would be the addition of the selecting/non-selecting system to distinguish between, for example, *which boy’s* and *what boy’s*.

Non-specific deictics are classified along two primary dimensions (see Table 6.2 in Halliday 1994b: 182): total vs. partial, and singular vs. non-singular vs. unmarked for number. The total non-specific Deictics are subdivided into positive (singular *each, every*, non-singular/dual *both* and non-singular/mass or plural *all*) and negative (singular *neither/not either*, unmarked *no/not any*). The classification of *each, every, both* and *all* as non-specific Deictics (‘total, positive’) is surely rather odd in view of the fact that, for example, *both* has the near equivalent *the two*. Partial non-specific Deictics are subdivided into selective (singular *one/either*, unmarked *some* ([s^m])/any) and non-selective (singular *a(n)*, non-singular mass or plural *some* ([sm])). The items (*n*)*either* and *both* are shown as applying to two entities.

Some examples of the use of specific and non-specific Deictics are given in (176)–(181):

- (176) *That girl with Leila is my daughter, Zambia.* (BNC AD9 1897) [specific, demonstrative, determinative, non-neutral, non-near, singular]

29. The person-related categories used in the present section are derived from Halliday’s account of person – see §7.2.3.4.

- (177) *The woman at the change counter was awoken from her daydream by a sickening crunch.* (BNC CG2 592) [specific, possessive, determinative, not speech role, pronominal, singular, conscious, female]
- (178) *Okay, in which book would you find the character Long John Silver?* (BNC KDC 70) [specific, demonstrative, interrogative, selective]
- (179) *And literature will amount to the same thing: all writers are copycats.* (BNC A05 508) [non-specific, total, positive, non-singular, plural]
- (180) *... and either way is just dangerous.* (BNC HUV 1208) [non-specific, partial, selective, one of two]
- (181) *Some rooms are also large enough to take a fourth bed.* (BNC AMD 1124) [non-specific, partial, selective, unmarked, assertive context]

Halliday also recognises the possibility of a post-Deictic element which “identifies a subset of the class of ‘thing’ by referring to its fame or familiarity” (1994b: 183). The post-Deictic is realised by a special subclass of adjectives, including *other*, *same*, *famous*, *usual*, etc.

7.2.3.2.1.3 Numerative. Halliday (1994b: 183–184, see his Table 6.5) divides Numeratives into definite and indefinite, and independently into quantitative and ordinative. Quantitatives are either cardinal numbers expressing a definite quantity (e.g. *eight*) or expressions giving an indefinite number (e.g. *many*), whereas Ordinatives give a definite (e.g. *fourth*) or indefinite (e.g. *subsequent*) place in order. Matthiessen (1995:652) treats Ordinatives as a separate element of structure, coming in front of Numeratives. There is a special type of construction in which, experientially speaking, a Numerative is embedded: in expressions such as *a loaf of bread*, the Thing element is *bread*, and the measure expression *a loaf of* is treated as an embedded Numerative (Halliday 1994b: 195). Halliday (1994b: 195–196) also indicates that in the case of expressions expressing a ‘facet’ of the Thing, as in *a picture of a woman in unidentifiable national costume* (BNC EDN 247), we might adopt a similar analysis, with *a picture of* as pre-Deictic and *woman* as Thing.

7.2.3.2.1.4 Epithet. The Epithet “indicates some quality of the subset, e.g. *old*, *long*, *blue*, *fast*” (Halliday 1994b: 184). Although the Epithet, as we have seen, is said to be an element of the experiential structure of the nominal group, Halliday distinguishes, somewhat contradictorily, between experiential and interpersonal Epithets, the former representing an objective quality of the referent, the latter the speaker’s attitude. I shall deal with ‘interpersonal Epithets’ in §7.2.3.4.1.2. An experiential Epithet is, at least potentially, defining. In other words, it can be used to indicate how the addressee should attempt to identify the referent from among the potential referents. Consider example (182):

- (182) *The two large men chased the smaller man, ...* (BNC CDT 28)

The adjectives *large* and *smaller* identify which men are being referred to, and are clearly Epithets.

7.2.3.2.1.5 *Classifier*. The Classifier “indicates a particular subclass of the thing in question” (Halliday 1994b: 184). Classifiers, unlike Epithets, cannot be intensified or compared. Consider again example (174), repeated for convenience as (183) below:

- (183) *A Christian view of the world emphasises those two critical moral standards which the market economy requires.* (BNC CDW 354)

The adjective *critical* could easily be intensified (*very critical standards*) or compared (*more critical standards*), and is an Epithet, whereas with *moral* this would be unusual (*?very moral standards*, *?more moral standards*), this adjective being a Classifier here. Classifiers can also be nouns, as in (184):

- (184) *He called in Julian – a six-inch-tall red, white and blue garden gnome!*
(BNC GX9 628)

As Halliday (1994b: 185–186) points out, one and the same form can act either as an Epithet or as a Classifier, depending on its meaning. In (185), *red* is an Epithet, describing a characteristic of the face; in (186), however, *red* is a classifier, since red wine is a class of wine: note that we can say *a very red face*, but if we say *a very red wine*, this is interpreted to mean the colour of the liquid itself, not the type of wine, as opposed to white or rosé wine.

- (185) *The man had a red face and an aggressive manner.* (BNC CD2 1292)
(186) *We drank cheap red wine and talked and laughed and sang.* (BNC ANF 119)

Similarly, *moral*, while used as a Classifier in (183), to distinguish *moral standards* from other sets of standards (e.g. *production standards*, *health standards*), can also be used as an Epithet, to name a quality which can be present in varying degrees (e.g. *a very moral lady* (BNC GUE 1201), *a more sensitive, more moral person* (BNC FA6 559).

7.2.3.2.1.6 *Qualifier*. The Qualifier is the element which follows the Thing. Halliday (1994b: 188) claims that with rare exceptions, this element is reserved for clauses or groups rather than items at word rank: as we saw in Chapter 5, such units, which are constituents of units of equal or lower rank, are said to be ‘rankshifted’, though Halliday also uses the term ‘embedded’ synonymously. In (183) above, the Qualifier is the embedded relative clause *which the market economy requires*. Note that only restrictive relative clauses are treated as Qualifiers, non-restrictive clauses being considered separate elements of sentence structure.³⁰ Qualifiers can also be prepositional phrases³¹ as in (187):

- (187) *Two models are made for use in the garden: ...* (BNC CCY 1089)

Like the prenominal elements of the nominal group, the Qualifier characterises the Thing, but this time “in terms of some process within which the Thing is, directly or indirectly, a participant” (Halliday 1994b: 188). For Halliday, this applies to both clausal and phrasal

30. Relative clauses are discussed in Chapter 3 of Part 2.

31. See §7.3.3 for the difference between prepositional phrases and preposition groups in SFG.

Qualifiers since, as we shall see in §7.3.3, he regards the preposition in a prepositional phrase as a ‘minor Predicator’, in some ways equivalent to the main verb of a clausal unit. Note that SFG does not make a distinction between the two types of postmodifier which Radford (1988) labels ‘complement’ and ‘adjunct’: indeed, Fries (1999) has argued that the arguments advanced by Radford and also by Huddleston (1984) for such a distinction are not totally convincing when confronted with authentic textual examples, and that the properties of postmodifiers discussed by these authors may be explicable, at least in part, in terms of the relative informational importance of parts of the nominal phrase within the text in which it occurs.

7.2.3.2.1.7 *The semantics of the nominal group in terms of expansion.* A major feature of current SFG is the postulation of certain types of semantic relation which recur at various points throughout the grammar, at different ranks and on different scales, and are therefore referred to as ‘transphenomenal’ or ‘fractal’ categories (see Halliday & Matthiessen 1999:223).³² The types are: projection, in which one element is projected through another in terms of either wording or meaning; and expansion, in terms of elaboration (e.g. restating, giving greater detail, exemplifying), extension (adding new elements), or enhancement (through some circumstantial element of time, place, etc). As far as the nominal group is concerned, Halliday & Matthiessen (1999:183) postulate that the semantics of modification and qualification can be interpreted in terms of the three categories of expansion. For instance, most Epithets are elaborating, though some may be enhancing (e.g. those of the form ‘X-like’, which are based on comparison); Classifiers can be elaborating (e.g. those of provenance), extending (ones with possessive meaning, such as *car door*), or enhancing (those making reference to time, place, etc). Qualifiers can be extending (as in the case of possessive post-head *of*-phrases) or enhancing (e.g. provenance realised by *from* + nominal group).

7.2.3.2.2 *System.* Systems for the English nominal group, giving the paradigmatic patterning underlying Halliday’s structural descriptions, are given in Matthiessen (1995:645–711). In view of the complexity of this account, I can do no more than summarise some of the main points in a simplified form here: readers who want a more detailed picture are encouraged to consult the original text.

The initial network taken as the starting point for systemic description has three simultaneous sets of systems: one distinguishes between the naming of an individual, through the use of a proper noun, and all the other possibilities; the second (ideational) set is concerned with selection through the use of a facet of the Thing; the third (interpersonal) set deals with the expression of attitude in the nominal group, and will be dealt with in §7.2.3.4.2. Matthiessen also proposes networks representing choices in the expansion of the nominal group by modification and qualification within the logical subcomponent of

32. Fractal organisation of the linguistic system is also proposed by Werth (1999:336ff.), though from a much more cognitively oriented perspective.

the grammar, and presents networks for textual aspects of the nominal group realised in the Deictic element, which will be discussed briefly in §7.2.3.5.2.

The main complexity of nominal group systems obviously arises when the feature [name of individual] is not chosen. In this case, the nominal group is cross-classified into [specific] vs. [non-specific] and [non-pronominal] (also labelled [nominal]) vs. [pronominal]. For the [non-pronominal] groups, there are further options in numeration, ordination, epithesis, classification and qualification, the last of these also being open to [non-specific, pronominal] groups. Distinctions in specificity are realised in the Deictic element, while the other distinctions are realised in the other corresponding elements of structure (numeration in the Numerative, etc.). There are also networks for the classification of the Thing element. Distinctions in specificity, ordination and numeration are treated by Matthiessen as textual systems and so will be dealt with in §7.2.3.5.2. In the present section belong Thing type, epithesis, classification and qualification, regarded by Matthiessen as ideational.

Matthiessen (1995: 671ff.) proposes a tentative initial classification of non-pronominal Thing into [conscious] and [non-conscious],³³ the former being subdivided into [higher animal] and [human], the latter into [simple] and [complex]. Things which are [simple] are subclassified according to whether they represent lower animals, institutions, objects, substances or abstractions. [Complex] Things are those which are claimed to involve internal relationships of expansion or projection. Space precludes further discussion here,³⁴ and so an example must suffice: the noun *fact* in (188) is a projection of the clause *that he won re-election* as something whose truth status is beyond doubt.

(188) *The fact that he won re-election ...* (BNC AD2 1191)

Matthiessen does not present systems for epithesis, but notes that it “is the resource for representing properties of a participant – values along different qualitative dimensions such as age, size, weight, colour, value” (1995: 668). Similarly, no systems are given for classification, which “is the resource for specifying successively more specific classes of a thing; it is used to represent taxonomies” (1995: 665). Qualification is seen in terms of expansion of the nominal group by elaboration, extension or enhancement (see above).

In Halliday & Matthiessen (1999: 190), simple Things are subdivided systemically into [conscious] and [non-conscious] as in Matthiessen’s earlier account, and further subdivisions of the [non-conscious type] are suggested, firstly into [material] and [semiotic]. [Material] Things can be [animal] (e.g. *snake*), [object (material)] (e.g. *house*), [substance] (e.g. *rain*) or [abstraction (material)] (e.g. *depth*). [Semiotic] Things can be [institution] (e.g. *ministry*), [object (semiotic)] (e.g. *story*) or [abstraction (semiotic)] (e.g. *informa-*

33. Matthiessen (1995: 672) recognises that this contrast also occurs within the pronominal system, so that it is arguable that it should be applied to both nominal and pronominal groups.

34. For further discussion of the role of expansion and projection in nominal and verbal group complexes, see §7.6. Systemic choices realised in verbal group complexes are discussed further in Chapter 9. The relationships of expansion and projection between clauses in clause complexes will be discussed in Chapter 3 of Part 2.

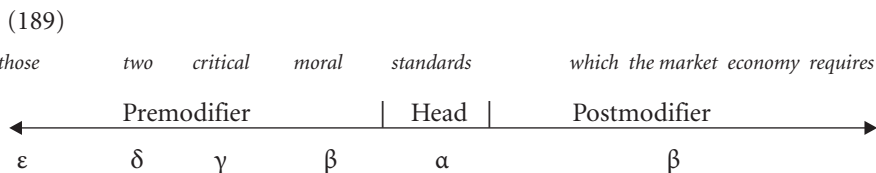
tion). The elaboration of Things into micro-categories is also discussed, and an extended feature network given for the area of clothing.

The subcategorisation of Things is also related to the general semantic principles of projection and the three types of expansion (elaboration, extension and enhancement) (Halliday & Matthiessen 1999:203–205). For instance, some semiotic abstractions are names of kinds of projection: items such as *fact*, *idea*, *principle* project ‘cases’; *ability*, *possibility*, *chance*, etc. project the idea of chance and are related to what Halliday calls ‘modalisations’, concerned with possibility; *confirmation*, *proof*, etc. project proofs and are related to ‘caused modalisation’ (‘this makes it certain that’); *expectation*, *necessity*, *obligation*, etc. project need and are related to Halliday’s category of ‘modulation’.³⁵ Items such as *picture*, *photo* are said to denote elements which are elaborations, and more particularly symbols, of other elements; *sort*, *type*, etc. are also elaborations, but of kind; and *example*, *instance*, etc. are elaborations of instance. Other items are classified in terms of extension, as parts (*part*, *element*, *top*, etc.), amounts (*unit*, *cup*, etc.), collections (*crowd*, *list*, etc.) or extensions (*combination*, *contrast*, etc.). Finally, there is a further group of items which act as enhancements, of time (*time (when)*, *period*, etc.), place (*place (where)*), cause (*reason*, *purpose*, etc.) or manner (*way (in which)*, *manner*).

The classification of Qualities (realised as Attributes in the clause or as modifying elements in the nominal group) is also related by Halliday & Matthiessen (1999:209–212) to the four recurrent types of semantic relation. Qualities realised by adjectives such as *happy* are said to reflect projection, being related to figures of sensing (*happy: rejoice*, *sure: know*, etc.); they are scalar and often realised by participial adjectives (e.g. *willing*, *irritating*, *frightened*). Other adjectives exemplify expansion: e.g. *French* elaborates in terms of class attribution, *male* in terms of gender status attribution, *similar* in terms of identity; *additional* exemplifies the extending type of relation; *previous* can be understood in terms of temporal enhancement, *consequent* in terms of causal enhancement; and so on.

7.2.3.3 The logical structure of the nominal group

7.2.3.3.1 *Structure*. Halliday (1994b:191) warns against the danger of taking the term ‘logical structure’ to mean an interpretation in terms of formal logic; rather, “it means seeing how it represents the generalized logical-semantic relations that are encoded in natural language”. The logical relation shown in the nominal group is one of subcategorisation, normally referred to as modification. This, then, is where SFG handles the relationship between the Head of the nominal group and its Modifiers. In these terms, the logical structure of the nominal group in example (174) is as follows:



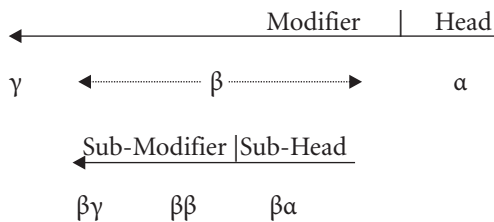
35. For discussion of the categories of modalisation and modulation see Chapter 9.

The Greek letters here indicate a process of successive subcategorisation: the *standards* are categorised as *moral standards*, and these as *critical moral standards*, and so on. Since the Postmodifier subcategorises the Head directly, it, like the first Premodifier, is given the label β . The relationship of modification is ‘univariate’: the relationship between α and β is the same as that between β and γ , and so on. This contrasts with the ‘multivariate’ structure involved in the experiential structure of the nominal group, where each element (Deictic, Numerative, Epithet, Classifier, Thing or Qualifier) has a different function in the whole structure. The double-headed arrow indicates that the modification of the head in this example proceeds both leftwards, in the premodifying structure, and rightwards, in the postmodifier.

Modifiers can themselves be modified, as shown in (190), with the structure shown in (191).

(190) *Then in 1905 Einstein suggested a much more attractive viewpoint, in which time was not regarded as completely separate and on its own.* (BNC FYX 632)

(191) *a much more attractive viewpoint*



There are cases where the Thing in experiential structure is not the Head in logical structure. The Head can also be a Numerative, as in (192), or a Deictic, as in (193).

(192) *I did a survey on the most popular pop star and those two came out tops in the ‘best-looking’ stakes.* (BNC ADG 530)

(193) *This is particularly so for those involved in repetitive, unskilled manual labour.* (BNC CE1 1134)

Groups with an adjective as Head are treated by Halliday as nominal, so that the Complement in (194) is also said to be a nominal group, with the Epithet *happy* as Head and *with the results* as Postmodifier:

(194) *Today Mr Davis is happy with the results and runs a cafe at Worcester.* (BNC KRM 2633)

The reasoning behind this is that adjective-headed groups, like noun-headed ones, can function as Complements in clause structure. Note, however, that the functional similarity is incomplete: adjective-headed groups do not normally act as Subject, while noun-headed groups do. Although Halliday himself (1994b: 80) points to this fact as an exception to the

general principle that nominal groups can act as Subject, this does not lead him to reject the classification as such.³⁶

Where the Thing is not made explicit in a nominal group, but there is an Epithet and/or a Classifier, the Head is occupied by the substitute *one(s)*, as in (195).

(195) *The small orders bring in the big ones.* (BNC ANY 1193)

Another kind of structure in which the logical Head is not also the Thing is shown in (196): the Head in the logical structure is the noun *loaf* in the measure term (as shown, for example, by the fact it is this noun with which the finite verb agrees if the nominal expression is Subject: e.g. *two loaves of bread were missing*); the Thing, however, is what is being measured, and this is reflected in the experiential structure discussed in §7.2.3.2.1.3.

(196) *She had disappeared after setting out to buy a loaf of bread from a shop near her home.* (BNC K97 15363)

7.2.3.3.2 *System.* The systems presented by Matthiessen (1995:660), simply indicate the possibility of multiple expansion through modification.

7.2.3.4 *Interpersonal aspects of the nominal group*

7.2.3.4.1 *Structural elements with interpersonal meaning.* Halliday (1994b:191) lists several kinds of meaning, expressed within the nominal group, which are interpersonal in nature.

7.2.3.4.1.1 *Personal pronouns and deictics.* The person system is inherently interpersonal, since it is concerned with the encoding of speaker, addressee and third party reference in pronouns, and also in the corresponding Deictics (*my, your, etc.*). Halliday (1994b:189) gives a diagram setting out the distinctions of person in English.

7.2.3.4.1.2 *'Interpersonal Epithets'.* It was mentioned earlier that despite the Epithet being one of the elements of experiential structure, Halliday distinguishes between truly experiential Epithets such as those illustrated in §7.2.3.2.1.4 and what he calls interpersonal Epithets, which indicate aspects of the speaker's attitude.³⁷ An example is given in (197), where *nice* and *little* are interpersonal Epithets, while *young, black, white* are experiential Epithets. Halliday (1994b:184) points out that interpersonal Epithets, unlike experiential ones, are non-defining.³⁸

36. We shall see in §7.2.3.7 that a different criterion for classification is adopted in the Cardiff version of SFG.

37. Recent work on the role of interpersonally-oriented lexis and grammar as resources for expressing emotions, valuations and judgments, in what Martin (1997, 2000) calls 'appraisal', will be referred to briefly in Chapter 4 of Part 2.

38. Gordon Tucker (personal communication) has pointed out to me that the situation with regard to items such as *little* in (197) is more complex than this account might suggest, since their interpersonal

(197) *Oh, it's a nice little young black and white cat, ...* (BNC KBK 3715)

7.2.3.4.1.3 *Lexical items with connotative meaning.* Lexical items within the nominal group which have connotative meanings also contribute to the interpersonal meaning of the group. For instance the Epithet *congested* in (198) has a negative connotation which contrasts interpersonally with, for example, the more positive *bustling* in (199).

(198) *Some managers are starting new industries in these towns while others have moved their factories into the region from older, more expensive and congested sites in London.* (BNC B1H 940)

(199) *It is a lively, fun resort with broad avenues, bustling squares and many sporting facilities, including a huge Aquafun water park.* (BNC ECF 2421)

7.2.3.4.1.4 *Prosodic features.* As we have seen, Halliday proposes that interpersonal meaning tends to be strung prosodically through a unit rather than localised in any one constituent. With regard to the nominal group, he mentions swear words and voice quality as carriers of interpersonal meanings which are prosodic in this sense (Halliday 1994b:191). An example is given in (200), where two swear words are used within a nominal group.

(200) *He's a fucking sad bastard!* (BNC KE1 482)

7.2.3.4.2 *System.* Matthiessen (1995:687–693) discusses four sets of systems, for what he describes as nominal mood, nominal person, attitude and connotation.

By nominal mood, Matthiessen means the distinction between determinative and interrogative noted at the beginning of §7.2.3.2.1.2, which he interprets as the difference between giving information about a referent and asking for it (cf. mood choices in the clause). Thus, although Deictics are regarded as part of the ideational structure of the clause, their selection is determined partly by interpersonal systems and partly by textual ones (see §7.2.3.5.2).

The person systems are accessible to nominal groups with the feature combination [personal, determinative] (see networks for deixis in §7.2.3.5.2), the primary distinction being that between [interactant] (i.e. involving speaker and/or addressee) and [non-interactant] (involving only third parties). Nominal groups representing interactants can be further classified as [speaker], [speaker plus] or [addressee], while those for non-

orientation is based on their ideational meaning. The writer who referred to *the sturdy, unpretentious but pleasing little church of St Mary* (BNC C93 937) surely had in mind the size of the church (associated with its 'unpretentious' nature) as well as the affective component derived from relative smallness (mirrored in *pleasing*).

interactants are either [plural] or [non-plural], and if the latter, then [conscious] (and further, either [female] or [male]), or [non-conscious].³⁹

Attitude, as we saw earlier, is reflected in the selection of ‘attitudinal Epithets’, which may be involved in a prosodic relationship with connotation in the Thing element (see example (200)).

7.2.3.5 Textual aspects of the nominal group

7.2.3.5.1 *Structural aspects.* Halliday (1994b:191) observes that textual meaning pervades the nominal group, since it determines the order in which the elements of the group occur. In discussing the principles of ordering, he suggests an interesting analogy with the clause. Just as the clause begins with the Theme, signifying the starting point chosen for the message by the speaker, typically though not always an item of ‘given’ information, so the nominal group begins with a Deictic element which Halliday (1994b:187) glosses as “first I’ll tell you which I mean”. Both conform to the same principle: “start by relating to the speaker in the context of the speech event”. Halliday characterises the progression from Deictic to Classifier as one of decreasing identifying potential and increasing permanence: impermanent, quantitative characterisation of the Thing is achieved through the Numerator, next to the Deictic; we then move through more qualitative characteristics in the Epithet, to the Classifier, which expresses a permanent quality of the Thing. Within a string of Epithets, the ordering is most often from less permanent to more permanent, as illustrated in (201), where the age of the petticoat is a changing property, whereas the colour is permanent (and, as usual, the Classifier *quilted* locates the petticoat within a particular, permanent class of petticoats, and comes after the Epithets).

(201) *She used an old black quilted petticoat and found some furry black fabric to use for its head and feet.* (BNC BN6 866)

Another ordering principle to which Halliday (1994b:184) refers is the tendency for attitudinal, interpersonal Epithets to precede experiential ones. An example was given in (197) above.

A second kind of textual meaning in the nominal group is concerned with information distribution, and again there are parallels with higher units. Halliday (1994b:191) notes that the information focus in the nominal group, just as in the tone group, is normally on the last lexical item, as illustrated in (202), where the notation ‘ on *house* indicates a normal stress, but the information focus is signalled by the falling intonation contour (\) on the first syllable of *Highgate*.

(202) *so ^what 'happened about :buying the 'house in !H\ighgate#* (LLC 7 3f 366)

39. Networks involving person are also given by Martin (1992a) as part of his discussion of participant identification. They will be discussed briefly in §7.2.3.5.2.

7.2.3.5.2 *System*. Both Matthiessen (1995) and Martin (1992a) discuss systems for textual properties of the nominal group.⁴⁰

Matthiessen (1995:693–705) discusses two sets of textual systems, concerned with determination and substitution/ellipsis, the first concerned with the nature of discourse referents in terms of their identifiability, and the second with the recovery of wording.

Determination (see Matthiessen's network, 1995:696) is concerned with "determining whether a referent is identifiable or not; and if it is, how it is to be identified; and if it is not, how it is to be selected as an instance of a class" (1995:695). The least delicate choice is between [specific] and [non-specific]. [Specific] nominal groups are cross-classified into [demonstrative] vs. [personal] and [interrogative] vs. [determinative]; [non-specific] groups are either [total] or [partial]. These features clearly correspond closely to the types discussed by Halliday and discussed in §7.2.3.2.1.2, with the exception that Matthiessen uses 'personal' where Halliday has 'possessive'. Combinations of these features lead to more delicate choices: to give just two examples, nominal groups which are [demonstrative] and [determinative] are either [non-selective] (*the*) or [selective], and the latter are subdivided into [near] (*this, these*) and [far] (*that, those*); the [total] class of [non-specific] group is divided into [negative] (e.g. *no, nothing*) and [positive] (e.g. *every, everything*), with further systems distinguishing more delicately among these.

Numeration "is concerned with the ordering and quantification of instances of a class" (1995:703), (cf. the characterisation of determination above as involving selection as an instance of a class), though realised in the Numerative and Ordinate rather than in the Deictic. No actual system networks are presented.

Matthiessen (1995:704–705) also discusses briefly the choice of substitution or ellipsis (which can be thought of as substitution by zero) in cases where a referent is judged to be recoverable from context.

Systems corresponding to those for determination in Matthiessen's account are also present in Martin's detailed treatment of participant identification in English (Martin 1992a:Chapter 3), seen as part of the 'discourse semantics'. Martin's identification network (1992a:110) has three simultaneously entered initial systems, available to the discourse semantic unit of participant. Reference to a participant can be [generic] or [specific], the former being "selected when the whole of some experiential class of participants is at stake rather than a specific manifestation of that class" (1992a:103). In the [presenting]/[presuming] system, "[p]resenting reference signals that the identity of the participant in question cannot be recovered from the context; presuming reference signals that it can" (1992a:102). The [comparison]/[-] system contrasts reference by means of a comparative with reference which does not involve a comparative. The possible combinations are illustrated in (203)–(210) below.

40. Since these systems are concerned with participant identification in the discourse, they take us beyond the confines of the simple clause, and so, strictly speaking, belong in Part 2 of this work. However, since they make use of the kinds of distinctions I have already discussed in relation to nominal group structure, it seems appropriate to deal with them here, though certain aspects, such as participant chaining in discourse, will be left for discussion in Chapter 4 of Part 2.

- (203) *I have a younger brother, Huw...* (BNC HGY 700) [presenting, specific, comparison]
- (204) *Illness, displacement by a younger brother or sister, or the divorce of parents are experiences from the past which can be interwoven with a current separation ...* (BNC BNF 1767) [presenting, generic, comparison]
- (205) *It's alleged that the body was hidden there by the younger brother.* (BNC K1L 1064) [presuming, specific, comparison]
- (206) *It is difficult being the younger brother – you always get picked on.* (BNC CBC 10761) [presuming, generic, comparison]
- (207) *She had a brother, Sydney Herbert Boyle.* (BNC GT5 45) [presenting, specific, -comparison]
- (208) *Let no one see it whom you do not trust like a brother.* (BNC GUG 4032) [presenting, generic, -comparison]
- (209) *On 11 April 1988 they moved to another council house, of which the brother also became a secure tenant.* (BNC FC3 9) [presuming, specific, -comparison]
- (210) *The opposite of honourable antagonism between men is honourable alliance, typically affirmed in the image and name of the brother.* (BNC A6D 973) [presuming, generic, -comparison]

Where reference is [specific] and [presenting], there is a choice between [total] and [partial], and also between [pronominal] and [nominal] realisations. [Total, pronominal] reference is realised through the pronouns *everything/everyone/everybody*, and [total, nominal] reference by *every* + noun. [Partial, pronominal] reference is of two kinds, [unrestricted], realised through the pronouns *anything/anyone/anybody*, and [restricted], realised as *something/someone/somebody*. [Partial, nominal] reference can be [unmarked], in which case it is realised through *a* + singular noun or weak *some* + plural or mass noun, or [marked], in which case there are four options, [unrestricted] (realised as *any* + noun), [non-particular] (strong *some* + singular noun, or zero determination of a non-count noun or plural count noun), [particular] (*one* + singular count noun, strong *some* + plural count noun), or [major role] (demonstrative or (*a certain*) + noun). As implied by the last feature label, Martin (1992a: 108) sees these four features as scaling deictics along a cline of centrality to the text.

The network is also expanded for [presuming] reference, though without explicit consideration of interaction with the features [generic/specific] and [comparison/-]. Presuming reference can be [unique] (i.e. the use of proper names) or [variable], and if the latter, then [pronominal] or [nominal].⁴¹ [Pronominal] variable reference can involve [interlocutors] (1st and 2nd person pronouns) or non-interlocutors (3rd person pronouns);

41. There is presumably an error in the network in Martin's Figure 3.6 (1992a: 112), which suggests that [nominal] and [pronominal] are subclasses of [unique] reference. The discussion makes it clear that they are in fact types of [variable] reference.

[nominal] variable reference can be [undirected] (realised in the unmarked case as *the*) or [directed], and in the latter case either [proximate] (*this/these*) or [distant] (*that/those*). Martin (1992a: 114) also expands the feature [undirected] to cover the meanings realised by *both*, *each*, *either/neither*, superlatives, ordinal numbers and items such as *next*, *last*. There is also an expansion of the comparison feature mentioned earlier.⁴² It is noteworthy that systems involving choices of person, which are treated by Halliday and by Matthiessen as interpersonal within the lexicogrammar, are treated by Martin, within the discourse semantics, as part of the identification network, which is explicitly said to be textual (1992a: 27): this clearly reflects the orientation of the discussion towards the phoricity role of pronouns.

7.2.3.6 Nominalisation in Systemic Functional Grammar

Halliday (1994b: 41) defines nominalisation as a process “whereby any element or group of elements is made to function as a nominal group in the clause”. He therefore treats nominal clauses such as *wh*-clauses as nominalisations, as well as nouns derived from verbs.

In *IFG* Halliday (1994b: 352–353) considers nominalisations as examples of ideational grammatical metaphor, contrasting the ‘congruent’ realisation of a given meaning (i.e. the least marked) with a ‘metaphorical’ realisation. Consider example (100), discussed earlier in relation to FG, and repeated for convenience as (211):

(211) *His acceptance of the condition was made with an easy mind ...* (BNC FRJ 2123)

Halliday would analyse this as a metaphorical counterpart to the congruent *He accepted the condition with an easy mind*. The Process of the congruent form is re-coded metaphorically as the Thing in a nominal group, and the participant *the condition* in the congruent form becomes a prepositional phrase acting as Qualifier. In other cases, the original participant becomes a Classifier in the nominalised version, as in (212):

(212) *Opponents of the whole idea say that it subsidises drug abuse.* (BNC ABD 627)

Halliday (1994b: 353) comments that the latter type of nominalising metaphor probably arose in scientific and technical English, where it allowed the development of hierarchies of technical terms and ways of constructing arguments, but that it has now spread to other registers. He also points out that nominal packaging in this way obscures the relationships which are explicit in the congruent version: for instance, *radiation destruction* could mean ‘destruction by radiation’ or ‘destruction of radiation’, corresponding to conversion of each of the two participant roles of *destroy* into a Classifier.

In Halliday & Matthiessen (1999), grammatical metaphor is accorded a very important place in current SFG,⁴³ as a major resource for the expansion of the semantic potential

42. It has not been possible to give more than a sketch of Martin’s proposals here. Readers are encouraged to consult the original work for further detail and for argumentation in support of Martin’s claims. His work on the role of identification in the structure of texts will be discussed in Chapter 4 of Part 2.

43. The chapter on grammatical metaphor occupies some 70 pages – almost an eighth of the book.

of a language. It is also seen as evidence for a bistratal model of language involving both semantics and lexicogrammar, since it involves the repackaging of semantic units into lexicogrammatical forms which are more usually used to realise semantic units of a different size. The relationship between grammatical and lexical metaphor is characterised as follows:

Lexical and grammatical metaphor are not two different phenomena; they are both aspects of the same general metaphorical strategy by which we expand our semantic resources for construing experience. The main distinction between them is one of delicacy. Grammatical metaphor involves the reconstrual of one domain in terms of another domain, where both are of a very general kind; [...] Lexical metaphor also involves the reconstrual of one domain in terms of another domain; but these domains are more delicate in the overall semantic system. (Halliday & Matthiessen (1999:233))

The ‘semogenic’ priority of congruent modes of realisation is indicated by the fact that the congruent forms precede the metaphorical variants in the evolution of language, in the learning of language by the child, and also usually in a given text.

Halliday & Matthiessen (1999:238–242) argue that grammatical metaphor has consequences for the textual, ideational and interpersonal metafunctions. Textually, nominalisations are often used to refer to information which has already been presented in congruent form in the text. An example is given in (213):

- (213) *Unless we attend to the words which have been placed into working memory, they will not be retained. Retention alone is not sufficient for comprehension, ...*
(BNC EV4 430)

The effect is that known information can be used as the point of departure⁴⁴ for further elaboration of the topic. The shift from congruent to metaphorical, however, also constitutes a shift in the way in which experience is being construed, and so has ideational implications. Furthermore, although the statement that ‘words placed in working memory will not be retained unless attended to’ is available for negotiation (agreement, challenge, etc.), the repackaging as the nominalisation *retention* removes this possibility: in Halliday & Matthiessen’s words, “it no longer has the potential for being enacted interpersonally as proposition; rather, it would be taken for granted in discourse” (1999:241–242). There are thus interpersonal implications too.

Halliday & Matthiessen (1999:244–249) present a classification of the different types of grammatical metaphor in which a congruent categorial domain is mapped on to a metaphorical domain. For instance, a Quality such as *happy* can be reconstrued as an abstract Thing (*happiness*); a Process such as *retain* can be repackaged as a quality (*retentive*) or a Thing (*retention*); and so on. Clearly, those shifts whose target is a Thing result in nominalisations.

It is also pointed out that grammatical metaphors, prominent among which are nominalisations, tend to occur in clusters rather than singly, so adding a syntagmatic dimension

44. The Theme – see Chapter 2 of Part 2.

to the paradigmatic axis represented by the choice between congruent and metaphorical variants (1999:250–255).

7.2.3.7 *The nominal and quality groups in the Cardiff grammar*

The Cardiff version of SFG provides a very detailed description of the nominal group in English, reflecting the complex range of structures found in texts. The basis of the syntactic description of the nominal group can be found in Fawcett (1975), with a simplified version in Fawcett (1980:204). A more recent version, with relatively minor modifications, is available in Fawcett (2000a:306), and a full account in Fawcett (in press), which should be consulted by anyone wishing to use this framework for textual description. The system networks representing the semantics of choices realised in the nominal group are described in some detail in Fawcett (1980:206–230). The most up to date version of these networks is embodied in the current state of GENESYS, the collection of networks at the heart of the Cardiff computer implementation for text generation (see §5.7). Given the level of detail of the Cardiff description, I can again give no more than a brief summary of the main points here. In the course of the discussion, I shall need to refer to a separate class of group, the ‘quality group’, which was mentioned in §5.7.

7.2.3.7.1 *The syntax of the nominal and quality groups in the Cardiff Grammar.* Figure 7.2 shows the potential structure of the nominal group in English (based on Fawcett 2000a:306, extended with information in Fawcett, in press), with authentic text examples analysed according to Fawcett’s categories.⁴⁵ The meaning of the symbols used is as follows:

- rd representational determiner (representation (e.g. picture) of entity encoded in head)
- v selector (always *of* = [v], phonetically)
- pd partitive determiner
- fd fractionative determiner
- qd quantifying determiner
- sd superlative determiner⁴⁶
- od ordinative determiner
- dd deictic determiner
- td typic determiner
- m modifier (many types, including the following)
- rm relative modifier (relating one Thing to another in terms of similarity/difference)

45. Fawcett also mentions a ‘qualifier-introducing determiner’, usually *those*, which indicates that the head will be classified by a qualifier (e.g. *those Xs which ...*). The ‘linker’ element for co-ordinated groups and the ‘ender’ (e) element reserved for punctuation can occur in almost all group structures in the Cardiff grammar, and are omitted from the structures given in this section.

46. In Fawcett (in press) it is claimed that the superlative and ordinative determiners can co-occur, and can appear in either order. Figure 7.2 shows the simplified version given in Fawcett (2000a).

qtm	quantifying modifier
afm	affective modifier (cf. Halliday's 'attitudinal/interpersonal Epithet')
h	head
q	qualifier (several types: two positions are shown here, corresponding to the prepositional group and clausal types of modifier, which can co-occur)

Within modifiers, a distinction is drawn between a classifying function, where the class of Thing is sub-classified, and a depicting function, where the speaker or writer wishes to give non-essential background information. Clear examples of classifying modifiers are those in the immediately pre-head position, while depicting modifiers include the quantifying ones in Figure 7.2: for instance, in *each of the five days that he attended the course*, the addressee is expected to be able to identify the days through the qualifier (and possibly through other information inside or outside the text), so that *five* simply provides extra background information. Fawcett (1975:47–56, updated and expanded in Fawcett, in press) provides a detailed description of the various types of determiner and modifier and the kinds of units which can fill them. Certain elements in this structure can themselves be filled by units with their own structure: qualifiers, as we have seen, are usually prepositional groups⁴⁷ or clauses; quantifying determiners can be filled by what Fawcett now calls a 'quantity group', such as *far more*; deictic determiners can be filled by 'genitive clusters' such as *my sister's*.

With regard to the modifiers in nominal group structure, it is important to note that the Cardiff grammar, unlike that of Halliday, does not classify adjective-headed groups as nominal. We saw in §7.2.3.3.1 that Halliday's decision comes about as a result of the fact that the class of a group, in his theory, is determined by the part it can play in the structure of a clause: since an adjective-headed group, just like a group headed by a noun, can act as Complement in a clause, Halliday treats such groups as nominal, while recognising that the parallel is partial, in that adjective-headed groups do not routinely act as Subject. Fawcett (2000a:197–200), in a careful analysis of Halliday's position in various contributions to the literature, takes a different stand, claiming that

... the descriptive facts of natural texts in English and other languages provide just too many clear examples where it distorts the facts to categorize them [= units: CSB] in terms of their operation in a higher unit, and where it is insightful to categorize them in terms of their internal syntactic-semantic structure. (Fawcett 2000a:198)

Classification in terms of internal structure leads the Cardiff grammarians to recognise a class of group which is labelled the **quality group**, and which has an adjective or adverb as its central structural component (Fawcett 2000a:206–207). The conflation of adjective- and adverb-headed groups is justified in terms of the very strong structural resemblance of these units:⁴⁸

47. The prepositional group in the Cardiff grammar corresponds to the prepositional phrase in Halliday's SFG – see §7.3.3.

48. In both of the following examples, *far too* is a quantity group filling the degree temperer slot in the structure of the quality group.

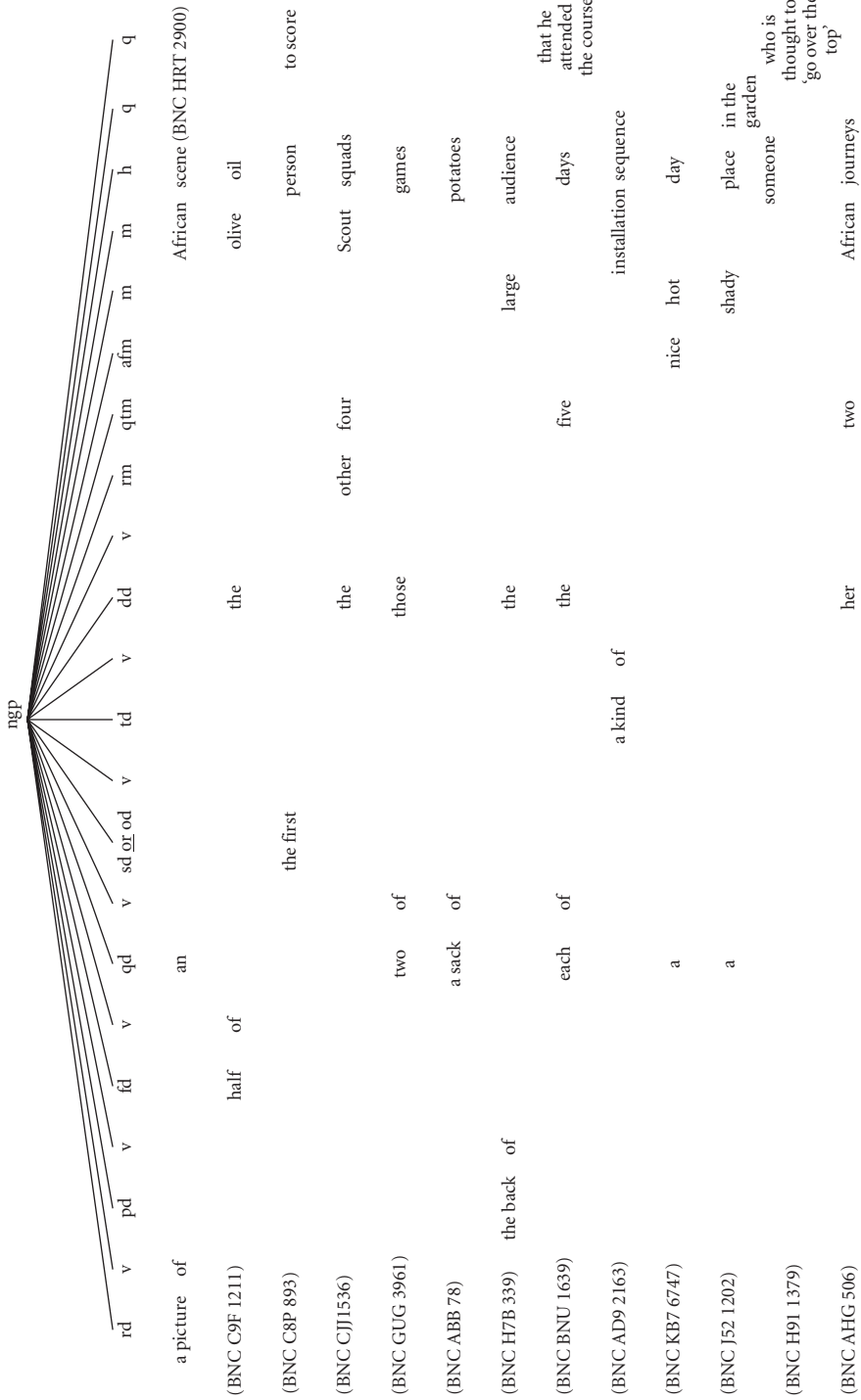


Figure 7.2. Nominal group structures according to Fawcett, with examples from British National Corpus

- (214) *However, the rate of progress is far too slow and the relevant minister needs to get involved.* (BNC CBU 2576)
- (215) *But, even if they did, experience shows that people usually react far too slowly to an alarm, particularly in the middle of the night.* (BNC B7C 389)

The difference between adjectival and adverbial types of quality group is that the former characteristically modifies the head of a nominal group or acts as Complement in clause structure, while the latter acts as Adjunct in the clause or as an intensifying modifier in another quality group. The structure of the quality group is described in some detail in Tucker (1998:64–89), based on Fawcett (1974:11–15, 1980:92), and also in Fawcett (in press). The full potential structure in Figure 7.3 is that given in Tucker’s Figure 5.12 (1998:88);⁴⁹ the examples are from the British National Corpus. The labels are to be understood as follows:

ex	extent	a	apex
d ^{qd}	quality deictic determiner	sc1	first scope element
d ^{qlq}	quality quantifying determiner	sc2	second scope element
t ^e	emphasising temperer	f	finisher
t ^d	degree temperer		
t ^a	adjunctival temperer		

7.2.3.7.2 *System networks for meanings realised in the nominal group.* In the systemic analysis of nominal groups in the Cardiff grammar, each nominal group is claimed to have a single referent (so that in *a sack of potatoes*, the referent in question is encoded as *potatoes*, and *sack* is seen as part of a quantifying determiner, as shown in Figure 7.2), and other components of the group are considered to specify the referent in terms of an ordered set of selection processes (Fawcett 1980:205).

Fawcett (1980:206 ff.) postulates three networks for the nominal group, which are entered simultaneously: those for interactant role, quantification and logical relationships.

I shall begin, as does Fawcett, with the interactant role network, since access to most other systems depends on what is selected here. This network is concerned with “the referent’s basic role in the encounter” (Fawcett 1980:206) and is clearly part of what Fawcett would now call the interpersonal strand of meaning.⁵⁰ Like all Fawcett’s networks, it is clearly semantic and this is reflected in the labelling. The realisation rules for the various choices generate the personal pronoun forms and their modifications.

The interactant role network first distinguishes between [interactant] and [outsider] roles, the latter referring to persons who, although they may even be present in the situation, are not being talked to at the point where the nominal group is uttered. For [in-

49. In most respects, there is a close similarity between the analyses presented in Tucker (1998) and Fawcett (in press), and the advances on Fawcett (1994) arise either from Tucker’s work or from joint work. However, there are some fairly minor differences which are discussed by Tucker (1998:\$5.6).

50. In his 1980 book, Fawcett uses the label ‘interactional’ for this component.



Figure 7.3. The structure of the quality group with adjectival apex, according to Tucker

teractant] roles, the network shows two simultaneous systems, the first distinguishing between [performer] (corresponding to first person) and [addressee] (second person), and the second between the involvement of [one] person, giving rise to a singular pronoun, and [one plus], the latter generating *we, you* etc. but also [dual] forms (e.g. *both of us*) and [non-dual] forms (e.g. *all of us*). There are also links to systems for intensity (indicated by suffixation with *-self*) and ‘ad hoc classification’, the latter leading to modification of pronouns as in, for instance, *lucky me*; both sets of systems will be outlined later.

The choice of [outsider] from the interactant role network leads to what Fawcett terms the ‘redundancy balance’ network, because it is concerned with the speaker’s assessment of the state of the addressee’s knowledge about the referent, in order to decide how much detail to put into the referring expression. For instance, the nominal group *the other four Scout squads* from Figure 7.2 could be replaced by *they/them* if the speaker thought that the addressee could identify them without additional information. The redundancy balance network thus belongs to the informational strand of meaning. As the networks (Fawcett 1980:209 ff.), are somewhat complex, they will not be discussed in full here: rather, I shall summarise the main distinctions and their effects on the structure of the nominal group generated. Fawcett provides full discussion and also sample realisation rules for features.

The first system in the redundancy balance network offers the options [naming], [classification] and [seeking classification]. The first choice leads to proper names; the final one to the interrogative pronouns *who/what*, which seek a classification of the referent from the addressee. It is the second feature, [classification], that leads to the complex set of further choices available for referring to ‘outsiders’. This feature is the entry condition for two simultaneously entered dependent systems. One of these is concerned with ‘particularisation’, and will be dealt with later. The other offers the choice between [lexical classification] and [token classification], the latter being Fawcett’s term for the area concerned with the semantics of third person pronouns, the use of which, although indicating that the speaker considers lexical classification unnecessary in the circumstances, nevertheless does involve some experiential classificatory decisions, concerned with whether the referent is a discrete entity or not ([count] vs. [mass]), and if discrete whether there is more than one ([one] vs. [one plus]), further decisions related to animacy ([person] vs. [object]) and gender being required if there is just one (*he/him; she/her; it*). [One plus] covers not only *they/them*, but also [dual] expressions such as *both of them* and [non-dual] forms such as *all of them*. The distinction between [non-intensive] forms and [intensive] variants (suffixed with *-self*) is also catered for.

The choice of [lexical classification] leads to further options of classification type. Selection of the feature [cultural] leads to the very complex network of relationships (understandably not described in any detail in Fawcett’s book, given the wide scope of that work) underlying the selection of particular nouns in English, seen as reflecting the cultural classification of entities in the world in the particular language under investigation. The choice of [ad hoc classification] leads to the specification of modifiers and qualifiers in the nominal group, with a pronominal head (Fawcett offers the examples *clever ones, poor you, ones with beards, you in there*). Finally, the speaker can choose to include both types of classification, resulting in a noun plus a modifier or qualifier (e.g. *clever girls*).

In what follows, I shall deal first with cultural classification, then with ad hoc classification, finally looking briefly at the other aspects of the redundancy balance network, viz. particularisation and intensity.

Cultural classification is part of the experiential strand of meaning. The first systemic distinction is between [count] (e.g. *girl, window, louvre, door, chance*) and [mass] (e.g. *air*). The feature [count] gives rise to two simultaneous systems: one distinguishes between [concrete] (e.g. *girl, window, louvre, door*) and [abstract] (e.g. *chance*); the other deals with number ([singular] (e.g. *louvre*) vs. [plural] (e.g. *louvres, both louvres, all louvres*) and if [plural], then [dual] or [non-dual]. The feature [concrete] acts as entry point for the distinction between persons and objects. Further choices, of which examples are given by Fawcett, lead to more specific classifications: for instance, *louvre* is classified, in his network, by means of the features [concrete, object, building, part, opening, for light, pivoted strips of glass], the last of which is a terminal point in the network presented. This approach clearly illustrates the concept of 'lexis as most delicate grammar', discussed in §5.5.

Ad hoc classification is the term Fawcett uses for classification in terms of the qualities of the referent thing. These qualities may be expressed as modifiers (adjectival, nominal, participial) and/or as qualifiers (phrasal, normally prepositional, or clausal). Fawcett does not discuss in any detail the systemic choices available for the specification of qualities; part of this area, that relating to adjectives, is, however, dealt with in detail in the work of Tucker (1998).

Tucker (1998: 114–166) presents a detailed account of the system networks involved in the generation of some 200 adjectival senses in English, together with realisation rules (pp. 167–77). The initial distinction is between [quality presented] and [quality sought], the latter underlying expressions such as *What kind of?* and *What was X like?* Selection of [quality presented] leads to three simultaneously entered networks, for quality role, quality type and coordination of qualities respectively. The quality role network is concerned with whether we are specifying a quality for a thing (*a very expensive dress*), a situation (*she dresses very expensively*) or another quality (*that dress is very considerably more expensive*). If [quality of thing] is chosen, there is a further choice between [quality as attribute] and [quality as modifier], which is important in preventing the generation of nominal groups containing, as a modifier, an adjective which can occur only in predicative position, as an attribute (e.g. *asleep*).

The quality type network is where adjectival senses are generated, together with their productively formed adverbial counterparts. The initial system has four features: [relative], [thing-oriented], [situation-oriented] and [environmental]. [Relative] qualities identify a subset of the class of Thing by pointing to similarity, familiarity or normality, leading to quality groups containing items such as *same, different* or *familiar*. [Thing-oriented] qualities are those which are primarily attributes of Things, and constitute the main body of adjectival meanings, as we shall see below. [Situation-oriented] qualities are those which are primarily attributes of situations, and are typically realised by adjectives and adverbs such as *usual(ly), frequent(ly), certain(ly)*, etc. [Environmental] qualities are

primarily meteorological (e.g. *windy, rainy*) and are distinguished from the others because they typically occur with a dummy pronoun (*it*) rather than with a participant role.

The feature [thing-oriented] leads to a further choice between [epithetic] and [classifying] qualities. The former leads to the more specific types of quality [evaluative] (e.g. *good, incorrect, beautiful*), [effect] (e.g. *amusing, frightening*), [dimension] (e.g. *big, low, short*), [physical] (e.g. *hot, heavy, open, dry*), [typically human] (e.g. *idle, fat, ill, kind*), [age] (e.g. *young, ancient*) and [colour] (e.g. *black, red*), which are in turn subdivided into yet more detailed senses. The feature [classifying] leads to choices in the basis for classification: [substance] (e.g. *wooden*), [identity] (e.g. *Spanish*), [social] (e.g. *male, married*), and [domain] (e.g. *scientific, linguistic*).

A further set of systems is involved in the specification of ‘tempering’, i.e. the premodification of adjectives by items such as *very, too* and others exemplified in the ‘t’ elements of structure in Figure 7.3 This set of systems is not simultaneous with those for quality role, type and coordination, because this would allow the generation of ungrammatical quality groups such as **very nuclear* or **extremely atomic*. Rather, tempering systems are brought in where they are needed – e.g. for certain kinds of epithetic quality, but not for classifying qualities.

Some of the elements of the quality group can themselves be filled by other units with their own structure. This is clear in the case of the finisher elements in the examples given in Figure 7.3, which can be prepositional phrases or clauses. Certain of the premodifying elements can also be complex: for instance, the degree temperer can be filled by a quantity group, such as *far too*.

Tucker (1998:220) also allows for the presence of more than one quality-indicating modifier in a nominal group, by means of a set of choices allowing re-entry into the systems for selecting a modifier.

We now return to the system networks for particularisation and intensity. The particularisation network is entered simultaneously with that for classification type which I have just been describing, and is concerned with what in other approaches would be called definiteness. The initial system offers the choice between [particularised] and [not particularised]. The latter feature leads to an indefinite nominal group such as *cars*, while for [particularised] referents the speaker has a further choice. S/he may either assume the addressee already has sufficient basis for identifying the referent, and so select the option [basis assumed], leading to a nominal group with the definite article, such as *the cars*; or the feature [basis not assumed] may be chosen. This last feature gives access to an experiential choice between particularisation in terms of location (near or not near) relative to the performer (speaker/writer) (leading to a demonstrative, as in *those cars*) or association with a possessor (leading to a possessive, as in *their cars*).

The intensity system allows the choice between, for example *her* and *herself, you* and *yourselves*, entry to this system being permitted when the referent is either classified by ‘token classification’ (i.e. will be realised as a third person pronoun) or represents an interactant, as specified in the interactant role network described earlier.

Finally, we turn to the two networks which are entered in parallel with the interactant role network: those for selection by quantification and logical relationships. The quan-

tification network, which is experiential in nature, offers the choice between [quantified] and [non-quantified]. If [quantified] is chosen, then there is a further choice between [abstract] or [measurable] quantification. [Abstract] quantification can be in terms of selecting the totality of the set of entities (*all/both/every*), an arbitrary member of the set (*any/either*), nullity (*no/neither*), or partiality (*some*). [Measurable] quantification leads, for example, to the cardinal numbers as well as to realisations such as *several, a lot, etc.* Note that quantification can interact with particularisation options to generate forms such as *any of the cars, two of those cars, etc.*

The logical relationships network is concerned with the distinction between simple nominal groups and complexes in which two or more such groups are coordinated.

7.3 The structure and meaning of adpositional phrases

7.3.1 Adpositional phrases in Functional Grammar

We have seen that in Dik's account of FG, adpositions (i.e. prepositions and postpositions) are regarded as markers of semantic functions, introduced by the expression component. For instance, a term which has Agent function, except if it also has Subject assignment, will be marked in English by the preposition *by*, and a Recipient which is not Subject or Object by *to*. Note, however, that certain semantic functions, such as Location, could be expressed by a number of different prepositions in English: *at, in, on, near, under*, and many others. Clearly, a more fine-grained analysis of spatial prepositions is called for.

Mackenzie (1992a, 1992b) has proposed an account of spatial prepositions which resolves some of the problems inherent in Dik's approach, and is related to the proposals for distinguishing between entities and places, discussed in §7.2.1.9. Mackenzie suggests that most spatial prepositions in English realise not only a semantic function, but also a predicate. The structure for such English prepositional phrases proposed by Mackenzie (1992b:5) is shown in (216). The 'p' variable represents a place and 'f' is the predicate variable, while $(x_i)_{\text{Ref}}$ represents the complement of the preposition.⁵¹

$$(216) \quad (\omega \text{ p}_i: \text{f}_i: \varphi_p (x_i)_{\text{Ref}})_{\text{Sem.funct.}}$$

preposition

It is proposed that five semantic functions can be involved: Mackenzie keeps Dik's Location, Source and Path functions, and divides his Direction into All(ative) and App(roach), partly following tentative suggestions in Dik (1989a:197). These five functions can be realised directly as 'grammatical prepositions', much in the way proposed in Dik's account: Location as *at*, Source as *from*, Path as *via*, Allative as *to* and Approach as *toward(s)*

51. For the semantic function Ref(erence), see the discussion in Chapter 8. Reference is defined as "the second or third term of a relation with reference to which the relation is said to hold" (Dik 1997a: 121).

(Mackenzie 1992b:6). Thus the prepositional phrase *towards the forest* in (217) receives the analysis shown in (218).⁵²

(217) *It swept round the long bend that carried the road towards the forest.*
(BNC G0A 2756)

(218) $(d1p_i; f_i; forest [N])_{App}$

Allative and Approach differ in that the former involves a telic State of Affairs (i.e. achievement of an end-point) while the latter is non-telic and represents the orientation of the movement (compare (217) with a version in which *towards* is replaced by *to*).

All other prepositions, however, are claimed to co-realise a semantic function and a predicate, as shown in (216). This proposal thus introduces a new class of predicate, the adpositional predicate,⁵³ e.g. $under_P (x_i)_{Ref}$. Mackenzie (1992b: 10–12) points to a number of advantages which this new proposal offers over the orthodox view, as far as the analysis of English is concerned:

- Systematic relationships such as those between *in* and *into*, and in recent times *on* and *onto*, can be handled in terms of the distinction between Locative and Allative semantic functions attached to the same prepositional predicate.
- Sequences of prepositions written as separate words can be analysed straightforwardly as involving separate realisation of the predicate and the semantic function. For instance, in (219), *from under a door* can be given the representation in (220), where the (definite) place under the door is shown as the Source from which the light is coming:

(219) *It was then that Mayne noticed light coming from under a door.*
(BNC AR8 449)

(220) $(d1p_i; f_i; under [P] (i1x_i; f_j; door [N])_{Ref})_{So}$

Furthermore, the prediction made by the proposal, that *from* will combine with lexical prepositions but not grammatical ones, is borne out by the ungrammaticality of the sequences **from at*, **from via*, **from to* and **from towards*.

- The systematic relationship between many spatial prepositions and locative adverbs can be handled in terms of the following predicate formation rule, in which the preposition loses its argument and becomes avalent, while the category changes from preposition to adverb.

(221) Input: $\varphi_P (x_i)_{Ref}$ (e.g. *behind the chair*)
Output: φ_{Adv} (e.g. *behind*)

It is correctly predicted that the grammatical prepositions cannot act as adverbs.

52. It should be remembered also that Mackenzie's representation for nominal predicates differs somewhat from the standard one: see §7.2.1.8. The subscript notation for predicate class has been replaced by the more modern square bracket notation here.

53. In fact, as Mackenzie points out, one-place adpositional predicates were first suggested in FG by Weigand (1990).

- Adverbial modifiers of spatial prepositions (e.g. *just* in (222)) are analysed by Mackenzie as restrictors on prepositional predicates, as shown in (223).

(222) *She walked just behind him.* (BNC GW8 1801)

(223) (f_i : *behind* [P] ($d1x_i$; f_j : [-S, -A, +M])_{Ref}; f_k : *just* [Adv])

Mackenzie presents an overview of the spatial prepositions of English, with comments on their analysis. He also observes that his proposals would appear to have considerable typological validity, since they have an exact correspondence with what Kahr (1975) has called 'complex locational expressions', which she found to be very common in the languages of the world.

Samuelsdorff (1998:272), while accepting Mackenzie's distinction between entities and places, rejects his analysis of spatial prepositions as one-place predicates, pointing out that unlike other predicates, the preposition does not express a property of its supposed argument: in *under the door*, the preposition *under* does not give a property of the door. Samuelsdorff himself analyses such prepositions as operators on terms.⁵⁴

In later work, Mackenzie (2001:128–130) extends his analysis from spatial to temporal adpositions, making use of Olbertz' time variable 't' (see §7.2.1.9). Thus both *from London* and *from Monday* are analysed as Source expressions, differing only in that the former has the place variable 'p' and latter the time variable 't'. Other grammatical temporal prepositions are *at* (Location), *for* (Path) and *until/till* and *to* (Allative). All other temporal prepositions (e.g. *after*, *during*, *since*) result from co-expression of one of the above semantic functions and a lexical predicate, just as do their spatial analogues.

Bakker & Siewierska (2002) look at adpositions in FG from the point of view of grammaticalisation, charting the ways in which they may develop from relational nouns (e.g. the current process of development of the Dutch noun *richting* (direction) into a preposition), through the stage of full predicational adpositions (e.g. English *above*), to almost fully grammaticalised forms (e.g. English *at*), and finally, in some cases, to a stage where they lose their adpositional status altogether, becoming case affixes (e.g. the dative marker *ni* in three related Nilo-Saharan languages which show the range from preposition to pure case marker). A series of steps for the grammaticalisation of predicates to adpositions is also suggested in Mackenzie (2002:32–33).

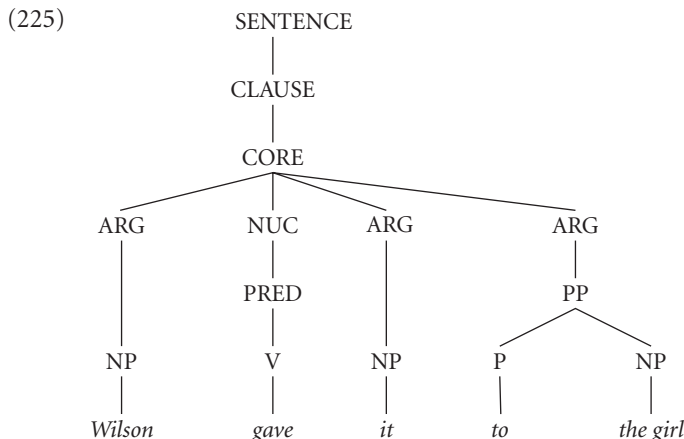
7.3.2 Adpositional phrases in Role and Reference Grammar

As we saw in Chapter 4, RRG recognises three types of adposition: argument-marking adpositions, adjunct adpositions and argument-adjunct adpositions. Argument-marking adpositions introduce the oblique argument, marked by *to*, of verbs such as *give* in (224), and are thus case markers with no predicative function. In such cases, the semantics of the argument marked by *to* is determined entirely by the semantics of the verb *give* in the

54. Mackenzie (personal communication) maintains that *the door* would need to have Zero semantic function, rather than Reference, for Samuelsdorff's argument to be valid.

nucleus (Van Valin & LaPolla 1997: 161). The structure of (224) is as given in (225), and the corresponding logical structure is shown in (226).

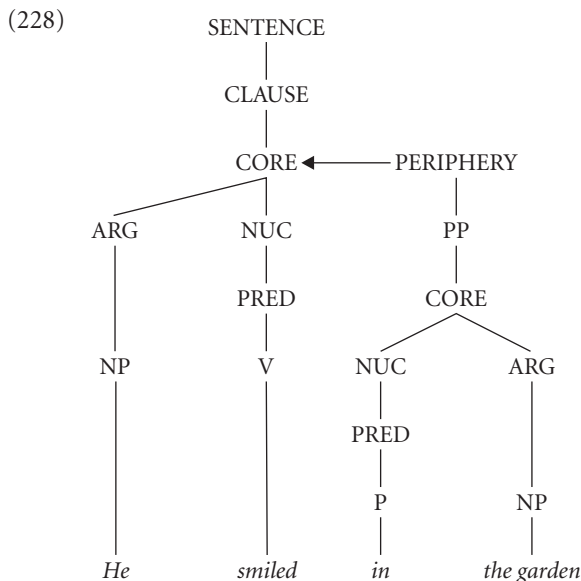
(224) *Wilson gave it to the girl.* (BNC HR8 358)



(226) [**do'** (Wilson, \emptyset)] CAUSE [BECOME **have'** (the girl, it)]

Adjunct adpositions introduce peripheral adjuncts, as in (227), and are themselves predicative, with the complement of the adposition as its argument, as shown in (228). The corresponding logical structure is given in (229).

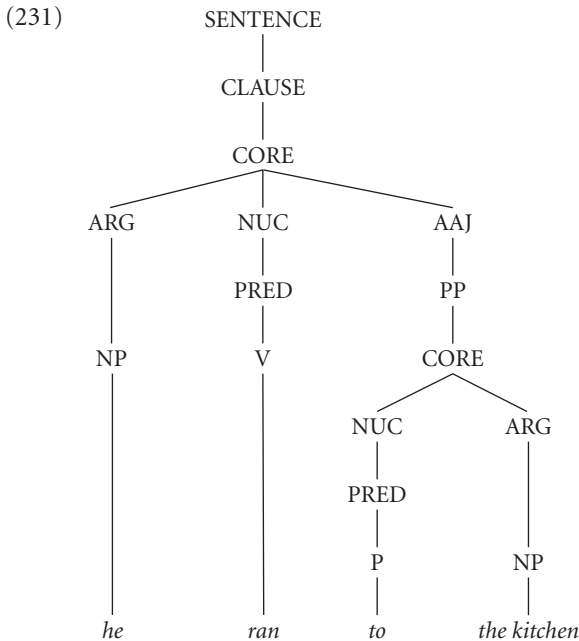
(227) *He smiled in the garden.* (BNC FAT 252)



(229) **be-in'** (garden, [**do'** (he, [**smile'** (he))])])

Argument-adjunct adpositions share an argument with the logical structure of the verb, and introduce argument-adjuncts which convert a basically Activity type of verb into an Accomplishment, as in (230), where running to somewhere is an Active Accomplishment, while *run* normally encodes an Activity. The structure of the main clause of (230) (*he ran to the kitchen*) is given in (231), and the logical structure in (232).

(230) *Frightened by the stranger he ran to the kitchen to find his mother.* (BNC AMB 49)



(232) **do'** (he, [run' (he)]) & **BECOME be-at'** (kitchen, he)

7.3.3 Adpositional phrases in Systemic Functional Grammar

7.3.3.1 Structure

Halliday (1994b: 212) distinguishes between **preposition groups** and **prepositional phrases**. Preposition groups are sequences of words which act as a single preposition, although, like other groups, they have their own Modifier-Head structure. An example is shown in (233), where *right* modifies *behind* to give the preposition group *right behind*:

(233) *Brian was right behind me.* (BNC FS0 970)

The prepositional phrase is not treated as a kind of group because, unlike a group, it is not an expansion of a Head by the addition of possible Modifiers. Rather, it is seen as more like a clause, in that just as the Predicator of a clause (the verb) may take a nominal group as Complement, so may the preposition, which thus acts as a 'minor Predicator'. Indeed, as

Halliday points out, the Complements of prepositions are increasingly able, in English, to be transferred to Subject position, just like those of a verb. An example is shown in (234).

(234) *The bed hadn't been slept in.* (BNC CR6 1395)

Because, as we saw in §5.2.3, Halliday treats Subject, Complement, etc. as functions on the interpersonal level, he regards the minor predicating role of prepositions as an interpersonal dimension to the structure of prepositional phrases. On the experiential dimension, the preposition has a function comparable to that of the Process in the transitivity structure of the clause.

Prepositional phrases can occur as Adjuncts in clauses or as Qualifiers in nominal groups, as shown in (235) and (236) respectively.

(235) *I heard **on the television** yesterday that thirty-five people had been sacked from the interior ministry so that may be an encouraging sign.* (BNC AE8 961)

(236) *He had become too cloying in his affections, his talk as saccharine as the dialogue from the Christmas classics **on the television**, his every gaze mawkish.* (BNC CRE 2569)

Halliday (1994b:213) remarks that prepositional phrases with *of* are exceptional, in that in most cases “*of* is functioning not as minor Process/Predicator but rather as a structure marker in the nominal group”.

The basic structure for the prepositional group (equivalent to Halliday’s prepositional phrase) in the current Cardiff model is shown in Figure 7.4, based on Fawcett (2000a: 306), with examples from the British National Corpus. The labels are to be read as follows:

- p preposition (or postposition, in the case of *ago*)
- pt prepositional temperer
- cv completive

Note that the completive element can be filled by a nominal group, another prepositional group, or a clause.

7.3.3.2 System

In view of the fact that Halliday regards the prepositional phrase as a kind of mini-clause, it is perhaps not surprising that Matthiessen (1995:630–637) proposes a set of systems for such phrases which are a kind of minor version of the major systems for clauses, one set for each metafunction.

In the ideational metafunction, ‘minor transitivity’ is concerned with the relationship between the preposition (‘minor Process’) and completive (analogous to the Complement in the clause). It is suggested that these relationships are basically those of expansion and projection which we met briefly in §7.2.3.2.1.7 and again in §7.2.3.2.2. Matthiessen (1995:632–633) gives examples which illustrate these possibilities. The examples in Figure 7.4 above would all be of the expansion/enhancing type, since the semantic relationship between preposition and completive is circumstantial in each case (involving place, reason or time).

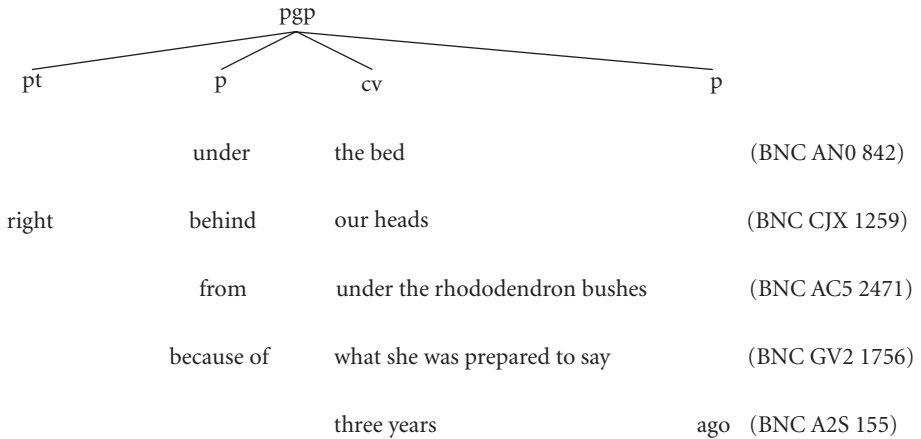


Figure 7.4. Prepositional group structure in the Cardiff grammar

In the interpersonal metafunction, ‘minor mood’ is concerned with phrases with and without a *wh*-interrogative (e.g. *in which book* (BNC EA9 2303) vs. *in that book*).

In the textual metafunction, ‘minor theme’ is concerned with the contrast between, for example *what are you talking about?* (BNC JXY 2573) and *about what are you talking?*

7.4 The structure and meaning of adverbial phrases

7.4.1 Adverbs and adverbial phrases in Functional Grammar

The analysis of adverbs and adverbial phrases in FG is still a matter of debate. Dik (1997a:228, 306) analyses manner adverbs as adjectival predicates which are used as either level 1 or level 4 (illocutionary) satellites. The clause in (237) would thus receive the skeleton analysis shown in (238), and (239) would be analysed as in (240).

(237) *The reply came frankly.* (BNC HHB 2988)

(238) Decl E_i: [X_i: [Past e_i: [*the reply came*] (*frank* [A])_{Man}]]

(239) *Frankly it's rather monotonous.* (BNC EEL 723)

(240) Decl E_i: [X_i: [Pres e_i: [*it's rather monotonous*]]] (*frank* [A])_{Man}

Hengeveld (1992a, 1992b, 1997b) takes the view that a separate class of adverbial predicates can be recognised, and that they modify non-nominal heads, whereas adjectival predicates modify nominal heads. Adverbial predicates are then classified according to the layer at which they apply: manner adverbs modify at layer 1, and can restrict verbal, adjectival or other adverbial predicates; level 2 adverbs such as those of time modify the predication; level 3 adverbs such as those of attitude modify the proposition; illocutionary adverbs such as *frankly* in (239) are at level 4; and adverbs such as *firstly*, *finally*,

when used, for example, to signal points in a list, are textual adverbs which signal the relationship between the speech act and the surrounding discourse ('level 5'). Hengeveld (1997b) also shows that the classes of adverb form an implicational hierarchy, from levels 1 to 5, in terms of their existence in the world's languages, and that their ordering in sentences generally reflects their scoping relations. The treatment of adverbs as predicates also explains why they impose selection restrictions on what they modify (see García Velasco 1996). Unlike Dik, then, Hengeveld represents even *-ly* adverbs as predicates in their adverbial form.

Samuelsdorff takes issue with this analysis, and indeed with the concept of the adverbial predicate, pointing out that there is "a contradiction in FG between the definition of adverbial expressions as predicates and the definition of the fillers of satellite positions as terms" (Samuelsdorff 1998:267). His position is that manner adverbs such as *fast* or *cautiously* are derived from the corresponding adjectival predicates, which are term-constructing predicates. Even adverbs of time (e.g. *yesterday*) and place (e.g. *here*), he argues, can be regarded as basic terms. Adverbs such as *very* are treated as grammatical morphemes, inserted by the expression rules as an expression of intensity.

As we saw in §7.2.1.9, Mackenzie (1998b), like Samuelsdorff, argues that what are treated by Hengeveld as manner adverbs should be analysed in terms of an underlying adjective. Mackenzie (2001) looks critically at other classes of adverb (degree adverbs, conjunctive adverbs, attitudinal adverbs, spatio-temporal adverbs) which have been recognised in the literature, examining the evidence with regard to whether words claimed to be in each of these subclasses share an identifiable function, have their own predicate frames, and are not regularly derived from another part of speech such as an adjective. He concludes that so-called degree adverbs are grammatical operators rather than having lexical status; that conjunctive adverbs fall outside the FG of the clause; that attitudinal adverbs do have an identifiable function and their own predicate frame, but are underlyingly adjectives; but that spatio-temporal adverbs satisfy all three of his criteria, and can occur either as satellites (*Elvis has come back*) or as predicates (*Elvis is back*). He therefore reformulates Hengeveld's definition of the adverbial predicate as follows:

An Adverbial predicate is a predicate which, without further measures being taken, either has a predicative use or can be used as the head of a Layer-2 satellite.
(Mackenzie 2001:127)

We saw in §7.3.1 that Mackenzie has also established a category of adpositional predicates. He argues (2001:131) that there is good evidence, at least for English, for the collapsing of adverbs and adpositions into a single supercategory [Ad]: the two categories share not only the semantic property of denoting spatio-temporal properties, but also that of formal invariability; there are many prepositions which can also be used adverbially; and, as described for English by Downing & Locke (1992 [2002]:565–567, 585–586), the adverbial and prepositional forms take much the same range of premodifiers. Furthermore, the second part of the disjunctive definition of the adverbial predicate given above also applies to adpositions. The difference between adverbs and adpositions would then be that the former are avalent and the latter monovalent.

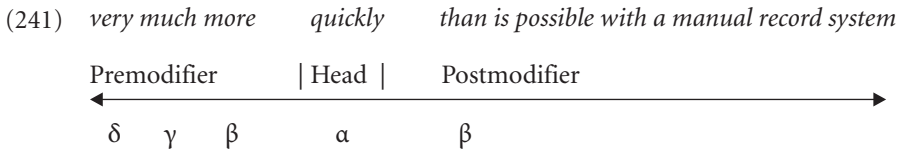
7.4.2 Adverbs and adverbial phrases in Role and Reference Grammar

The RRG analysis of adverbs was discussed in §4.11.2, and nothing further need be said about this here, except to point out that the discussion in Van Valin & LaPolla (1997) is limited to single adverbs, the structure of adverbial phrases, as such, not being specifically addressed.

7.4.3 Adverbial groups in Systemic Functional Grammar

7.4.3.1 Structure

Halliday (1994b:210–211) recognises a separate category of adverbial group, with an adverb as head, and a logical univariate structure of premodification and postmodification as shown in example (241):



(BNC H7B 1553)

We saw in §7.2.3.7 that in the Cardiff grammar adjectival groups and some types of adverbial group are brought together into the ‘quality group’, and that a range of adverbial meanings can be modelled through systems dependent on the choice of the feature [quality of situation].

7.4.3.2 System

Matthiessen (1995) does not offer system networks for adverbial groups. The networks for the ‘quality group’ in the Cardiff grammar were discussed in §7.2.3.7.2.

7.5 The ‘verbal group’ in Systemic Functional Grammar

7.5.1 Structure

Halliday (1994b:196) postulates a clause constituent which he labels the verbal group, and which consists of a sequence of words belonging to the verb word class. He considers this to be an expansion of a verb, just as a nominal group is an expansion of a noun. The verbal group acts as Finite plus Predicator in the structure related to mood (or simply as Predicator if there is no separate Finite element), and as Process in the structure related to transitivity.

The experiential structure of the verbal group consists of Finite, Auxiliary (optional) and Event. Finite and Event can be conflated, in cases where the verbal group consists of just the lexical verb. The logical structure, according to Halliday (1994b:198), realises the

system of tense in English, which is seen as a recursive set of choices and will be discussed in Chapter 9. An example is given in (242):

(242)	<i>I</i>	<i>may</i>	<i>have</i>	<i>been</i>	<i>being</i>	<i>a bit selfish ...</i>
	Finite	Auxiliary ₁	Auxiliary ₂	Event		
	α	β	γ	δ		
	—————→					

(BNC ASH 485)

Halliday (1994b: 197) points out that there is a remarkable degree of parallelism between the experiential structure of the verbal group and that of the nominal group, in that just as the Deictic element of the nominal group anchors the meaning in the here-and-now of the speaker, so does the Finite element of the verbal group, through tense, which primarily relates event time to the time of speaking, and modality, which represents an aspect of the speaker's attitude. Each of these phenomena is an example of the thematic nature of initial position: just as the Theme of a clause is the point of departure for the message, so initial position in the representation of a participant or a process forms a natural thematic element in its relationship to the here-and-now, although the groups differ from the clause in that the order of their elements is fixed. A further similarity between nominal and verbal groups is that the central element of the lexical meaning is in each case at the end, and this again reflects a general principle which is shared with the clause, in this case that of the basic informativeness of end position.

In the Cardiff grammar the verbal group is rejected as a unit, the various elements being regarded instead as direct elements of the clause.⁵⁵ The reasons for adopting this position are presented in great detail in Fawcett (2000b, 2000c), on which the following very brief summary is based.

Firstly, the Cardiff approach allows any verbal element to be related, as sister, to any other element of clause structure. Even in Halliday's account, this is necessary in the case of the relationship between Subject and Finite operator. Fawcett (2000b: 176–177) points to an anomaly in Halliday's treatment of these two elements. As we saw in §5.3, Halliday postulates that they combine to form the Mood constituent of interpersonal structure, which suggests that they are elements of the same unit, and since the Subject is clearly a clause constituent, so presumably is the Finite. And yet, as was pointed out above, Halliday also presents the Finite as part of the verbal group. Fawcett suggests that Halliday's insistence on the category of verbal group may have arisen through his reluctance to abandon, or at least weaken, the concept of the rank scale, according to which the clause consists of groups, which in turn consist, in the unmarked case, of words: each clause should therefore be fully analysable into groups. However, Halliday's theory of rank also entails that no word should ever directly expound a clause element, and yet, as Fawcett observes, this is

55. For a very detailed account of the various types of auxiliary which can occur in the English clause, and the 'extensions' which may accompany them, see Fawcett (in press).

precisely the case for the word acting as Finite element of the clause. The verbal group as presented by Halliday is clearly anomalous as a group, in four ways (Fawcett 2000b: 176–182). Firstly, different parts of it function as different elements in the clause, rather than as a single element: the first verbal group constituent acts as Finite in the clause, and the rest of the verbal group as Predicator. Secondly, the verbal group can fill only one element of clause structure (Predicator and/or the overlapping Process), while other groups can fill more than one. Thirdly, the verbal group, unlike others, cannot be rankshifted. Fourthly, the verbal group is often discontinuous, being interrupted by other clause elements.

Fawcett (2000b: 182–193) goes on to show that if Finite is indeed an element of the clause, then all the other elements of the Hallidayan verbal group must also be treated as clause elements, since all (except the verb extension in a phrasal verb) can be conflated with the Finite element to express mood through their sequence relationship with the Subject.

In the second half of his two-part paper, Fawcett (2000c: 330–340) demonstrates that the relationships between morphemes of which the auxiliaries and main verb in the verbal group are composed (e.g. *have* + *-en* in the realisation of what Fawcett calls ‘retrospective’ meaning) also require the auxiliaries and main verb to be treated as elements of the same unit, in that since auxiliaries such as *have* can act as the Finite element, and so are constituents of the clause, it is logical that the elements to which the associated morphemes, such as *-en*, are attached should also be clause constituents.

Fawcett (2000c: 340–348) goes on to push to its logical conclusion the argument underlying Halliday’s treatment of the Finite as a clause constituent. Subject and Finite are treated together as elements of clause structure because they jointly realise the meanings of mood. Fawcett demonstrates that this is also the case for various other relationships between an element widely agreed to be a clause constituent and an element which is within Halliday’s verbal group. For instance, the process type, realised in the main verb and possibly its extension if phrasal, predicts the participant roles of the clause, which are typically realised as the clause elements Subject and Complement, so that again the grammar achieves greater simplicity and naturalness if the main verb is also seen as a clause element. Similar arguments apply to other aspects: the relationship between temporal meanings expressed in finite operator, auxiliaries and/or main verb, and temporal adjuncts; the fact that certain types of circumstantial Adjunct co-occur preferentially with particular types of process as realised in the main verb; the co-realisation of process meaning in a main verb and its extension if phrasal; the relationship between the decision to make a clause participant covert and the choice of a construction with a passive auxiliary; the relationship between strong negation (using the full item *not*) and a ‘situation’, and hence the clause.

Finally, Fawcett (2000c: 348–356) observes that Halliday’s verbal group is frequently discontinuous, since any pair of elements can be separated by some other, non-verbal constituent: examples include the occurrence of the subject between the finite verb and the main verb (or an auxiliary) in a yes-no interrogative, the insertion of adverbs between auxiliaries or between these and the main verb, and the placing of a clause Complement between the main verb and its ‘extension’ in a phrasal verb construction. Taking each

element as a separate constituent of the clause allows for a simple, direct treatment of these phenomena.

Despite the cogency of Fawcett's proposals, they perhaps make it rather harder to formulate in a natural way the parallels between verbal group, nominal group and clause in terms of the functioning of initial and final positions. Moreover, McGregor (1996a) has presented counter-arguments to some of the points made by Fawcett: for example, he claims that discontinuity is so prevalent in the grammar of at least some languages that contiguity of constituents is too strong a requirement for unit status within the grammar; he also claims that the concept of constituency should be applied only to experiential structure, so weakening the argument concerned with the structure of the Mood element. However, McGregor's own proposals are not for a verbal group of the kind envisaged by Halliday, but for a radically different kind of unit, with Process, Quality and Quantity as constituents, so incorporating what in Hallidayan grammar would be regarded as circumstantial elements.

7.5.2 System

The system networks for the verbal group in the Sydney grammar are concerned with finiteness, tense,⁵⁶ modality, polarity and voice, and so will be discussed in some detail in Chapter 9.

7.6 Commonalities across phrasal units in Systemic Functional Grammar

Just as formal theories (for instance X-bar theory) have highlighted commonalities across phrasal units, and between these units and clauses, in terms of structure, so functional descriptions of language allow us to recognise functional correlations between units. As we have seen, this is particularly true of Systemic Functional Grammar, one reason for this being that the most readily demonstrable correlations are between the nominal group and the verbal group, the latter being characteristic of Hallidayan systemic theory. We saw in §7.5.1 that Halliday postulates similarities between these two classes of group, and between these and the clause, in terms of the function of initial position (thematic, anchoring to the here and now) and final position (the basic informativeness of this position).

There are also similarities in terms of the types of relationship involved in the formation of complex units, in which two or more simple units are combined to form a single, more complex one. Halliday (1994b: 274–291) and Matthiessen (1995: Chapter 7) demonstrate that nominal and adverbial groups, as well as prepositional phrases,⁵⁷ can form

56. As we shall see in Chapter 9, Halliday's interpretation of tense also includes parts of what in most grammars would be labelled as aspect.

57. There is also the possibility of complexes involving both prepositional phrases and adverbial groups, e.g. *slowly and with care* (BNC GW2 1842).

complexes in which the relationship between the parts is one of (paratactic or hypotactic) expansion (i.e. elaboration, extension or enhancement), while verbal group complexes can be based not only on expansion but also on projection, and so have all the possibilities open to the full clause.⁵⁸ Some examples are given below:⁵⁹

- (243) *At the same time Domark, owners of a plethora of Bond licences, found themselves with the rights to **Live and Let Die**, a film with a particularly violent speedboat sequence.* (BNC C87 551) (nominal group complex, paratactic, elaborating)
- (244) *The relationship between **these men and their clients** was likened to that between a cobra and its prey.* (BNC CBA 1035) (nominal group complex, paratactic, extending)
- (245) *Forbes was the most knowledgeable liturgical scholar of his day in the SEC but **his published work, and hence his influence**, was reduced by an over-strained attention to **detail and other scholarly opinion**.* (BNC GSX 1139) (nominal group complexes, paratactic, (i) enhancing (causal), (ii) extending)
- (246) *Jung, **unlike Freud**, believed that the symbols, or archetypes contained in dreams and hallucinations were more than the manifestation of sexual hang-ups.* (BNC HWX 685) (nominal group complex, hypotactic, extending)
- (247) *... Toby chewed over the subject **on Thursday before school** with Penny Warlock.* (BNC H8Y 1669) (prepositional phrase complex, hypotactic, elaborating)
- (248) *But he **ranted and raged and rampaged** through the local cemetery.* (BNC KJV 159) (verbal group complex, paratactic, extending)
- (249) *... Bruce **tried but failed** to keep the fear from his voice, ...* (BNC FPS 1616) (verbal group complex, paratactic, enhancing)
- (250) *No one who lives in heaven **keeps on sinning**.* (BNC G5K 1501) (verbal group complex, hypotactic, elaborating)
- (251) *He **tried to hug her again**, ...* (BNC F9C 2371) (verbal group complex, hypotactic, extending)
- (252) *I **wanted to know what is going on**.* (BNC A7A 2308) (verbal group complex, hypotactic, projecting)

Fawcett (forthcoming) argues that the phenomena treated in terms of the ‘verbal group complex’ in Halliday’s grammar are better analysed in other ways, mostly in terms of embedded or coordinated clauses. Specifically with regard to Halliday’s ‘hypotactic verbal group complex’, Fawcett argues that there is evidence, for example from the occurrence of time and manner Adjuncts, that two different events are being represented. In the Cardiff grammar, then, analyses such as those in (250)–(252) are rejected in favour of one in which

58. Some of the meanings carried by verbal group complexes will be considered in Chapter 9.

59. Note that such analyses leave some questions unanswered: what, for example, is the exact status of *hence* in (245)?

there are two clauses, the main clause verb being *keeps/tried/wanted*, with a participial or infinitive clause as Complement. Halliday (1994b:289) recognises that an alternative analysis, involving two clauses rather than a complex verbal group with phase, is possible for examples such as (252),⁶⁰ but he argues for the phasal analysis on two grounds: firstly, that historically what are now (in his view) the two future tenses within a simple verbal group (with *will* and *be going to*) have arisen from structures of the sort considered here; secondly that the *wh*-probe for (252) would be *What did you want to know?* rather than *What did you want?* It could, though, be argued that the latter is indeed a possible probe for (252), though perhaps less likely than the one Halliday suggests. Furthermore, it is arguable that diachronic origin is less important in the description of a synchronic form than patterning in relation to other synchronic forms, and as Fawcett (1996:311) points out, it is a semantic property of *want* that it predicts the presence of a role (Phenomenon). Since the Complement is an element, other than the Subject, which is predicted by the Process, then what is wanted, whether expressed nominally (e.g. *an explanation*) or clausally (e.g. *to know what is going on*), should be analysed as a Complement. This argument is strengthened if we consider examples such as (253), where the *to*-infinitive has a Subject:

- (253) *We want companies and workforces to come to their own arrangements.*
(BNC A59 334)

For the Cardiff grammar, the relationship between *want* and the infinitive clause in (253) is exactly the same as in (252): the only difference is that the infinitive clause in (253) has an overt Subject, while that in (252) does not. Halliday (1994b:290), on the other hand, postulates two possible analyses for clauses such as (253), one with a discontinuous verbal group complex *want ... to come*, the other with a hypotactically related infinitive clause, and concludes that the latter is the preferred analysis in this case, while as we have seen, the verbal group complex analysis is preferred for (252). The Cardiff solution is clearly more elegant, but as with many differences between alternative accounts of a phenomenon, it is necessary to take into account the fact that different models prioritise different types of criteria in making analytical decisions.

7.7 Comparison of approaches

7.7.1 Some salient points of comparison

As the foregoing discussion will have shown, the three theories under focus here give what seem to be very different accounts of the structure and meaning of phrasal units, though with some shared characteristics. In the main, these differences arise from the general orientation and aims of the theories which, as we saw in Chapter 6, show quite wide di-

60. However, as we shall see in Chapter 8, and as will be discussed in more detail in Chapter 3 of Part 2, he regards the infinitive clause as being hypotactically related rather than embedded as a Complement.

vergences, within the overall framework of assumptions common to structural-functional accounts of language.

One very striking difference between FG and RRG, on the one hand, and SFG, on the other, is concerned with typological adequacy. As we have seen repeatedly, both FG and RRG place typological matters very high on their agendas, whereas this has not been so for SFG. This difference in orientation is reflected in the degree of attention paid to languages other than English in descriptions of phrasal structure and meaning. Both FG and RRG are concerned to ensure that the models they propose in this area are not unduly biased towards English and other Indo-European languages, but are valid for all language types. The work of Rijkhoff (1992, 2002) on the noun phrase, within the FG framework, is based on a sample of around 50 languages, carefully chosen to be representative of the whole range: furthermore, the discussion ranges over many more languages in addition to those in the sample. As we have seen, the results of the earlier work have found their way into Dik's own account of term structure and meaning. Rijkhoff's work has also been influential in the RRG model of noun phrase structure, and the account given by Van Valin & LaPolla (1997) discusses both head-marking and dependent-marking languages, as well as languages with discontinuous phrase structures. On the other hand, work on the nominal group in SFG has been overwhelmingly on English, though some attention has been given to a small number of other languages, such as Tagalog and Kâte, in terms of participant identification (see Martin 1983), Matthiessen (1995) offers an extremely brief 'typological outlook' on prepositional phrases (1995:637–638) and verbal groups (1995:725–726) (though not on nominal groups), and Halliday & Matthiessen (1999:305–309) offer an equally brief characterisation of groups in Chinese.

Differences of commitment to, and interpretation of, criteria of pragmatic adequacy are also reflected in accounts of phrasal structure and meaning, particularly in relation to the noun phrase. In FG, this commitment is recognisable in the emphasis placed on the speaker's act of reference as a way of guiding the addressee towards the identification of the intended referent. There is, however, no attempt to deal with other important aspects of the pragmatic functioning of noun phrases, such as the interpersonal or informational structure of the phrase. RRG also makes a clear distinction between the referring and predicating functions, reflected in its use of REF and PRED nodes in the structures of noun phrases and clauses respectively: again, however, other pragmatic aspects of noun phrase meaning are left unexplored, although it could perhaps be argued that the use of Pustejovsky's qualia theory opens the way for the analysis of some pragmatic phenomena. Although Halliday resists any division into semantic and pragmatic aspects of meaning, SFG is, as we have already seen, very much concerned with what in most theories would fall under the heading of pragmatics, and this is clearly shown in the discussion of interpersonal and textual meanings within the nominal group. Likewise, in the Cardiff grammar non-experiential aspects of meaning in nominal and 'quality' groups are explored to some extent.

A further difference arises from the textually-oriented nature of SFG. Because both the Sydney and the Cardiff grammars are intended to be applicable in textual analysis, the degree of detail pursued in their descriptions of structure and meaning in English,

in the phrase as elsewhere, far exceed those available in the other two approaches. This is particularly evident in the Cardiff grammar, which, as we have seen, provides very detailed structures for groups, together with fine-grained semantic analyses which are capable, in principle and increasingly in practice, of distinguishing meanings right down to the lexical level.

As far as the internal mechanisms for the characterisation of different kinds of phrases are concerned, the basically bottom-up and syntagmatic orientation of FG and RRG contrasts strongly with the top-down, paradigmatically-based approach of SFG, just as in the specification of clause structures. In FG, the structure of the term is built up from the lexical entry for the head, by successive restriction and by the application of operators. Similarly, in RRG the noun phrase is built up from the core nominal element (plus any arguments, in the case of nominalisations) by the application of operators which result in the specification of determiners, quantity expressions, adjectives, and so on. In SFG, on the other hand, the more general features of the nominal group are specified in the least delicate parts of networks of paradigmatically-related options for nominal groups, the lexical items of which the group consists being specified as a result of passes through complex networks containing many interacting systems.

A further clear difference is in the relationships postulated between syntactic and semantic patterning. FG, as we saw in relation to the clause, dispenses with a distinct syntactic representation, so that the underlying semantic structures for nominal and other phrases feed into the expression rule component in order to be translated into their final form. RRG, on the other hand, postulates both syntactic and semantic structures for phrases, and these structures participate in the processes specified in the algorithms which link the two kinds of representation. The arguments for a separate syntactic representation advanced by Van Valin and his colleagues with respect to the clause would also seem to be valid for the phrasal level. Current Sydney-style SFG recognises semantic and lexicogrammatical levels in the analysis of groups, just as in that of clauses, but the lexicogrammatical level is itself semantically-oriented; the Cardiff grammar, on the other hand, has distinct, though linked, representations of syntax and semantics.

It was pointed out in §6.3 that there is an interesting parallel between the operators of FG and RRG and the system networks of SFG: operators such as Tense in FG or RRG take a series of values, the relationships between which would be specified explicitly in terms of system networks in SFG. The same observation can be made for operators at the phrasal level: for instance, operators concerned with (in)definiteness or with number take values which would correspond to systemically related features in SFG. In this respect, the proposal made in RRG that modifying adjectives should be specified as operators on noun phrases is in line with the way in which adjectival modification is handled by means of systemic choice in SFG.

Most of the similarities and differences outlined above are well illustrated by the approach taken in the three theories to nominalisation phenomena. The typological orientation of FG is evident in the work of Mackenzie (1987a), while that of RRG can be seen, for instance, in the arguments for the analysis of nominalisations with 'double possessive' constructions (see §7.2.2.1.3). Pragmatic considerations are paramount in Halliday's ac-

count of nominalisation in terms of ‘grammatical metaphor’, but are not foregrounded in RRG or in Dik’s FG treatment, though certainly present in the frequently more textually-oriented FG work of Mackenzie. Furthermore, Halliday’s analysis is linked to his multi-functional approach, in that nominalisation is shown not to be just a textual repackaging of ideational content, but also to have consequences for the ideational and interpersonal aspects of meaning. Finally, questions of the relationship between syntactic and semantic levels are most prominent in the RRG account, where the layered structure of noun phrases headed by deverbal nominals contains arguments which are linked to positions in logical structures which are the same as for the corresponding verbs, though the details of linking are sensitive to the inherent differences between nominal and verbal expressions.

7.7.2 Analysis of an example under each approach

In this final section, I shall contrast the account which would be given, in each of our three theories, of the structure and meaning of the following example:

(254) *those two old plush tablecloths* (BNC H7P 284)

In FG, a single underlying structure would be proposed, as in (255):

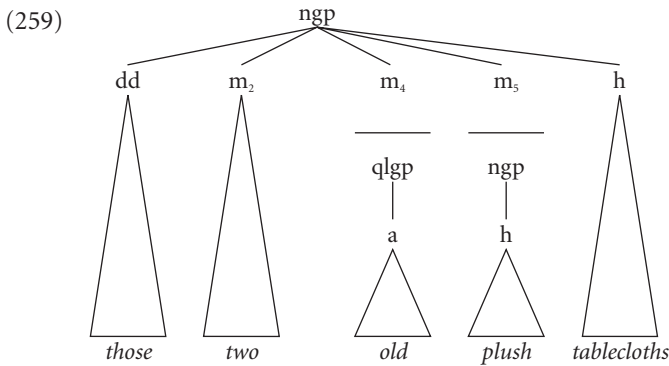
(255) (d rem 2 x_i : *tablecloth* [N] (x_i)_∅: *plush* [N] (x_i)_∅: *old* [A] (x_i)_∅)

The part of the structure before the x variable indicates that the referent is definite, and remote rather than proximate, and that it consists of two entities. The variable is successively restricted in terms of the entities being tablecloths, plush tablecloths, and old plush tablecloths. The expression rules for English would convert this structure into the form shown in (254). Under Mackenzie’s proposals for term structure, the indexing variables (x_i)_∅ would be omitted.

In RRG, two representations of the noun phrase would be proposed, one syntactic and the other semantic. The syntactic representation is shown in (256), and a representation of the semantics of the noun phrase in (257).⁶¹ These analysis demonstrate important points of similarity and difference in relation to the FG structure in (255). The deictic, definite and quantity operators in (256)–(257) correspond to those of FG, but the adjectival and nominal modifiers are also treated as operators, whereas in the FG representation they are seen as restrictors of the head. Furthermore, as we saw in §7.2.2.1.3, RRG treats the demonstrative as a pronoun in NP-initial position, so giving it a different structural analysis from the corresponding noun phrase with the definite article.

61. Van Valin & LaPolla do not analyse any example with *that/those*, but since they use PROX as the value of the deictic operator corresponding to *this/these* (1997: 194), I have used REM here to emphasise the parallel with the FG operator.

(258)	<i>those</i>	<i>two</i>	<i>old</i>	<i>plush</i>	<i>tablecloths</i>
Experiential	Deictic	Numerative	Epithet	Classifier	Thing
Logical	Premodifier				Head
	←—————				
	ϵ	δ	γ	β	α



From the interactant role network, the feature [outsider] is selected, since the referent is not a participant in the speech situation. This choice leads us into the redundancy balance network, in which [classification] is chosen from the initial system, followed by [lexical classification] and [cultural and ad hoc classification]. In the networks for cultural classification, we select the features [count], [concrete] and [object], and this last feature, in a fully developed network, would lead on to more delicate classifications of the type of object, ultimately leading to a specification of the lexical item *tablecloth*. From the particularisation network, the feature [particularised] is selected, and since the speaker does not assume that the addressee needs no pointer in order to identify the referent, [basis not assumed] is then chosen, followed by [by location relative to performer] and then [not near]. In combination with the feature [plural] from the number network, these choices give rise to the determiner *those*. We saw in §7.2.3.7.1 that Fawcett would treat *two* in our example as a modifier giving supplementary, non-defining information: it is not entirely clear from his account just what systemic choices would give rise to this item.

In the ad hoc classification network, [quality] would be selected, and from the networks presented by Tucker, the features [quality presented], [quality of thing], [quality as modifier], [thing-oriented], [epithetic], [age], [existence], [old] would lead to the adjective *old*. Selection of the feature for indicating the presence of more than one quality-indicating modifier would allow a further pass through the appropriate networks, generating the selection expression [thing-oriented, classifying, substance], followed by further choices in a more delicate network for types of substance, yet to be developed, and leading in this case to the item *plush*.

I shall not specify the relevant realisation rules here, but simply reiterate that the accounts given by Fawcett and Tucker do provide a detailed picture of how the selection

expressions developed above would feed into the realisation rules to generate the nominal group in (254).

The detailed analysis of this example serves to emphasise once again the very great difference between the mechanisms for generating structure in SFG and the other two theories, and also the much greater degree of descriptive detail in SFG.

CHAPTER 8

Representing situations

The aim of this chapter is to go into more detail than was appropriate in Chapters 3, 4 and 5 on the handling, in FG, RRG and SFG, of the classification of the ways in which clauses represent situations (actions, events, states) in the real world or some imagined world. This will involve us in discussion of matters such as:

- the setting up of features to classify linguistic representations of situations;
- the relationships between predicating elements and their arguments, and the contribution which such relationships make to the above classification;
- the distinction between arguments and ‘adjuncts’, or ‘satellites’;
- the relationships between all the above and the semantic functions assigned to clause constituents;
- issues involving causativity;
- issues involving non-verbal predication.

As in many other areas, FG and RRG are more like each other with respect to their treatment of the representation of situations than either is like SFG: indeed, FG and RRG both base their accounts on earlier work by Vendler (1967) and Dowty (1979). For this reason, I shall begin, as in previous chapters, by discussing FG, then move on to RRG, and finally to SFG, before presenting a critical comparison. This is, in my view, an area of the grammar in which comparison is particularly interesting and illuminating, and for this reason I shall devote considerable space to the final comparative section, using it to incorporate many of the insights which have arisen in reaction to the accounts which form the backbone of the discussion.

8.1 Representing situations in Functional Grammar

8.1.1 A typology of ‘States of Affairs’

I shall begin by summarising Dik’s own treatment of what he calls ‘States of Affairs’ (SoAs), as set out in Chapter 5 of *TFG1* (Dik 1997a), to which all page numbers in this section refer. As we saw in Chapter 3, the term ‘State of Affairs’ is intended to capture the “conception of something which can be the case in some world” (p. 105). It is important to

notice the word ‘conception’ here: SoAs are not actual events, states, or whatever, in the ‘real’ world, but are conceptual entities, mental representations of how things are (or were, etc.) in some world. Dik (p. 106) is also at pains to point out that his typology is not one of predicates as such, which would be inappropriate in view of the fact that the same predicate, in combination with different arguments and satellites, can give rise to different types of predication. Dik regards his ‘types of SoA’ as being equivalent to what is sometimes called ‘Aktionsart’ in the literature. His classification is intended to be “relevant to both the semantic and the syntactic properties of the expressions involved” (p. 105).

Dik’s typology of SoAs is based on a set of semantic parameters which he expresses as features. The basic features of dynamicity, telicity and momentaneousness, and the tests Dik (pp. 106–115) suggests for them (many of these based on earlier work by Dowty and others), are summarised in Table 8.1.

Note that the features are arranged in a hierarchy, as implied by the arrangement in columns in Table 8.1. Thus [–dyn] SoAs cannot have any value for the telicity or the momentaneousness parameters, and [–tel] SoAs have no value for momentaneousness. Conversely, specifying an SoA as either [+tel] or [–tel] implies that it is also [+dyn], and specification as [+mom] or [–mom] implies that it is also [+tel] and [+dyn].

Combinations of features define particular classes of SoA. All [–dyn] SoAs are labelled as Situations, and all [+dyn] ones as Events. Controlled Situations are Positions, whereas uncontrolled Situations are States. Similarly, controlled Events are Actions, while uncontrolled ones are Processes. Within Actions, non-telic SoAs are Activities, and telic ones Accomplishments. In parallel, non-telic Processes are labelled as Dynamism and telic ones as Change. Note that the feature distinction [±mom] is not involved in the definition of the basic SoA types. Table 8.2 presents an authentic example of each type, extracted from the British National Corpus, together with its feature specification.

The tests in Table 8.1 are applied below to the examples in Table 8.2.

[[–dyn]]

**Even a simple device like this is quickly large.*

**Kevin Kline still quickly maintains his reputation for being one of Hollywood’s most versatile and most elusive of actors.*

[+dyn]

Blood was trickling quickly from two deep cuts in his bottom lip.

The book fell quickly to the floor with a loud bang.

I was running very slowly.

I quickly finished the novel.

[–tel]

Blood was trickling from two deep cuts in his bottom lip for at least five minutes.

Table 8.1. Basic parameters for classification of States of Affairs, according to Dik (1997a: 106–115)

Semantic features	Definition	Tests	Notes
-dyn	No change involved: entities presented as being, or remaining same at all points of time in interval during which SoA obtains	Cannot combine with Level 1 satellites of Speed	
+dyn	Change; internal dynamism: from one SoA to another, or recurrent changes throughout duration of SoA	Can combine with Level 1 satellites of Speed	
-tel	Can go on indefinitely	Can take Duration satellite <i>for</i> X where X is time period Cannot take expressions of form <i>It took X Y to ...</i> where Y = time period Addition of <i>almost</i> unambiguous (= nearly did it, but did not actually do it) X was <i>Y-ing</i> (at time t_1) entails X <i>has Y-ed</i> (at time $t_2 > t_1$) Cannot take Duration satellite <i>for</i> X where X is time period	Telicity not just matter of predicate: nature of first and second arguments and satellites can affect it
+tel	Would reach natural end-point if fully achieved	Can take expressions of form <i>It took X Y to ...</i> where Y = time period Addition of <i>almost</i> ambiguous (= nearly did it, but did not actually do it; or did it but didn't quite complete it) X was <i>Y-ing</i> (at time t_1) does not entail X <i>has Y-ed</i> (at time $t_2 > t_1$) Can combine with aspectual verbs such as <i>start/continue/finish</i> Cannot combine with aspectual verbs such as <i>start/continue/finish</i>	Some [+mom] predicates can combine with aspectual verbs, but then receive iterative interpretation: e.g. <i>the bombs started exploding</i>
-mom	Conceived as having unlimited duration	Can combine with aspectual verbs such as <i>start/continue/finish</i>	
+mom	Conceived as having no duration: occupy point in time	Cannot combine with aspectual verbs such as <i>start/continue/finish</i>	
-con	First argument does not have power to determine whether or not SoA will obtain	Cannot occur in directives Cannot occur in commissives Cannot take Beneficiary or Instrument satellites	
+con	First argument has power to determine whether or not SoA will obtain	Can occur in directives Can occur in commissives Can take Beneficiary or Instrument satellites	

Table 8.2. Examples of the basic SoA types, taken from the British National Corpus

SoA type	Example	Features
Situations		[-dyn]
State	<i>Even a simple device like this is large.</i> (BNC FNR 1803)	[-dyn, -con]
Position	<i>Kevin Kline still maintains his reputation for being one of Hollywood's most versatile and most elusive of actors.</i> (BNC CF6 88)	[-dyn, +con]
Events		[+dyn]
Processes		[+dyn, -con]
Dynamism	<i>Blood was trickling from two deep cuts in his bottom lip.</i> (BNC G1U 2982)	[+dyn, -con, -tel]
Change	<i>The book fell to the floor with a loud bang.</i> (BNC AC7 461)	[+dyn, -con, +tel]
Actions		[+dyn, +con]
Activity	<i>I was running very slowly, ...</i> (BNC AR7 972)	[+dyn, +con, -tel]
Accomplishment	<i>I finished the novel ...</i> (BNC ECU 705)	[+dyn, +con, +tel]

*It took five minutes for the blood to be trickling from two deep cuts in his bottom lip.¹

Blood was almost trickling from two deep cuts in his bottom lip. (unambiguous: almost, but not quite)

Blood was trickling ... entails *Blood has trickled ...*

I was running very slowly for an hour.

*It took an hour for me to be running slowly.²

[+tel]

*The book fell to the floor for a minute/second with a loud bang.

It took 0.1 seconds for the book to fall to the floor.

The book almost fell to the floor. (ambiguous – either almost fell but did not quite do so in the end, or fell almost to the floor but not quite)

The book was falling to the floor does not entail *The book fell to the floor* (its progress might have been arrested)

*I finished the novel for two days.

It took me two days to finish the novel.

I almost finished the novel. (ambiguous: either I almost decided to finish it but did not in the end, or I got almost to the end of the novel)

I was finishing the novel does not entail *I have finished the novel*

1. Note that this might be acceptable in the interpretation in which the SoA did not begin until five minutes after a specified point in time, but this is not the interpretation we are involved with here.

2. See the above comment on a time period before the inception of the SoA.

[–con]

**Be large, simple device.*

**The simple device promised to be large.*

**The device is large for Jim.*

**Blood, trickle from two deep cuts ...*

**Blood promised to trickle from two deep cuts ...*

**Blood trickled from two deep cuts for George..*

**Book, fall to the floor.*

**The book promised to fall to the floor.*

**The book fell to the floor for Dan.*

[+con]

Kevin Kline, maintain your reputation ...

Kevin Kline promised to maintain his reputation ...

Kevin Kline maintained his reputation for the sake of the viewing public.

Run very slowly.

I promised to run very slowly.

I ran very slowly for the sake of the friend who was running with me.

Finish the novel.

I promised to finish the novel.

I finished the novel for Tom's sake.

In addition to these basic class-defining features, Dik proposes a feature [+exp] which distinguishes those SoAs “in which some animate being perceives, feels, wants, conceives, or otherwise experiences something” (p. 115). Each of the six basic classes of SoA illustrated in Table 8.2 has an experiential counterpart, as shown by the examples from the BNC given in Table 8.3.

Dik does not, however, wish to regard [\pm exp] as a feature on a par with the ones defining the basic classification. His arguments for this position are firstly that in many

Table 8.3. Examples of experiential SoAs taken from the British National Corpus

SoA type	Example
Experiential State	<i>We consider it a problem ...</i> (BNC CDR 1454)
Experiential Position	<i>I believe you.</i> (BNC JY8 936)
Experiential Dynamism	<i>He dreamed often of his sister.</i> (BNC FAT 927)
Experiential Change	<i>Then I received a shock.</i> (BNC CDM 2539)
Experiential Activity	<i>I was ruminating on his chances ...</i> (BNC CS4 1125)
Experiential Accomplishment	<i>But then someone thought up a more subtle charge.</i> (BNC G3C 1616)

languages, including English, experiential SoAs are grammatically identical to their non-experiential counterparts, so that “the opposition [\pm exp] does not necessarily have a deep impact on the grammatical organization of natural languages” (p. 116), and secondly that no special coding devices are usually found for Experiencer arguments. There are, Dik concedes, languages, such as Kannada, which do show different patterns for experiential SoAs, but only in combination with [-con]. Dik’s solution to this problem, as we shall see later, is to specify Experiencer as a secondary semantic function ‘attached’ to certain primary semantic functions.

8.1.2 Arguments and satellites

The argument/satellite distinction was introduced very briefly in Chapter 3, in terms of the optionality of satellites. Dik formulates the distinction as follows:

... a satellite can be left out without affecting the grammaticality or the meaning of the remaining construction, whereas leaving out an argument will either render the remainder ungrammatical or change its semantics. (Dik 1997a: 89)

Dik (pp. 89–90), however, realises that this simple definition may be insufficient in some cases. For example, not only satellites but also arguments can be left out if the context makes it clear what they are (as, for example, in the use of a bare imperative). Furthermore, complications arise with predicates which can be used in an ‘absolute’ sense, as for example when we use *drink* without a Goal, to mean ‘habitually consume alcohol’. The distinction between Level 1 satellites and arguments is particularly problematic, since the former affect the nature of the SoA itself. Contrast (1) below with (2):

- (1) *Noreen quickly took her from Jock.* (BNC ATE 351)
- (2) *Noreen took her from Jock.*

In (1), the manner adverb *quickly* characterises the action of taking more narrowly as a quick one, and so contributes to the specification of the SoA. Nevertheless, Dik (pp. 226–228) argues that Level 1 satellites are indeed distinct from arguments: they are still optional, they stand in a different semantic relation to the predicate from the argument (‘quickness’ is not in the same kind of relationship to *take* as are the arguments *Noreen*, *her* and *Jock*), and the possibilities for adding a particular satellite to a nuclear predication are determined not by the predicate itself (as is the case for arguments) but by the properties of the nuclear predication as a whole (e.g. certain manner satellites, such as *cautiously*, can be used only in [+con] predications). In addition, there is a grammatical test showing that Level 1 satellites, but not arguments, can be detached from the nuclear predication:

- (3) **Noreen quickly took her, and she did it from Jock.*
- (4) *Noreen took her from Jock, and she did it quickly.*

8.1.3 Nuclear semantic functions

The part played by semantic functions in the grammar is to “specify the roles which entities play within the SoA designated by the predication” (p. 117). Chapter 3 introduced certain of the semantic functions, such as Agent, Goal and Recipient. I also looked briefly at the Semantic Function Hierarchy which is claimed to determine the cross-linguistic possibilities for assignment of the syntactic functions Subject and Object to constituents bearing particular semantic functions. It was pointed out that Dik’s reconsideration of his initial specification of the Semantic Function Hierarchy led him to recast it in terms of generalisations across the particular semantic functions which can attach to arguments occupying first, second and third positions in the predicate frame.

Dik (pp. 118–121) sets out the semantic functions which can operate at each of the three positions recognised in the predicate frame. He proposes five first argument (A1) semantic functions: Agents and Positioners are the controlling entities involved in Actions and Positions respectively; an entity with Force function is non-controlling, but nevertheless instigates a Process; the Processed is the entity which undergoes a Process; and the entity which is in a particular State is given a Zero semantic function (\emptyset). In 3-place predicate frames the second argument (A2) is Goal, that entity which is affected by some controller (Agent or Positioner) or Force, while the third (A3) is Recipient, Location, Direction (the entity towards which something else moves), Source (that from which something moves), or Reference (a term in a relationship with reference to which the relation holds). 2-place frames select A2 from this set of 6 functions. In addition, Processed, Zero, Goal and Recipient can be marked as [Exp] if the SoA is also experiential. Tables 8.4 and 8.5 illustrate those combinations of semantic functions, for two and three-place predicates, which Dik (pp. 121–122) considers most common (cf. his examples (43)–(48)).

There is clearly some correlation between semantic functions and SoA types: indeed, Dik (p. 118) says: “The nuclear semantic functions of first arguments are devised in such a way as to partially reflect the typology of SoAs”. Thus, at A1, all Actions have an Agent, all Positions a Positioner, and all States an element with Zero semantic function. Note that Processes can have either Processed or Force at A1, depending on whether they are instigated by some non-controlling outside entity or not: compare *the tears ... dropped from her chin* (uninstigated Process, with Processed as first argument) and *sweat blinded him* (instigated Process, with Force as first argument) in Table 8.4.

8.1.4 Types of satellite

As we saw in Chapter 3, satellites in FG are classified according to the level at which they occur. Table 8.6 summarises the types at each level. Examples of most of these types were given in Chapter 3. Note that Direction and Source are specified as types of satellite, but were also listed as nuclear semantic functions in Tables 8.4 and 8.5: I shall come back to this point in §8.4 in the context of comparison of the three theories.

Table 8.4. Most common combinations of semantic functions for 2-place predicates, according to Dik

Combinations of semantic functions	Example
Ag Go	<i>She</i> (Ag) <i>hit the edge of the table</i> (Go) <i>with bruising force</i> ... (BNC HH1 5854)
Ag Go[Exp]	<i>He</i> (Ag) <i>frightened me</i> (Go[Exp]). ³ (BNC FSG 477)
Ag Rec	<i>Rosa</i> (Ag) <i>signalled to a waitress</i> (Rec). (BNC CB7 578)
Ag Rec[Exp]	<i>We</i> (Ag) <i>complained to them</i> (Rec[Exp]) <i>about the target</i> . (BNC A6V 1262)
Ag Loc	<i>Stephen</i> (Ag) <i>settled on his back</i> (Loc) ... (BNC G0J 468)
Ag Dir	<i>They</i> (Ag) <i>walked to the end of the road</i> (Dir) <i>together</i> . (BNC BN1 1082)
Ag So	<i>The nun</i> (Ag) <i>leapt from her seat</i> (So)... (BNC CR6 1557)
Po Go	<i>So the Brahmin</i> (Po) <i>maintains his status</i> (Go) <i>by virtue of the Untouchable sweeper who cleans up after him</i> . (BNC HH3 2662)
Po Go[Exp]	<i>Serge</i> (Po) <i>terrified her</i> (Go[Exp])... ⁴ (BNC G0V 2366)
Po Rec	<i>We</i> (Po) <i>are grateful to the English Working Group</i> (Rec) <i>for the thought it has given to assessment issues</i> . (BNC ANS 12)
Po Loc	<i>For the benefit of your readers, my mother</i> (Po) <i>resides in the Maximum Security Wing in this rest home on the outskirts of Melbourne</i> (Loc). (BNC ARJ 1663)
Fo Go	<i>The 1923 earthquake</i> (Fo) <i>devastated Tokyo</i> (Go). (BNC CAT 460)
Fo Go[Exp]	<i>Sweat</i> (Fo) <i>blinded him</i> (Go[Exp]). (BNC AMU 1092)
Fo Dir	<i>Last night the hurricane</i> (Fo) <i>moved on to Louisiana</i> (Dir). (BNC K1X 3802)
Proc So	<i>Tears filled her eyes; they</i> (Proc) <i>rolled down her cheeks and dropped from her chin</i> (So). (BNC AOR 1728)
Proc Dir	<i>Paying passengers who clung to the railings of the MS Waldstatten as the explosive charges were detonated felt scarcely a ripple as debris</i> (Proc) <i>dropped into the water</i> (Dir). (BNC AK6 79)
Zero Loc	<i>Strathbeg</i> (Ø) <i>lies on the north-east coast of Scotland</i> (Loc), ... (BNC AS7 13)
Zero Ref	<i>Fewer dollars</i> (Ø) <i>equals less support for internationally related communication projects</i> (Ref). (BNC EB9 480)

8.1.5 States of Affairs and conceptions of ‘reality’

In some approaches to the linguistic representation of ‘reality’, alternative ways of conceptualising something in the world are given the same ‘deep’ underlying analysis. This is not so in FG, which recognises different SoAs for different conceptualisations. Consider examples (5) and (6) below (cf. Dik’s example (50a), p. 123):

- (5) *President Sékou-Touré* (Ag) *gave him* (Rec) *a warm welcome* (Go). (BNC FAN 2358)

3. In the dynamic meaning of ‘He did something which frightened me’.

4. Interpreted in the static sense of ‘She was terrified of Serge’, not the dynamic sense of ‘Serge did something which terrified her’.

Table 8.5. Most common combinations of semantic functions for 3-place predicates, according to Dik

Ag Go Rec	<i>They (Ag) presented themselves (Go) to the Cuban ambassador (Rec).</i> (BNC HA1 997)
Ag Go Loc	<i>He (Ag) had put it (Go) on the draining board (Loc).</i> (BNC A0R 2864)
Ag Go Dir	<i>After dinner he (Ag) took us (Go) to the Royal College of Art (Dir)...</i> (BNC AC6 1302)
Ag Go So	<i>She unfastened her cloak and he (Ag) took it (Go) from her (So)...</i> (BNC CCD 1898)
Ag Go Ref	<i>Miss Thorne (Ag) had taught them (Go) all the names of the different stage areas (Ref).</i> (BNC CAB 3656)
Po Go Loc	<i>In our practice, we (Po) store autoclaved silicone lubricant (Go) in a 10 ml syringe (Loc).</i> (BNC FTE 130)
Fo Go Dir	<i>... the wind (Fo) blew rain (Go) into her face (Dir).</i> (BNC GW5 1080)
Fo Go So	<i>Then a fiercer gust of wind (Fo) almost blew her (Go) from the path (So)...</i> (BNC JYC 4054)

Table 8.6. Types of satellite according to level

Level	Types of satellite
1 (predicate)	manner, quality, speed, instrument, direction, source, path, beneficiary, company
2 (predication)	temporal and spatial location, circumstance (concurrency), result, purpose, reason, cause
3 (proposition)	subjective and evidential modality, other speaker comments
4 (clause)	illocutionary satellites
5	'discourse satellites', expressing relations within the text

(6) **He** (Proc) *received a warm welcome* (Go) *from President Sékou-Touré* (So).

Although both of these sentences represent the 'transfer' of a welcoming attitude from the President to the visitor, they are, as shown above, given a quite different representation in FG: the first is an Action, with an Agent, Goal and Recipient, whereas the second is a Process, the receiver of the welcome now being the Processed entity, and the giver of the welcome the Source. In the second case, the visitor is presented linguistically as subject to a Process of receiving, whereas in the first he is the recipient of an Action of giving.

A related situation is that in which we have a transitive/intransitive pair such as that in (7) and (8) (cf. Dik's examples (49a) and (b), p. 122):

(7) ... **Elinor's eyelids** (Proc) *slowly opened*. (BNC FPB 2676)

(8) **Elinor** (Ag) *slowly opened her eyelids* (Go).

In both cases, (part of) what happens in the world described is that Elinor's eyelids open. In FG, however, the two are given different analyses: in particular, the expression referring to the eyelids is the Processed element in a Process SoA in (7), but the Goal of an Action SoA in (8).

8.1.6 States of Affairs and non-verbal predication

An account of the basis of Dik's and Hengeveld's proposals for non-verbal predication involving nominal, adjectival and adpositional expression was given in §7.2.1.6. I shall therefore highlight here only those aspects which are especially relevant to the specification of States of Affairs and will be particularly important in the comparison of approaches in §8.4.⁵

It will be remembered that FG recognises that adjectival, nominal and adpositional elements,⁶ as well as verbal ones, may serve a predicative function, and that the presence of a copula (in English, typically a form of *be*) in non-verbal predications is due to the operation of an expression rule of copula support, triggered by appropriate sets of conditions. This rule is involved in the generation of the expressions highlighted in examples (9)–(12) below:

- (9) *She is happy.* (BNC AD1 1867) [adjectival predicate]
- (10) *He was a Lebanese Muslim.* (BNC ANU 920) [nominal predicate]
- (11) *I'm right behind you!* (BNC B19 2167) [adpositional predicate]
- (12) *This ecstatic thought is not the author's: it is Mary's.* (BNC EF8 1465) [possessive nominal predicate]

As evidence for the analysis of the non-verbal elements themselves as predicates, and the copula as a semantically empty carrier of grammatical information (e.g. tense), Dik cites languages which do not require copula support, but simply juxtapose the Subject and predicative element (i.e. the equivalent of *She happy*, *He Lebanese Muslim*, etc.). He also points out that in English and other languages which do have copulas, they occur only under specified conditions, and may be absent in certain types of construction:

- (13) *We consider it a problem ...* (BNC CDR 1454)

The verb *be* in existential constructions is also regarded as arising through copula support. Following Hannay (1985), Dik proposes an analysis of such constructions in which expression through a presentative device (*there* in English) is triggered by the pragmatic function of the presented entity, as a New Topic. Thus (14) below receives the skeleton analysis shown in (15):

- (14) ... *there was a quarry in the area ...* (BNC K5M 4067)

5. A more detailed treatment of non-verbal predication can be found in Hengeveld (1992a).

6. And, in Hengeveld's (1992a, 1992b, 1997b) work, also adverbial predicates.

(15) Past e: $\{(d1x_i: \textit{area} [N])_{Loc}\} (i1x_j: \textit{quarry} [N])_{\emptyset SubjNewTop}$

Note that Dik's treatment of non-verbal predication avoids the need to postulate a set of different meanings for *be* in English (property assignment, class inclusion, identification, existential). I shall return to this point in §8.4.

8.1.7 A note on complementation in FG

Complementation involving clauses as arguments takes us beyond the simplex clause, and so will not be discussed in detail here.⁷ It is worth noting, however, that Dik & Hengeveld (1991), building on earlier work by Hengeveld on layering, propose a typology of complement types according to the layer in the FG model to which the complement belongs. Clausal complementation may involve a complement at the level of State of Affairs, propositional content or speech act, and the differences are morphologically marked in some languages, such as the Khoisan language Nama. Complement clauses can be further distinguished according to whether the matrix predicate requires a particular operator to be present in the complement structure: for instance, the Spanish *darse cuenta* ('realise') requires that the operator for certainty be present in the complement clause, while the immediate perception of a State of Affairs (such as seeing someone walk down the street) requires the operator for simultaneity of the two States of Affairs. Dik & Hengeveld use their schema to distinguish four types of complementation for perception verbs: immediate perception of individual, immediate perception of State of Affairs, mental perception of propositional content, and reception of propositional content of speech act. They are also able to explain various properties of the different types of complement clause in terms of their typology.

8.2 Representing situations in Role and Reference Grammar

8.2.1 Basic principles: a reminder

In §4.10 we saw that the RRG approach to States of Affairs and their linguistic representations is characterised by the following features:

- a clear distinction is made between States of Affairs, as phenomena in the world (or some possible world), and the linguistic representations of these in terms of predicate classes and their arguments;
- States of Affairs are categorised into Situations, Events, Processes and Actions according to a scheme which goes back to Aristotle;

7. For further work on complementation in FG, see Brdar & Brdar-Szabó (1997).

- there is a set of Aktionsart classes, originally proposed by Vendler (1967), which correspond closely to the set of SoA classes: Situations are normally represented by States, Events by Achievements, Processes by Accomplishments, and Actions by Activities;
- to each Aktionsart type corresponds a logical structure constituting a lexical representation for verbs of that type, based on the principle of lexical decomposition;
- logical structures consist of predicative elements taken from a universal semantic metalanguage (as yet underdeveloped), together with elements representing change (INGR, BECOME), and slots for the arguments of predicates;
- just as SoAs are kept distinct from the ways in which they are represented in language, so the participants in SoAs are clearly distinguished from the thematic roles played by arguments in a logical structure;
- thematic relations are claimed to be predictable from the positions of arguments in the logical structures for particular Aktionsart types;
- thematic relations can be grouped into two superordinate macroroles, Actor and Undergoer, on the basis of similar treatment in the grammars of languages of various types;
- there is a universal hierarchy of markedness (the Actor-Undergoer Hierarchy) which determines the assignment of arguments as Actor or Undergoer, when a choice is available.

In the present section, I shall go into more detail about these matters than was appropriate in Chapter 4. The discussion is based closely on Van Valin & LaPolla (1997: Chapters 3 and 4), to which all page numbers refer unless otherwise specified.

8.2.2 States of Affairs and their linguistic representations

Consider the following sentence of English:

(16) *He smashed the windscreen with one bullet ...* (BNC G0L 3647)

Example (16) presents a particular State of Affairs which we may characterise in terms of some male person firing one bullet towards the windscreen, thereby breaking the windscreen. As Van Valin & LaPolla (p. 87) show in relation to a similar example, there are other ways in which this particular SoA could have been expressed in English, such as those below:

(17) *He smashed the windscreen.*

(18) *One bullet smashed the windscreen.*

(19) *The windscreen smashed.*

Furthermore, we could have chosen a different verb (e.g. *shatter*) to encode the breaking action. We see, then, that the language user has a number of different ways of encoding any particular SoA (i.e. some phenomenon in the world under description) in his or her language, and these different encodings represent different angles on the SoA: (17) omits

the instrument used to break the windscreen, (18) omits the agent, and (19) omits both. Now consider example (20):

(20) *Someone smashed the lock with a tool of some kind ...* (BNC CEB 1490)

By far the most likely interpretation of (20) is in terms of physical contact between a tool (wielded by someone) and the lock, causing the lock to break. It is also conceivable, however, that the sentence represents a different SoA, in which someone throws the tool at the lock, thereby breaking it. In English, both SoAs are represented in terms of the same verb *smash* (or by *shatter*, etc.). Thus while we saw earlier that one SoA could be represented in different ways in English, we now have an example of the reverse of this: a given linguistic expression may represent more than one SoA.

As Van Valin & LaPolla (pp. 88–89) observe, the situation is very different in some other languages, such as Lakhota. In Lakhota, the kind of object broken and the means of breaking are obligatorily reflected in the linguistic form chosen. For instance, the equivalent of 16 would have to contain the verb stem *-blečha*, which is used for the breaking of flat, brittle objects such as windows, as opposed to long, thin objects such as sticks. Furthermore, the equivalents of both (16) and the disfavoured interpretation of (20) would have to contain the instrumental prefix *wo-*, used for action at a distance (shooting, throwing, etc.), while the most likely interpretation of (20) would have the prefix *ka-*, reflecting the fact that there is contact between the tool and the lock. Lakhota thus requires the expression of aspects of the SoA which remain uncoded in English.

Here is another example of this phenomenon, this time taken from Spanish:

(21) *Y la mujer española es más guapa que la mujer*
 And the woman Spanish be-PRES.3SG more beautiful than the woman
 europea ...

European

(Referencia AHUM001A.ASC)

‘And the Spanish woman is more beautiful than the European woman ...’

(22) ... *está más guapa que nunca Vaitiare.*
 be-PRES.3SG more beautiful than never Vaitiare

(Referencia CENT002B.ASC)

‘Vaitiare is more beautiful than ever.’

Note that English uses just one verb, *be*, for expressing ‘being beautiful’ in both sentences, while Spanish uses two different verbs: *ser* in (21), because beauty is seen as an inherent property of the Spanish woman; but *estar* in (22), because Vaitiare’s beauty is seen as a non-inherent property subject to change.

We see, then, not only that a single language has many-to-many mappings between SoAs and linguistic representations, but also that languages may differ greatly in terms of which aspects of the SoA must be encoded, and how. Such considerations motivate very clearly the distinction, in RRG, between States of Affairs in the world and their linguistic expression.

8.2.3 The RRG typology of States of Affairs and their participants

Table 8.7 presents the four basic types of States of Affairs proposed in RRG (see Van Valin & LaPolla 1997:83), with glosses and examples of each type. To each of these basic types corresponds a derived class, in which the SoA is induced by another State of Affairs. Table 8.8 gives examples of possible combinations of inducing and induced SoA types. The

Table 8.7. Basic types of States of Affairs in RRG

State of Affairs type	Gloss	Examples
Situation	Static, non-dynamic, involving location, state, condition or internal experience of participant	Matt being in the room Jean feeling cold Harry disliking anchovies
Event	Seem to happen instantly	a glass shattering a bomb exploding a stick snapping
Process	Involve change and take place over time	a liquid turning red an apple falling from a tree butter melting
Action	Dynamic, involving a participant doing something	a ball soaring into the air Paula eating a pizza Ayesha running

Table 8.8. Induced SoAs

Inducing ↓ Induced →	Situation	Event	Process	Action
Situation	Kim's being angry frightening John*	Friction against a rock being too great snapping a rope	The temperature being too great causing an ice-cream to melt	House prices being high making Ursula decide not to move house
Event	a bomb exploding worrying Fred*	a bomb exploding causing a building to collapse	a volcano erupting causing the temperature to rise	a building collapsing causing the inhabitants to move out
Process	Pat getting better making Sue happy*	stress in a metal building up shearing the metal	electricity flowing through a wire heating the wire up	inflation increasing causing government to change interest rates
Action	a baby's crying upsetting his mother*	Hugo putting a pin in the balloon popping the balloon*	Mary heating the water turning it to steam*	Pedro's stepping on Marcos' toe causing Marcos to yell out*

ones marked with an asterisk are those which Van Valin & LaPolla (p. 84) claim are the most common.

Table 8.9. Participants in States of Affairs

Participant role	Gloss	Examples
Agent	Willful, purposeful instigator of action/event	Paula eating a pizza Ayesha running
Effector	Doer of action, may or may not be willful or purposeful	Jorge breaking a chair accidentally The cat unravelling a ball of wool
Experiencer	Sentient being experiencing internal state	Jean feeling cold Harry disliking anchovies
Instrument	Normally inanimate entity manipulated by agent in carrying out an action	Gerry cutting wood with an axe Sara severing a rope with a knife
Force	Non-manipulable inanimate instigator of an action	A hurricane destroying property
Patient	Entities which are in a state/condition, or undergo a change of state/condition	My father being old A liquid turning red
Theme	Entities which are located or undergo a change of location	Matt being in the room A novel being placed on the table
Benefactive	Participant for whose benefit an action is performed	Pat knitting a sweater for Chris Natasha collecting the mail for Jonathan
Recipient	Animate or quasi-animate entity who gets something	Omar giving a bone to the dog The president presenting a prize to the winner
Goal	Destination, often inanimate	Juanita sending a parcel to London Fatima taking her son to school
Source	Point of origin of State of Affairs	Josh driving all the way from Paris Kathy buying a car from Susie
Location	Place of State of Affairs	The Eiffel Tower being in Paris A novel being on the table
Path	Route	Geoff driving along the main road to the Post Office Candice rolling the ball down the path to the front door of the house

The participants in SoAs have roles to play in these SoAs. A list of 13 common roles is given by Van Valin & LaPolla (pp. 85–86). Their definitions of these roles are summarised in Table 8.9, in which examples of each participant role are also given. Note that entities can sometimes have two roles simultaneously: for instance in the SoA ‘Kathy buying a car from Susie’, Kathy is both Agent and Recipient.

Now that the RRG account of SoAs and their participant roles has been summarised, the question arises as to which of these is primary: is the typology of SoAs basic, with the participant roles derived from the class of SoA, or are the roles themselves fundamental? Van Valin & LaPolla (p. 89) adopt the former position, on the grounds that the role played by a participant in a SoA always depends crucially on the nature of that SoA.

8.2.4 Arguments, adjuncts and argument-adjuncts

We saw in Chapter 4 that RRG postulates a distinction, within clauses, between two basic elements, core and periphery, which are syntactic units, though semantically motivated. The core contains the nucleus (which in turn houses the predicate) and the core arguments of the predicate (direct and oblique), while the periphery contains any non-arguments (adjuncts) and sometimes arguments of the predicate which cannot be considered core arguments. This model of clause structure is known as the ‘Layered Structure of the Clause’. In this section, I shall go into these distinctions in rather more detail. Van Valin & LaPolla claim that the Layered Structure of the Clause is universal:

This scheme is universal because every language makes a distinction between predicates and arguments, and every language distinguishes between NPs/PPs which are arguments of the predicate and those which are adjuncts. (Van Valin & LaPolla 1997: 27)

Van Valin & LaPolla’s account provides numerous instances of the fact that the syntactic properties of core arguments differ from those of adjuncts. Evidence for this claim can also be adduced from the differences in their coding. Consider the following example from English:

(23) ... *his parents had given him an awful sweater for his birthday* ... (BNC A0R 1472)

Here, *his parents*, *him* and *an awful sweater* are all core arguments of the predicate: they fill variable slots, all of which appear in the logical structure for *give*. In English, a NP which is not marked adpositionally is normally a core argument. On the other hand, *for his birthday* is adpositionally marked, and does not correspond to any variable in the logical structure for *give*: the semantics of giving in English does not include any reference to the time or purpose of giving. This PP, then, represents an adjunct, and there is no way in which it can be made into a core argument. Now consider the following variation on (23):

(24) ... *his parents had given an awful sweater to him for his birthday* ...

The NP *him* still has the same semantic relation to the rest of the clause as in (23): it is still a core argument of the predicate, showing that adpositional marking does not necessarily

mean that something is an adjunct. *Him* in (24) is an oblique core argument, introduced by the argument-marking adposition *to*, whereas in (23) it is a direct core argument.

We also saw in §4.11.1 that there is a third class of entity, labelled argument-adjuncts, which appear when a predicate which basically encodes an Activity is combined with a Goal (i.e. a directional phrase) which converts it into an Accomplishment: running is an Activity, but running to the end of a field is an Accomplishment.

In head-marking languages, where NPs are not case-marked, but in which there is cross-referencing of arguments on the verb, peripheral elements are not cross-referenced. Van Valin & LaPolla (1997:30) give examples from Lakhota; the following are from McGregor's corpus of Gooniyandi:

- (25) (= McGregor's 3–41, 1990a: 158)
girili waraari ngilangoowa
 tree it-stands eastern-end
 'The tree stands on the eastern end (of a row of trees).'
- (26) (= McGregor's 3–37, 1990a: 156)
ngamoo nganyi marlami -ya ngaragbidda boojabij
 before me nothing LOC they-made-it post-office
 'Before my time they built the old post office.'

Note that while arguments such as *girili* in (25) and *boojabij* in (26) are cross-referenced on the verb, the adverbial *ngilangoowa* in (25) and the appositional complex of adpositional phrase and temporal adverbial in (26) show no cross-referencing.

8.2.5 The lexical representation of verbs and their arguments

8.2.5.1 Predicate classes according to Aktionsart

As we have seen, RRG follows the classification of predicating elements proposed by Vendler (1967) in terms of 'Aktionsart' (form of action), based on the inherent temporal properties of such elements. Four basic Aktionsart classes (State, Achievement, Accomplishment, Activity) are recognised, differing on the three dimensions static/non-static, temporal boundedness (i.e. telicity) and whether or not the predicate codes an instantaneous State of Affairs. Table 8.10 below is based on the information in Van Valin & LaPolla (1997:93, example (3.12)).

Table 8.10. Feature analysis of basic Aktionsart types

Aktionsart type	Static	Telic	Punctual
State	+	–	–
Activity	–	–	–
Accomplishment	–	+	–
Achievement	–	+	+

Thus States differ from the other three classes in not encoding ‘happenings’; Accomplishments and Achievements differ from Activities in having an inherent end-point (and States are classified as non-telic since there is no ‘happening’ which can reach an end-point); and Achievements alone are punctual (instantaneous) rather than durative.⁸

Clearly, the four Aktionsart classes for predicates correspond closely to the four primary States of Affairs types: Situations are encoded as States, Events as Achievements, Processes as Accomplishments, and Actions as Activities (Van Valin & LaPolla 1997:92). An important distinction is made between the basic meaning of a predicate, as found in the lexicon, and the meaning which that predicate may have in an actual clause. For instance, the verb *walk* is basically an Activity predicate: walking is itself a temporally unbounded ‘happening’. Now consider the following example, presented earlier in Table 8.4:

(27) *They walked to the end of the road together.* (BNC BN1 1082)

Here, the inclusion of the prepositional phrase *to the end of the road* converts the basically non-telic predicate into a telic one, and the Aktionsart type is Accomplishment rather than Activity. This type of use is termed Active Accomplishment by Van Valin & LaPolla (p. 100).

Just as each primary States of Affairs class has a causative counterpart, so does each Aktionsart class. Table 8.11 gives an example, from the British National Corpus, of each of the basic and derived Aktionsart classes.⁹

Some of the Aktionsart distinctions have clear morphological reflexes in some languages. McGregor’s Gooniyandi corpus contains the following consecutive utterances (McGregor 1990a:580, his examples (53) and (54)):¹⁰

8. This classification differs in important ways from that given in Van Valin (1993b), which follows the Vendler/Dowty proposals more closely, in that the class corresponding to the LS type BECOME predicate’ (x) or (x,y) is labelled Achievement rather than Accomplishment, whereas Accomplishments in the earlier account involve causation and so come under the Causatives of the 1997 treatment. The revisions in the later account appear to have been motivated by the fact, noted by Van Valin (1993b: 154), that Dowty assumed all Achievement verbs (in the earlier sense) were punctual, whereas this is not in fact the case, so that Van Valin (1993b) divides such verbs into durative and punctual subclasses. The current RRG account, as we have seen, realigns the definitions in such a way that Achievements are indeed defined, using INGR, so that they are all punctual, while Accomplishments, defined with BECOME, are non-punctual. Furthermore, Causatives are now shown to be possible for all four types of predicate class.

9. Examples such as *He pushed open the door* (BNC ASS 72), which have causative semantics, are treated syntactically in RRG as complex sentences, and are therefore dealt with in Chapter 3 of Part 2.

10. The meanings of the abbreviations in the literal translations are as follows: 1R: 1st person non-singular restricted (includes traditional 1st person dual inclusive, dual exclusive, plural exclusive); N: nominative; +MI: classifier for telic verbs with the semantics of ‘effect’; LOC: locative; 3pl: 3rd person plural; +ADDI: classifier for telic verbs with the semantics of ‘put’; pa: paucal number enclitic; INF: infinitive; +I: classifier for ‘extendible’ (i.e. non-telic) verbs with semantics ‘go, be’; REP: repetition; +A: classifier for ‘extendible’ (non-telic) verbs with semantics ‘extend’.

Table 8.11. Basic and causative Aktionsart classes

Basic Aktionsart class	Example: basic	Example: causative
State	<i>The general public were frightened, ...</i> (BNC CE7 1267)	<i>The look in his eyes frightened her.</i> (BNC B1X 2414)
Activity	<i>... tears of frustration rolled down her cheeks.</i> (BNC HHB 3975)	<i>He rolled the coin ...</i> (BNC FP7 970)
Achievement	<i>A mortar bomb exploded some distance away.</i> (BNC ACE 3740)	<i>On Jan. 10 the IRA exploded a bomb in Whitehall in London, ...</i> (BNC HLF 2115)
Accomplishment	<i>The door opened, ...</i> (BNC BP7 1384)	<i>He opened it slowly ...</i> (BNC EF7 569)
Active Accomplishment	<i>They walked to the end of the road together.</i> (BNC BN1 1082)	<i>A solitary man walked his dog home ...</i> (BNC HR9 2432)

(28) *gaj -gaj -jinmi: bagi -ya dagoodd -winaddi -ddi wili*
 chop chop (1R)N+MI bag LOC insert (3PL)N+ADDI pa finish
nyamani bag
 big [bag]
 ‘We chopped it up, and put it into a bag, a big bag.’

(29) *ngiwawoo wandaj -mawoo ward -ji ngidi ngirndaji -ya -nyali*
 to-south carry INF go (3SG)N+I we this LOC REP
warang -jiddi
 sit (1R)N+A
 ‘He went south carrying it, while we stayed here still.’

Note that the telic nature of the predicate *gaj*, ‘chop (up)’, (in its reduplicated form, here) in (28) is indicated by the addition of a suffix containing a form of the classifier for telic verbs whose semantics are concerned with effects on things, and that similarly the telic nature of *dagoodd*, ‘insert’ is indicated by a suffix containing a form of the classifier for telic verbs concerned with actions of putting. Contrast this with the predicate *warang*, ‘sit’, in (29), which carries a suffix containing a form of the classifier for non-telic verbs with semantics related to extension.

Van Valin & LaPolla give a set of tests, some of them taken from Dowty (1979), which, taken in combination, are claimed to distinguish the various Aktionsart classes shown in Table 8.11. These tests are summarised in Table 8.12, which is based on information given in Van Valin & LaPolla’s Tables 3.1 and 3.2 (pp. 94 and 101). In the column labels, ‘+’ is to be interpreted as ‘occurs together with’, the asterisk indicates a case where a proviso is necessary, and 0 indicates a test which is irrelevant to a particular Aktionsart type. Note that co-occurrence with *vigorously/actively* is claimed to isolate [+dynamic] predicates within the [-static] group: i.e. these adverbs modify actions, and only Activities

are actions (p. 95). Below, the tests are applied to each of the non-causative examples in Table 8.11.¹¹

State

the general public were frightened (note that it is only the adjectival sense of *frightened* that is at issue here and in the following tests, not the verbal sense, which would be a Causative State)

**the general public were being frightened*

**the general public were vigorously frightened*

**the general public were quickly/slowly frightened*¹²

the general public were frightened for an hour/spent an hour being frightened

[Note that only predicates coding non-inherent properties (properties such as being afraid, being thirsty, but not, for example, being tall) can take *for*-expressions, hence the asterisk by this test for States in Table 8.10.]

**the general public were frightened in an hour*

Activity

tears of frustration rolled down her cheeks

tears of frustration were rolling down her cheeks

?*tears of frustration rolled vigorously down her cheeks*

tears of frustration ran quickly/slowly down her cheeks

tears of frustration rolled down her cheeks for five minutes

**tears of frustration rolled down her cheeks in an hour*

Achievement

A mortar bomb exploded some distance away.

**A mortar bomb was exploding some distance away.*

**A mortar bomb exploded vigorously some distance away.*

*A mortar bomb exploded *quickly/*slowly/instantly some distance away.*

11. Note that Van Valin & LaPolla hold that the 'for + time' test is irrelevant to all types of Accomplishment, since it tells us nothing more about Accomplishments than does the pace adverb test, both being tests for [-punctual]. The test is not applied to Accomplishments in the examples which follow. Note also that [+dynamic] does not have the same interpretation in RRG and FG.

12. Note that preposing of the speed adverb produces a marginally acceptable sentence: *Quickly, the general public were frightened*. But as Dik (1997a: 108) points out in a discussion of this type of test, the sentence with preposed adverb indicates not that the SoA itself is in some way quick, but that the period up to the establishment of the SoA is brief.

Table 8.12. Tests for Aktionsart classes of predicate

Test →	+Progressive	+vigorously, actively, etc.	+quickly, slowly, etc.	+X for <time period> spend <time period>	+X in an hour	Causative paraphrase with same no. of NPs
Property tested → Aktionsart class ↓	[-static, -punctual]	[+dynamic]	[-punctual] (applies only to [-static])	X-ing [-punctual]	[+telic]	[+causative]
State	-	-	-	+*	-	-
Activity	+	+	+	+	-	-
Achievement	-	-	-*	-	-*	-
Accomplishment	+	-	+	0	+	-
Active Accomplishment	+	+	+	0	+	-
Causative State	+*	+*	-	+	-	+
Causative Activity	+	+	+	+	-	+
Causative Achievement	-	+*	-*	-	-*	+
Causative Accomplishment	+	+*	+	0	+	+
Causative Active Accomplishment	+	+	+	0	+	+

[Note that Achievements are compatible with time expressions indicating extremely short duration, hence the asterisk for this test with Achievements in Table 8.12.]

**A mortar bomb exploded for an hour/a minute some distance away.*

*A mortar bomb exploded *in an hour / *in a minute/ in an instant some distance away.*

[Note again the compatibility with time expressions indicating extremely short duration, hence the asterisk for this test with Achievements in Table 8.12.]

Accomplishment

The door opened.

The door was opening.

**The door opened vigorously.*

The door opened quickly/slowly.

The door opened in a few seconds.

Active Accomplishment

They walked to the end of the road together.

They were walking to the end of the road together.

They walked vigorously to the end of the road together.

They walked quickly/slowly to the end of the road together.

They walked to the end of the road together in an hour.

Van Valin & LaPolla (p. 97) claim that “[t]he causative classes all respond to the tests [...] in the same way as the non-causative ones”. However, their Table 3.2, information from which is included in Table 8.12 above, shows that this is not strictly accurate, in that Causative States, but not basic States, can (with provisos) take the progressive and adverbs of the *vigorously* type, and Causative Achievements, but not basic Achievements can (again with provisos) also take *vigorously*. The reason, as Van Valin & LaPolla point out, is that the progressive and adverbs are modifying the causative part of the complex predicate, not the basic part. The tests, including that of causative paraphrase, are applied below to the causative examples in Table 8.12.

Causative State

The look in his eyes frightened her.

The look in his eyes was frightening her. (= was causing her to be frightened)

**The look in his eyes vigorously frightened her.*

The look in his eyes quickly frightened her.

[Note that according to Van Valin & LaPolla, this should be unacceptable; however, it seems perfectly acceptable under the interpretation ‘quickly caused her to be frightened’, as we might expect from the fact that causation can be durative. This suggests that the corresponding entry in Table 8.12 should be modified.]

The look in his eyes frightened her for several minutes.

**The look in his eyes frightened her in several minutes.*

The look in his eyes caused her to be frightened.

Causative Activity

He rolled the coin.

He was rolling the coin.

He rolled the coin vigorously.

He rolled the coin quickly.

He rolled the coin for half a minute.

**He rolled the coin in half a minute.*

He caused the coin to roll.

Causative Achievement

On Jan. 10 the IRA exploded a bomb in Whitehall in London.

**On Jan. 10 the IRA were exploding a bomb in Whitehall in London.*

?On Jan. 10 the IRA exploded a bomb vigorously in Whitehall in London.

[Note that the oddity of this sentence is due to the fact that *explode* in itself encodes a component of violence, so that the addition of adverbs such as *vigorously* seems tautological. With many other Causative Achievement predicates, such as *break* or even *shatter*, this problem would not arise, or would at least be less severe.]

*On Jan. 10 the IRA exploded a bomb *quickly / instantly in Whitehall in London.*

**On Jan. 10 the IRA exploded a bomb for an hour in Whitehall in London.*

*On Jan. 10 the IRA exploded a bomb *in an hour / in an instant in Whitehall in London.*

On Jan. 10 the IRA caused a bomb to explode in Whitehall in London.

Causative Accomplishment

He opened it slowly.

[Note that the example itself demonstrates the admissibility of a pace adverb.]

He was opening it slowly.

*He vigorously opened it (*slowly)*

[Note that the two manner adverbs would be semantically incompatible here, but this does not affect the fact that the opening action can occur vigorously.]

He opened it in ten seconds.

He caused it to open slowly.

Causative Active Accomplishment

A solitary man walked his dog home.

A solitary man was walking his dog home.

A solitary man vigorously walked his dog home.

A solitary man walked his dog home in half an hour.

A solitary man caused his dog to walk home.

8.2.5.2 Lexical representations for predicates

As we saw in Chapter 4, the semantic predicate/argument structure of a clause is represented in RRG as a ‘logical structure’. Each Aktionsart class of predicate has its own schematic logical structure, consisting of elements of a universal semantic metalanguage. These elements include constants (usually predicates) written in bold and followed by a prime (e.g. **do**’, **feel**’), the predicate modifiers INGR and BECOME, and variables (x, y, etc.) for arguments. In the specification of the logical structure for a predicate as actually used in a particular clause, the argument variables are replaced by their values in that clause, and there may also be modifications to the logical structure of the predicate as found in the lexicon since, as we have seen, the presence of other elements in the clause can lead to changes in the properties of the predicate (e.g. the use of an Activity predicate such as *eat* in a context such as *she ate the food* (BNC HNJ 2821), where the presence of the referential NP *the food* converts the basic Activity to an Active Accomplishment – see Van Valin & LaPolla, pp. 111, 122).

The simplest predicates of all are those representing States.¹³ On the basis of work by Schwarz (1993), a distinction is made between those States which are a result of some kind of process, and those which encode inherent properties, in identificational or attributive uses (Van Valin & LaPolla pp. 102–103). Van Valin & LaPolla (p. 103) cite evidence for the need to distinguish the two types of predication, from Tagalog, in which the result predicate is coded by prefixation of the State verb, while predicates encoding inherent properties are not morphologically marked. Evidence is also provided by Spanish: consider the examples in (30) and (31):

- (30) *Mi corazón está destrozado y no*
 My heart be-PRES.3SG destroy-PAST.PART and NEG
puede amar.
 be-able-PRES.3SG love
 (Referencia CENT014A.ASC)
 ‘My heart is destroyed and cannot love.’

- (31) ... *como Salamanca no es muy grande, ...*
 ... as Salamanca NEG be-PRES.3SG very big, ...
 (Referencia CCON019A.ASC)
 ‘... as Salamanca isn’t very big, ...’

The adjectivally-used past participle *destrozado* in (30) indicates a state of being which is a consequence of some past process – some prior situation has caused the speaker’s

13. Note, however, that even these need to be subjected to further decomposition in order to capture the more detailed properties of stative predicates: for a discussion of this in relation to the English verb *remember* and its counterparts in the Australian Aboriginal language Mparntwe Arrernte, see Van Valin & Wilkins (1993).

heart to be (metaphorically) destroyed. In (31), however, the adjectival phrase *muy grande* represents an inherent property which is lacking in Salamanca. Note that the two uses are clearly distinguished in Spanish by the use of *estar* as the copula in the case of the result predicate, and *ser* in the case of the predicate representing an inherent property.

A result State is represented simply as **predicate'** (x) or **predicate'** (x, y), according to the number of arguments. The logical structure for the State in the first clause of (30) is thus as follows:¹⁴

(32) **destroyed'** (my heart)

On the other hand, for inherent States in identificational or attributive predications a universal predicate symbolised as **be'** is postulated, so that (31) is given the representation in (33):

(33) NOT **be'** (Salamanca, [**big'**])

where NOT is the negation symbol and **big'** is embedded as the second argument of **be'**, this status being indicated by the square bracket notation. Note that the occurrence of **be'** does not mean that a copula will necessarily be present in the clause, but merely signals attributive or identificational meaning: a language such as English will have a copula (arising as a realisation of Tense and Illocutionary Force operators), one such as Lakhota will not. It is thus the **pred'** element acting as the second argument of **be'** which fills the nucleus element of the clause (Van Valin & LaPolla 1997: 103, based on Schwartz 1993).

State predicates encoding internal sensations and transient emotional states have the structure **feel'** (x, [**pred'**]):

(34) ... *me siento orgulloso* ... (Referencia PPOL019B.ASC)
 ... REFL feel-PRES.1SG proud
 '... I feel proud ...'

(35) **feel'** (I, [**proud'**])

All logical structures for Activities contain the generalised Activity predicate **do'** (x, y):

(36) ... *she smokes cigars* ... (BNC KD6 4173)

(37) **do'** (she, [**smoke'** (she, cigars)])

Van Valin & LaPolla (p. 104) justify this analysis on the grounds that certain languages, such as Basque, have a verb which lexicalises the generalised Activity marker, and is used in combination with nouns to create intransitive verbal predicates (e.g. *amets egin*, literally 'dream do', *barre egin*, 'laugh do'). English, of course, also lexicalises the generalised Activity predicate, as *do*, in questions such as *What did you do?*

14. As was noted in §6.2.2.2, predicates such as **destroyed'** are merely placeholders for an eventual representation involving more detailed decomposition.

Achievement logical structures are derived from State or Activity predicates by means of the modifier INGR, which creates a punctual change of state. (38) has the analysis in (39), where **exploded**' is a resultative State predicate:¹⁵

(38) *A mortar bomb exploded ...* (BNC ACE 3740)

(39) INGR **exploded**' (mortar bomb)

Van Valin & LaPolla (pp. 104–105) cite evidence from various languages for the combination of INGR with Activity predicates (e.g. Russian *plakat'* (cry), *zapakat'* (burst out crying)).

Accomplishments are derived from States and Activities by means of the modifier BECOME, which indicates a change over a time span.

(40) *The door opened.* (BNC BP7 1384)

(41) BECOME **open**' (door)

Evidence is presented for the combination of BECOME with Activity predicates in, for example, Russian (*govorit'* (speak), *zagovorit'* (start to speak)).

Many verbs code States of Affairs (e.g. *break* or *thaw* in English) which can range over time spans from almost instantaneous to clearly durative, and these are seen by Van Valin & LaPolla (p. 106) as basically Accomplishment rather than Achievement verbs, on the grounds that a marked feature such as [+punctual] should apply only to those predicates which always encode the property in question, whereas it is accepted that the unmarked member of an opposition, such as [–punctual], can cover a wider range.

Active Accomplishments, which encode SoAs in which an Activity leads to a new State, are represented schematically as **do**' (x, [**predicate**₁' (x) or (x, y)]) & BECOME **predicate**₂' (z, x) or (y).

(42) *They walked to the end of the road.* (BNC BN1 1082)

(43) **do**' (they, [**walk**' (they)]) & BECOME **be-at**' (end of the road, they)

The logical structures of causative verbs contain the element CAUSE, which takes a whole logical structure as its first argument, and a State, Activity, Achievement, Accomplishment or Active Accomplishment logical structure as its second argument.

(44) *If I was still having the baby I daresay I'd consider it, but losing it made it quite clear to me that I didn't want what he offered.* (BNC CB5 689)

(45) [BECOME NOT **have**' (I, baby)] CAUSE [BECOME **clear**' (I not want what he offered)]

15. The examples which follow are the corpus-based examples in Table 8.11, but with non-arguments in the logical structures excluded, as they are irrelevant to our present concerns.

Where the cause appears to be an entity, the causing predication indicates that this entity did some unspecified action (i.e. the second argument of the *do'* predicate is null), so causing the SoA in the second predication. Some examples are given below.

- (46) *It broke his nerve.* (BNC B24 797)
 (47) [*do'* (it, Ø)] CAUSE [BECOME **broken'** (his nerve)]
 (48) *He rolled the coin.* (BNC FP7 970)
 (49) [*do'* (he, Ø)] CAUSE [*do'* (coin, [**roll'** (coin)])]
 (50) ... *the IRA exploded a bomb ...* (BNC HLF 2115)
 (51) [*do'* (IRA, Ø)] CAUSE [INGR **exploded'** (bomb)]
 (52) *He opened it ...* (BNC EF7 569)
 (53) [*do'* (he, Ø)] CAUSE [BECOME **open'** (it)]
 (54) *A solitary man walked his dog home ...* (BNC HR9 2432)
 (55) [*do'* (solitary man, Ø)] CAUSE [*do'* (dog, [**walk'** (dog)])] & BECOME **be-at'** (home, dog)]

8.2.5.3 Thematic relations

In §4.10, we saw that RRG makes a very important claim regarding thematic relations, i.e. the semantic relationships between predicates and their arguments, namely that these relations are totally predictable from the logical structures of predicates. Since the logical structures themselves relate to particular classes of predicate, and since there are tests for these classes (see §8.2.5.1), thematic relations are not arbitrarily assigned, but motivated.

Van Valin & LaPolla (1997:115) provide a non-exhaustive list of thematic relations defined in terms of their positions in the logical structures corresponding to particular classes and sub-classes of State and Activity predicate.¹⁶ For this purpose, they suggest a more fine-grained classification of States and Activities than I have discussed so far. Table 8.13 presents the definitions of the thematic relations proposed for States, and Table 8.14 those for Activities, based on information in Van Valin & LaPolla's Table 3.5.

The examples below illustrate a selection of these thematic relations.

- (56) *Bernice* (PATIENT) *was tired.* (BNC HTY 2826)
 (57) *He* (THEME)'s *in the garden* (LOCATION) *at the moment.* (BNC FS2 1114)
 (58) *I* (PERCEIVER) *smell flowers* (STIMULUS) *too.* (BNC HWN 4431)
 (59) *At first I* (COGNIZER) *couldn't understand what was happening* (CONTENT). (BNC FSB 358)
 (60) *Do you* (WANTER) *want this T-shirt* (DESIRE)? (BNC KDE 1679)

16. It will be remembered that the logical structures of Achievements and Accomplishments are derived from those of States and Activities. The thematic relations implied in the logical structure for the State or Activity predicate are, of course, preserved in the structure for the derived types of predicate.

Table 8.13. Thematic relations for arguments of State predicates

Thematic relation	Definition
PATIENT	Argument of 1-place predicate of state or condition
ENTITY	Argument of 1-place predicate of existence
LOCATION	First argument of 2-place predicate of pure location
THEME	Second argument of 2-place predicate of pure location
PERCEIVER	First argument of 2-place predicate of perception
STIMULUS	Second argument of 2-place predicate of perception
COGNIZER	First argument of 2-place predicate of cognition
CONTENT	Second argument of 2-place predicate of cognition
WANTER	First argument of 2-place predicate of desire
DESIRE	Second argument of 2-place predicate of desire
JUDGER	First argument of 2-place predicate of propositional attitude
JUDGMENT	Second argument of 2-place predicate of propositional attitude
POSSESSOR	First argument of 2-place predicate of possession
POSSESSED	Second argument of 2-place predicate of possession
EXPERIENCER	First argument of 2-place predicate of internal sensation
SENSATION	Second argument of 2-place predicate of internal sensation
EMOTER	First argument of 2-place predicate of emotion
TARGET	Second argument of 2-place predicate of emotion
ATTRIBUTANT	First argument of 2-place predicate of attribution or identification
ATTRIBUTE	Second argument of 2-place predicate of attribution or identification

Table 8.14. Thematic relations for arguments of Activity predicates

Thematic relation	Definition
EFFECTOR	First argument of predicate of the generalised Activity predicate <i>do'</i>
MOVER	Argument of predicate of motion
ST-MOVER	Argument of predicate of static motion (e.g. spinning)
L-EMITTER	Argument of predicate of light emission
S-EMITTER	Argument of predicate of sound emission
PERFORMER	First argument of predicate of performance
PERFORMANCE	Second argument of predicate of performance
CONSUMER	First argument of predicate of consumption
CONSUMED	Second argument of predicate of consumption
CREATOR	First argument of predicate of creation
CREATION	Second argument of predicate of creation
LOCUS	Second argument of predicate of repetitive action (e.g. tapping)
OBSERVER	First argument of predicate of directed perception
STIMULUS	Second argument of predicate of directed perception
USER	First argument of predicate of use
IMPLEMENT	Second argument of predicate of use

- (61) *Daddy* (POSSESSOR) *has the car* (POSSESSED). (BNC CMJ 193)
 (62) *You* (EFFECTOR) *did?* (BNC KDN 999)
 (63) *A second horse* (MOVER) *sauntered into view*. (BNC BMX 1251)
 (64) *A single wall-lamp* (L-EMITTER) *glowed in the hall*. (BNC C8D 498)
 (65) *The ants* (CONSUMER) *devoured the buffalo* (CONSUMED). (BNC FAC 239)
 (66) *He* (CREATOR) *composed many Welsh hymns* (CREATION). (BNC K4E 52)
 (67) *He* (OBSERVER [in relation to watching]) *leaned over the rail and watched porpoises and gulls*. (STIMULUS) (BNC A0U 2403)

Van Valin & LaPolla (1997:126) observe that this rather large set of thematic relations can be reduced to a smaller set of basic roles, if we take into account the fact that they can be grouped in such a way that the members of each group are not in contrast with one another. No individual predicate takes more than one argument from [EFFECTOR, MOVER, ST-MOVER, L-EMITTER, S-EMITTER, PERFORMER, CONSUMER, CREATOR, SPEAKER, OBSERVER, USER], or from the group [LOCATION, PERCEIVER, COGNIZER, JUDGER, POSSESSOR, EXPERIENCER, EMOTER, ATTRIBUANT], or from [THEME, ENTITY, STIMULUS, CONTENT, DESIRE, JUDGMENT, POSSESSED, SENSATION, TARGET, ATTRIBUTE, PERFORMANCE, CONSUMED, CREATION, LOCUS, IMPLEMENT]. The first of these groups contains the possible first arguments of Activities, with a logical structure involving *do'*; the second group contains the possible first arguments of *pred'* (x, y); while the third contains the possible second arguments of such a structure. And these in turn correspond to positions on the Actor-Undergoer Hierarchy, as shown in Figure 4.12 of Chapter 4, and repeated for convenience below:

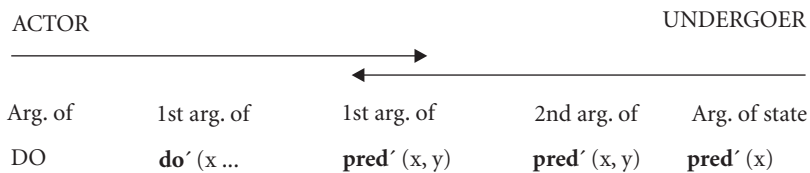


Figure 8.1. The Actor-Undergoer Hierarchy (from Van Valin & LaPolla 1997: 146, Figure 4.2)

We thus have just three distinct types of contrasting thematic relations between the end-points constituted by the AGENT argument of DO and the PATIENT argument of a one-place State predicate.

As the EFFECTOR is the first argument of the generalised predicate *do'* which appears in all Activities, the other first argument relations in Table 8.14 are, as Van Valin & LaPolla (p. 118) note, all subtypes of EFFECTOR. This also gives us a clue to the absence, from Table 8.14, of the thematic relations of AGENT, FORCE or INSTRUMENT, again seen as derivatives of the more basic role of EFFECTOR. The discussion in Van Valin & LaPolla (pp. 118–122), based on suggestions by Holisky (1987) and Van Valin & Wilkins (1996),

implies that AGENTS are always animate entities which instigate Activities, and that they must act intentionally. Many verbs (e.g. *kill* in English) can, but need not, have an agentive interpretation, while others (e.g. *murder*) must involve an AGENT, since they encode actions which are always done intentionally by animate beings. Only in the latter case is the AGENT present in the logical structure, which then contains the configuration DO (x, [do' ...]), as shown below.

(68) *Finally, the KGB* (AGENT) *assassinated a dozen members of our group* (PATIENT) *as a warning to the others.* (BNC CDA 1701)

(69) DO (KGB, [do' (KGB, Ø)]) CAUSE [BECOME dead' (members)]

FORCES are inanimate EFFECTORS which can act independently of any other EFFECTOR:

(70) *Indian earthquake* (FORCE) *kills 20* (PATIENT). (BNC K22 625)

An INSTRUMENT is always under the control of another EFFECTOR, even if that EFFECTOR is not mentioned:

(71) ... *just before the scissors* (INSTRUMENT) *cut into the fabric that had taken hours and hours to knit* (PATIENT) (BNC CA2 659)

It will also be seen that no mention is made, in Tables 8.13 or 8.14, of the thematic relations of RECIPIENT, GOAL or SOURCE. RECIPIENTS are POSSESSORS which come to have something: in other words, the relation of RECIPIENT is captured by the presence of a POSSESSOR in a State predication modified by BECOME or INGR. Similarly, GOALS are LOCATIONS which THEMES find themselves in as a result of a process involving the modifiers BECOME or INGR. The relation of SOURCE can be captured by a very similar mechanism, but now involving NOT as well: the SOURCE is the entity which comes not to have something.

8.2.6 Semantic macroroles, valence and transitivity

In §4.10 were described the semantic macroroles Actor and Undergoer, which are generalisations across groups of specific thematic relations that are treated similarly by the grammars of languages. The prototypical Actor is an AGENT, and the prototypical Undergoer a PATIENT. Where more than one argument is available in a clause to act as Actor or as Undergoer, the Actor-Undergoer Hierarchy (see Figure 8.1) determines argument assignment to the macroroles.

As Van Valin & LaPolla (1997: 147–154) demonstrate, macroroles are implicated in the transitivity of predicates. In order to understand this, we need to distinguish between the number of semantic arguments in the logical structure of a predicate (i.e. its semantic valence) and the number of syntactic arguments the predicate takes (i.e. the number of arguments with overt morphosyntactic coding). Consider the following examples:

(72) *All night it snowed.* (BNC FAS 688)

- (73) *Rab drank a glass of water.* (BNC BNC 267)
 (74) *She drinks like a horse!* (BNC KSV 4358)
 (75) *... the celebration banquet was cooked by Elisabeth Bourgeois...* (BNC A0C 1617)

With meteorological verbs such as *snow*, there are no semantic arguments at all, but the syntax of English demands a Subject, hence dummy *it* is provided as a syntactic argument. Verbs such as *eat* and *drink* can have two overt semantic arguments, as in (73), or a null second argument, as in (74). In (75), the number of syntactic arguments is reduced from 2 in the active form to 1 in the passive, since the agentive *by*-phrase is a peripheral constituent of the clause. Nevertheless, the semantic valence remains 2, since *Elisabeth Bourgeois* remains the Actor.

Van Valin & LaPolla (pp. 148–151) argue that the notion of transitivity should not be equated with the number of syntactic arguments taken by a predicate. The argument is based on the behaviour of consumption verbs: their examples are from Italian, but I shall illustrate below from English. Compare (76) and (77):

- (76) *One of the frogs was eaten by a lizard.* (BNC CEU 1604)
 (77) *A lizard ate one of the frogs.*
 (78) *Griffin Lowe sat across the velvet banquette from Judy and they ate lobster bisque, roast lamb with watercress salad followed by caramelized, sliced oranges.* (BNC G0V 1814)
 (79) **Lobster bisque was eaten by Griffin Lowe and Judy.*

In (76)–(77), we have an Active Accomplishment use of *eat* (note that we could add, for example, *in less than a minute*), while in (78)–(79) we have an Activity use (as shown by the possibility of *they ate lobster bisque for several minutes* but not **they ate lobster bisque in several minutes*). Only the Active Accomplishment use admits the passive: in effect, the Activity use behaves intransitively. Van Valin & LaPolla postulate that the differences in syntactic behaviour arise because the second argument in the Activity use is an inherent argument, specifying some inherent facet of the meaning of the verb rather than referring to a particular participant in the event. Because this argument is non-referential, it cannot be an Undergoer, since this macrorole can only be assigned to arguments representing participants which are affected in the State of Affairs. Therefore, even though (78) has two syntactic arguments, it has only one macrorole, that of Actor. Van Valin & LaPolla conclude that transitivity should be defined not in terms of the number of syntactic arguments present, but in terms of the number of macroroles, which must be less than or equal to the number of semantic arguments in the logical structure for the predicate.¹⁷

17. When necessary, the two types of transitivity can be distinguished as M(acrorole)-transitivity and S(yntactic)-transitivity.

8.3 Representing situations in Systemic Functional Grammar

As in other chapters, I shall first discuss the account given by Halliday (1994b), Matthiessen (1995) and Halliday & Matthiessen (1999), and then move on to consider the work of the Cardiff grammarians in this area.

8.3.1 Representing situations in the Sydney grammar

8.3.1.1 *Categories of ideational structure*

As in many other areas, SFG uses a rather different vocabulary from FG and RRG in discussing what I have referred to so far as States of Affairs.¹⁸ Although Halliday (1994b: 112) does mention states of affairs, the more usual equivalent of this term in *IFG* is **process**, as in the statement that “reality is made up of PROCESSES” (1994b: 106). These processes are expressed through the grammar in the systems of **transitivity**. This term is used in SFG in a much more general sense than in most approaches: it refers not just to whether a verb takes an Object or not, but to the whole of the grammar of processes in the clause.

As might be expected from Halliday’s wish to distance himself from approaches based on philosophical traditions (see §5.1.2), the terms ‘predicate’ and ‘argument’ are not used in SFG. Rather, what in other accounts would be a predicate is referred to as a **process**, in a second use of this term. The term **participant** is used for what others might call an argument, and **circumstance** for elements indicating time, place, manner and a variety of other relationships associated with the process.

Processes, participants and circumstances are said to be “semantic categories which explain in the most general way how phenomena of the real world are represented as linguistic structures” (Halliday 1994b: 109). There is thus once more some uncertainty about levels in the model: although Halliday is purportedly describing the lexicogrammar of the clause, the elements of ideational structure are said to be semantic. The situation is made even less clear by the characterisation of categories such as Actor and Goal, which are examples of participant roles and so, in conformity with the above, might be expected to be semantic, as “grammatical terms that are semantic in import” (1994b: 112). Perhaps, then, the treatment of these terms is symptomatic of the attempt to push the lexicogrammar as far as possible towards the semantics.

In Halliday & Matthiessen (1999: 52ff.), we have confirmation that we are dealing with semantic categories: the whole configuration of process, participant(s) and circumstances is seen as a **figure** in the ideation base of the semantics, whose configuration consists of roles of three basic types, process roles, participant roles and circumstance roles. Each of these types of role is filled, in the unmarked case, by a particular type of **element**, that is a process, a participant or a circumstance, so that these too are seen as semantic. Figures,

18. For a discussion of the difficulty of translating across metalanguages in this area, see Martin (1996a).

in turn, combine into **sequences**.¹⁹ It will be remembered that the model proposed in this account is one in which the ‘upper’ level of semantics is separate from, and realised by, the ‘lower’ level of lexicogrammar. If figures and their component elements are part of the semantic level, they are themselves presumably no longer part of the lexicogrammar. Does this, then, imply that the 1999 account supplants the one given in *IFG*? Are the various types of process, participant and circumstance no longer part of the lexicogrammar of the clause? We are left with no clear picture of the relationship between the two accounts. This illustrates very well the consequences of the accretional model of theory development espoused by the most central figures in SFG. As pointed out in §6.1.5, this can, and quite often does, lead to a situation in which later positions appear to be incompatible with earlier ones, but no clear line between them is traced and no explanation for apparent anomalies is offered.

Figures, in the current model, are congruently realised as clauses (and sequences as clause complexes), while elements are congruently realised as groups. However, as we saw with respect to nominalisation in §7.2.3.6, other realisational relationships are possible, and this is treated in terms of grammatical metaphor (Halliday & Matthiessen 1999: 227).

Participants and circumstances are seen as forming a continuum rather than being sharply distinguished (Halliday 1994b: 149–150; Halliday & Matthiessen 1999: 172–176). As is usual in Halliday’s work, he examines this distinction from three viewpoints: from ‘above’ the lexicogrammar, i.e. meaning; from patterning within the clause itself; and from ‘below’, i.e. patterns of realisation at group/phrase rank. In terms of meaning, typical participants are those entities which are directly involved in the process, whereas typical circumstances are ‘associated with’ or ‘attendant on’ the process (p. 150), representing, for example, location (spatial or temporal), manner, etc. As far as patterning within the clause itself is concerned, participants, as we shall see, are of different kinds in different types of process, whereas typical circumstances occur in all types of process, with much the same meaning in each. Furthermore, participants typically act within the mood structure of the clause as Subject and Complement, whereas circumstances are Adjuncts.²⁰ From the viewpoint of their relationship with structures at lower rank, participants are typically realised by nominal groups, circumstances by adverbial groups or prepositional phrases, just as processes are typically expressed in the verbal group.²¹ Once again, however, there is no one-to-one relation involved: for instance, circumstances can also be expressed by

19. Since the discussion of sequences takes us into the area of multipropositional discourse, it will be dealt with in Part 2.

20. The concepts of Subject, Complement and Adjunct will be discussed in more detail in Chapter 1 of Part 2: a brief introduction was given in Chapter 5 and §6.2.1.3.5. Here, we may simply note that Halliday (1994b: 73) claims the Subject of a declarative clause can be identified as “that element which is picked up by the pronoun in [a] tag”, while a Complement “has the potential of being Subject but is not” (p. 80), and an Adjunct “is an element that has not got the potential of being Subject” (p. 80). As we shall see, certain participant roles (Agent, Beneficiary, Range) can sometimes be realised as Adjuncts.

21. The difference between group and phrase in SFG, and the interpretation of the term ‘verbal group’, were discussed in §7.3.3.1 and §7.5 respectively.

nominal groups such as *last week*, and the *by*-phrase in a passive clause, though treated as an Adjunct, nevertheless encodes a participant (the Actor or Agent – see later discussion). Matthiessen (1995:328) provides a useful diagram showing which roles are never realised by a prepositional phrase, which roles may be realised as a prepositional phrase under certain conditions, and which are always realised in this way. The nature of the participant/circumstance distinction is summarised by Matthiessen as follows:

Participants are inherent in the process; they bring about its occurrence or mediate this occurrence. There are a number of specific ways in which a participant may take part in a process; it may act out the process, it may sense through it, it may receive through it, it may be affected by it, it may say it, and so on. The distinction between participants and circumstances is a cline rather than a sharp division, but is semantically quite significant.

Circumstances are typically less closely associated with the process and are usually not inherent in it [...]. They specify the spatial or temporal location of the process, its extent in space or time (distance or duration), its cause, the manner of its occurrence, and so on. (Matthiessen 1995:198)²²

A more detailed picture of participants, circumstances and their relationships will emerge from the discussion in the following sections.

8.3.1.2 *A typology of processes*

8.3.1.2.1 *The basic classification.* In IFG, three main types of process (in the sense of linguistic categories) are recognised: material, mental and relational. **Material** processes relate to ‘outer experience’, ‘what we experience as going on ‘out there’, in the world around us”, while **mental** processes are concerned with “what we experience as going on inside ourselves, in the world of consciousness and imagination” (Halliday 1994b:106). **Relational** processes, on the other hand, are those which relate to classification and identification. Halliday also recognises three minor types of process, each of which is intermediate between two of the major types: **behavioural** processes share some properties of material and mental types, and are concerned with how things which happen in our bodies manifest themselves outside (e.g. sneezing); **verbal** processes are claimed to be on the border between mental and relational, since they represent “symbolic relationships constructed in human consciousness and enacted in the form of language, like saying and meaning” (p. 107);²³ **existential** processes are seen as coming between relational and material types, and represent simple existence. Thus what is postulated is an arrangement of process types in a metaphorical circle, rather than some kind of linear progression. In Halliday & Matthiessen (1999:128), four ‘primary domains’ of figures are recognised: figures of doing and happening (corresponding to material processes), those of sensing (corresponding to

22. Virtually the same wording can be found in the definitions given in Halliday & Matthiessen (1999:54).

23. One might, however, want to argue that verbal processes also share properties with the material type, since they are actions – see further discussion in later sections.

mental processes), of saying (verbal processes), and being (relational processes), the last category including ‘having’ as a subpart. Examples of each type, all taken from the British National Corpus, are given in Table 8.15.

In the account given in Halliday & Matthiessen (1999:128–149), figures of sensing and saying are opposed to those of doing and being, on the grounds that only the former “have the special power of setting up other figures as second-order, semiotic reality” (1999:128–129), through the creation of projecting sequences such as those with mental processes *believe* and *think* and with verbal process *tell* in Table 8.15. Sensing and saying differ in three main ways: only sensing requires a conscious ‘Symboliser’ (books and clocks can ‘say’ something); saying, but not sensing, construes the addressee as a receiver of what is said; and saying is directional, going from the one saying to the one receiving, whereas sensing can be seen either from the perspective of the conscious participant whose involvement extends to what is sensed, or from that of the impact of what is sensed on the conscious participant. Likewise, figures of doing and being have different properties: doing, but not being, involves change over time and also requires some energy input. There is a complementarity between doing and being in the sense that doing something may result in a new state of being (e.g. washing something makes it clean).

This typology of processes is based not only on the meanings conveyed by the various types, but also on their grammatical behaviour (Halliday 1994b: 114–117, Halliday & Matthiessen 1999: 134–135).

- It is claimed that a mental process clause always contains one human participant (or at least a participant endowed with consciousness and regarded by the language user as possessing human-like qualities), who feels, perceives, thinks, etc. (*the children, Edward III, I, Philip* in the examples in Table 8.15), whereas there is no such restriction for material or relational processes.
- The second participant in some types of mental process clause can be not only a ‘thing’ (i.e. a first order entity, in the terms used in §7.2), but also a ‘metaphenomenon’, defined as “something that is constructed as a participant by projection – that is, as indirect or ‘reported’ discourse” (Halliday 1994b: 115), as, for instance, in the example with *believe* in Table 8.15. This is not, however, possible in a material process clause, where the second participant, if there is one, while it may be abstract, must be a ‘thing’.
- In English, material processes in the present tense take the progressive²⁴ as the unmarked form, whereas the simple present is unmarked for mental and relational processes. Consider the following:

(80) *The rain is hitting the windows harder now.* (BNC FP6 926)

(81) *... it hits the poor harder than the rich.* (BNC K57 1243)

(82) *Louis roars in triumph as dad hits the deck with a thud.* (BNC CH6 5036)

24. We shall see in Chapter 9 that Halliday does not use the term ‘progressive’, but rather characterises what most linguists would call the present progressive as ‘present in present’.

Table 8.15. The SFG typology of process types

Process type	Examples
Material	<i>Maxim offered the sealed envelope, Bruno took it, broke it open and passed it to her.</i> [all 4 clauses have material processes] (BNC H86 2426) <i>The door before him shook violently, ...</i> (BNC FS4 2856)
Mental	<i>... the children really like his classes.</i> (BNC KBK 1985) <i>Edward III believed that he had broken Scotland's will to resist English domination.</i> [main clause] (BNC AS7 976) <i>I think strong drink is damnation.</i> [main clause] (BNC EA5 1321) <i>Philip saw the date on one of the letters, ...</i> (BNC ABX 3363)
Relational	<i>The town square is large ...</i> (BNC ECR 525) <i>This is the doctor ..</i> (BNC FSR 517). <i>This sum equals more than half the entire health and personal social security budget.</i> (BNC FAF 261) <i>Marcus Felstead has a car.</i> (BNC GUD 2813) <i>The gallery here overlooks the yard and spans an archway.</i> [both clauses relational] (BNC AP8 659)
Behavioural	<i>I've dreamed of the moon, and of a plain of salt.</i> (BNC CH0 2911) <i>He kept thinking how nice it would be to lie in a hot bath and soak out the cold and the dirt.</i> [main clause] (BNC HRA 2374) <i>Kate listened attentively to Amanda Dawkins.</i> (BNC FAB 1430)
Verbal	<i>'Morning, prof?' he said with a loud cheerfulness.</i> (BNC AN8 12) <i>I told him there was no hope of hospitality here.</i> [main clause] (BNC CJW 400) <i>The two companies have also announced an agreement to co-operate on local network management technologies.</i> (BNC CR0 101)
Existential	<i>... there was fair stubble on his cheeks and jaw.</i> (BNC AC6 320) <i>The following day, the feast of the immaculate conception, there was a closing ceremony in St Peter's Square.</i> (BNC CRK 945)

(83) *At Barclays we understand that choosing the right savings account to suit your own particular needs can be confusing.* (BNC AYP 1269)

(84) *At last, I think we can safely say that you are understanding the situation correctly.* (BNC GUE 2793)

(80) illustrates a typical use of the material process verb *hit*, in which something which is happening at the moment of speaking is described by means of the present progressive form. The clause in (81), on the other hand, refers not to an act of hitting (in this case with extended meaning), but rather to a general observation about, presumably, some form of taxation. In (82) we have another marked use of the simple present with the material process verb, in a newspaper headline or picture caption.

Now compare examples (83) and (84): in (83) we have a perfectly usual use of the mental process verb *understand* in the simple present, whereas in (84) the implication is not simply that the addressee understands, but that s/he has come to understand the situation when previously s/he did not.

- Halliday (1994b: 116–118, Halliday & Matthiessen 1999: 134–135) demonstrates that many, though not all, mental processes can be represented in two ways in English. Some examples follow:

(85) *It pleases me very much here.* (BNC ABL 554)

(86) *I like it here.* (BNC A6T 1140)

(87) *What puzzles me is why?* (BNC H9C 1086)

(88) *Couples who thrive on conflict should remember that children may not understand the reason for their rows.* (BNC ED4 1683)

(89) *Let me see, you're the actress but the name escapes me.* (BNC ACE 603)

(90) *I forget her name.* (BNC HEU 155)

(91) *It upsets me that this happens.* (BNC G22 512)

(92) *I mind that right enough.* (BNC K6S 811)

Note that the participant roles are reversed in the two members of each pair: what pleases in (85) becomes what is liked in (86), what puzzles in (87) becomes what is not understood in (88), and so on.

- Material processes can be probed using *do*. For instance, in relation to the examples in Table 8.15, we have:

(93) *What did Maxim do? He offered the sealed envelope.*

(94) *What did Bruno do? He took it, broke it open and passed it to her.*

(95) *What did the door do? It shook violently.*

Mental and relational processes, on the other hand, are not processes of doing, and cannot be probed in this way. This is illustrated for mental processes below.

(96) *What do the children do? *They really like his classes.*

(97) *What did Edward III do? *He believed that he had broken Scotland's will to resist English domination.*

(98) *What did Philip do? *He saw the date on one of the letters.*

- Behavioural processes (Halliday 1994b: 139–140, Halliday & Matthiessen 1999: 135–136) are like the mental type in that they necessarily involve a conscious being, but are otherwise more like material processes. As Table 8.15 demonstrates, some verbs can appear in both behavioural and mental process clauses: in *He kept thinking how nice it would be to lie in a hot bath and soak out the cold and the dirt*, the verb *think* is

one of behavioural process, since the clause refers to the behaviour of thinking, and could be probed by *What did he keep doing?* On the other hand, in *I think strong drink is damnation*, the verb is one of mental process, since it encodes a mental attitude, and so cannot be probed with *do*.

- Verbal processes (Halliday 1994b: 140–142) include any kind of exchange of meaning by means of a symbolic system (thus clocks can ‘say’ what the time is, and the Bible can ‘tell’ us it is wrong to kill). In IFG they are treated as intermediate between mental and relational processes because: (i) they share some properties with mental processes, for instance the ability to project a whole clause, as in the example in Table 8.15 *I told him there was no hope of hospitality here* (cf. the mental process clause *I think there is no hope of hospitality here*); (ii) they shade off into relational processes with such verbs as *indicate, suggest, imply*.
- (99) ... *the Secretary of State each year indicates in advance what he thinks their ‘Total Standard Spending’, and their ‘Standard Spending’ on each service ought to be.* (BNC H8D 1570)
- (100) *Research indicates that low cost accident remedial measures are one of the most effective ways of achieving sustained casualty reductions.* (BNC GXJ 4085)

According to Halliday’s analysis (1994b: 142), in (99), which has a conscious first participant, we have a verbal process clause, but in 100, with a non-conscious first participant, we can paraphrase *indicates* as ‘is a sign of the fact’, and we therefore have a relational process. The treatment of verbal processes in Halliday & Matthiessen (1999: 128–132) revives an early classification (see Halliday 1968: 193) according to which processes of verbalisation are seen as a subclass of mental processes: in the latest model, figures of saying are characterised as involving exterior symbolic processing, while those of sensing involve interior symbolic processing, a distinction also made in Berry’s introduction to early SFG (Berry 1975: 152).

- Finally, existential processes (Halliday 1994b: 142–144) are those which, in English, are signalled by existential *there*. Typically they occur with *be*, and so resemble relational processes, but other verbs such as *remain, occur, follow, lie* (in its locational meaning) can also occur. Because there is little difference in meaning between the existential clause *there was a closing ceremony in St Peter’s Square* (see Table 8.15) and the material clause *a closing ceremony took place in St Peter’s Square*, Halliday treats existential processes as being intermediate between relational and material types.

8.3.1.2.2 Distinctions within basic classes.

8.3.1.2.2.1 Material processes. Within the category of material processes, Halliday (1994b: 111, Halliday & Matthiessen 1999: 148) distinguishes between a ‘dispositive’ type, which is the kind illustrated so far, and a ‘creative’ type, in which the existence of some entity is brought about by the process, as in building a house or baking a cake.

8.3.1.2.2.2 Mental processes. Within the overall category of mental processes, the classification given in *IFG* distinguishes those of perception (using the five senses), affection (liking, hating, fearing, etc.) and cognition (thinking, knowing, understanding, etc.) (Halliday 1994b: 118). In Halliday & Matthiessen (1999: 137–144) four subcategories of sensing are proposed: perceptive, emotive and cognitive are equivalent to the earlier categories, and a new class of desiderative processes (e.g. wanting) is added. Cognitive and desiderative figures are distinguished from emotive and perceptive in that projection by the former involves the bringing into existence of an idea: thinking creates the idea which is thought; wanting a situation brings it into hypothetical existence. Emotive and perceptive figures, on the other hand, are activated by pre-existing facts: for example, being pleased by a situation, or hearing that something is the case. Furthermore, cognitive and desiderative figures, but not the other kinds, can act as metaphorical versions of modalities (e.g. *I think* can be used with similar meaning to *probably*, and *I insist* is similar to *must*). They can also be caused through verbal actions: telling someone something brings about their knowing it, and persuading someone to do something causes them to intend to do it.

Within the two pairs of types, the individual types are differentiated by further properties.

- Cognitive figures project what Halliday labels ‘propositions’ (his term for informational types of speech act, basically statements and questions), whereas desiderative figures project ‘proposals’ (types of speech act which involve as yet unfulfilled action).
- Individual types also differ in the degree to which they exhibit the bidirectionality commented on earlier: emotive processes are typically bidirectional (e.g. *like/please*), desiderative processes are not, while cognitive and perceptive are usually of the ‘like’ type, though they can occasionally be of the ‘please’ type (e.g. *I forget/it escapes me*).
- Perceptive processes have corresponding behavioural variants: e.g. seeing is a mental process, looking or watching are behavioural. Some behavioural processes are related to cognitive ones (examples given by Halliday & Matthiessen include pondering, puzzling and meditating), while none is related to desiderative or emotive processes.
- Perception and cognition processes can have varying degrees of phasal variation, such as beginning (as witness the contrast between *see* and *glimpse* or *sight*, *know* and *find out*, *discover*), whereas emotive and desiderative processes do not show this type of behaviour.
- Only the perception type of mental process has parallel sets of ascriptive relational process (e.g. to look like something, to taste sour, etc.).
- Emotive processes have the greatest potential for alternative construals in terms of attribution in a relational clause: *fear/be afraid of*, *like/be fond of*, etc. Related to this is the fact that it is emotive processes which most easily take intensification, just as the corresponding attributes can be intensified: *fear greatly/be very afraid of*.
- Emotive processes also differ from the other types in their behaviour when construed metaphorically as things: *hatred*, *fear* and so on are unbounded ‘masses’, whereas *sights*, *thoughts*, etc. are bounded and countable.

Table 8.16. Types of relational process

	Attributive	Identifying
Intensive	<i>The number of compounds is large ...</i> (BNC HGR 1783)	<i>The head of state is the President of the Republic ...</i> (BNC HKU 3791)
	<i>One of the Peckhams' sons is a poet, ...</i> (BNC ANX 1662)	<i>The winner was the Viennese architect Gustav Peichl, ...</i> (BNC EBT 1099)
Circumstantial	<i>The meeting is on Monday ...</i> (BNC K55 6167)	<i>Tomorrow is the second birthday of the couple's daughter.</i> (BNC K1C 581)
	<i>Conrad's novel is about a fire-prone seaside South American republic, ...</i> (BNC A05 118)	<i>The best time to plant the trees is between November and March.</i> (BNC EER 1269)
	<i>One final illustration concerns defence.</i> (BNC EAX 337)	<i>The air conditioning occupies the glove compartment, ...</i> (BNC ACR 1746)
Possessive	<i>... nearly everyone has a car.</i> (BNC K26 3612)	<i>The house is mine.</i>
	<i>The house is mine.</i> (BNC CKF 1398)	<i>This place is theirs.</i>
	<i>This place is theirs.</i> (BNC K97 17090)	<i>... her father owns the two shops ...</i> (BNC AT7 1636)
	<i>Your body belongs to you ...</i> (BNC ARA 56)	

8.3.1.2.2.3 Relational processes. Relational processes are, as we have seen, those of 'being', though not those of pure existence, for which the existential category is appropriate, but rather those in which 'being' is a relationship between two entities, or an entity and its attribute. Halliday (1994b:119) postulates that such processes can be categorised along two intersecting dimensions: whether the process is intensive (i.e. of the basic type 'x is a'), circumstantial ('x is at/in/on/for/with/etc a') or possessive ('x has a'); and whether it is attributive ('a is an attribute of x') or identifying ('a is the identity of x'). Table 8.16 shows examples of each type from the British National Corpus.

Halliday (1994b:120–124) points to four kinds of difference between the attributive and identifying types of intensive process:

- The nominal group specifying the attribute in an attributive process normally has an adjective as head,²⁵ or a common noun with indefinite article (or zero in the plural): see *large, a poet* in the examples in Table 8.16. On the other hand, in an identifying relational process the identifying element is normally definite (*the President of the Republic, the Viennese architect Gustav Peichl*).
- Although the verb is commonly *be*, other verbs can occur, and are different for the two types of clause. Attributive clauses take verbs such as *become, turn (into), get, remain,*

25. In Chapter 7 we saw that Halliday treats adjective-headed groups as a kind of nominal group.

seem, sound, etc., while identifying clauses take verbs such as *act (as), mean, imply, equal, include, exemplify, express, etc.*

- Attributive clauses can be probed by questions with *what?, how?, what ... like?:* e.g. *What is one of the Peckhams' sons? A poet.* Identifying clauses are probed by *which?, who?, which/who ... as?:* e.g. *Who is the head of state? The President of the Republic.*
- Identifying clauses are reversible, attributives are not: e.g. *The President of the Republic is the head of State, *Large is the number of compounds, *A poet is one of the Peckhams' sons.* The parallel distinction for circumstantial and possessive relational process clauses can be seen most clearly in terms of reversibility of the type where the circumstance or possession is expressed in a participant: we can say *The second birthday of the couple's daughter is tomorrow, Between November and March is the best time to plant the trees, Mine is the house, Theirs is this place,*²⁶ but not, for instance, **About a fire-prone seaside South American republic is Conrad's novel.*

Note that some clauses can be either attributive or identifying, depending on the meaning, and so appear in both columns in Table 8.16. For instance, *The house is mine* is attributive if it simply ascribes to the house the property of belonging to the speaker, but identifying in a context such as *The house is mine, the bungalow is hers*: note the reversibility in the latter case but not the former (*Mine is the house, hers is the bungalow*, but **Mine is the house* if pure attribution is intended).

A further distinction illustrated in Table 8.16 is between circumstantial and possessive processes where the circumstantial or possessive relation is encoded as the Complement,²⁷ and ones in which this relation is encoded, as part of the meaning of the Process, in the Predicator. Compare, for example, the examples with *is about* and *concerns*, and those with *is + possessive nominal* and *owns*. Where circumstantial or possessive meaning is expressed in the process, reversing the participants in an identifying clause also requires a shift from active to passive: *the air conditioning occupies the glove compartment/the glove compartment is occupied by the air conditioning, her father owns the two shops/the two shops are owned by her father*. As expected, this is not possible for the attributive type of clause: *One final illustration concerns defence/*Defence is concerned by one final illustration*.

In Halliday & Matthiessen (1999:144–147), figures of being and having are classified along two dimensions. The first of these corresponds to the attributive/identifying distinctions discussed above. The second reinterprets the intensive, possessive and circumstantial types of relational process in terms of the subcategories of the category of expansion, which we have already met: elaboration (e.g. restating, specifying in greater detail, exemplifying), extension (the addition of new elements), or enhancement (through circumstantial meanings of time, place, etc). Elaboration is involved in the construal of hyponymic taxonomies (basically, of the types 'Xs are Ys', 'X means Y', 'This is an X'). Extension allows the construal of meronymic taxonomies (e.g. 'X consists of Y + Z', 'X

26. It is not assumed here that these reversed clauses have exactly the same meaning as the originals – see §8.3.1.3.5 for discussion.

27. As we shall see, the Complement carries the function Attribute.

contains Y + Z') and also includes the related area of possession ('X has Y', 'X owns Y') and association (e.g. 'X involves Y'). Enhancement relates two participants through the circumstantial dimensions of time, place, cause, etc. (e.g. 'X follows Y', 'X causes Y').

8.3.1.3 *Participants*

8.3.1.3.1 *Participants in relation to the typology of processes.* We have seen that Halliday provides tests which help us to distinguish between material and mental process types. Some of these tests were independent of particular types of participant; others, however, involved the presence of participants with particular properties. We also saw that the 'same' clause can sometimes be interpreted in more than one way as far as its process type is concerned (see the discussion of attributive and identifying possessive relational clauses above), this interpretation depending on the linguistic context and involving different configurations of participants. Thus the typology of processes is closely bound up with the nature of the participants: indeed, Halliday & Matthiessen (1999:467) state that in terms of the clausal perspective on processes (as opposed to the perspective from the verbal group, in which we are concerned with temporal instantiation), "it is the nature of the participants involved in the process that determines the different process types".

8.3.1.3.2 *Initial characterisation of participants.* Halliday & Matthiessen (1999:182) classify participants by means of two sets of intersecting options: they can be either simple participants (realised by nominal groups) or macro-participants (realised by higher units, in grammatical metaphor); and either things or qualities. Examples of things from Table 8.16 are: *poet, sons, meeting, house, place*, etc.; a clear example of a quality is *large*. Things are relatively stable across time and space when compared with qualities; they are also claimed to be more complex in their semantics (1999:185, 187).

In what follows I present a more detailed classification of participant roles, discussing each type of process in turn. The discussion is closely based on Halliday's *IFG* account (1994b:109–159): separate page references will not always be given for individual participant roles.

8.3.1.3.3 *Participants in material process clauses.* We have seen that material processes are processes of 'doing'. The participant found with all such processes, then, is Actor. Where there is a second participant, this is usually the Goal, which in SFG means the entity towards which a process is directed. There may also be a third participant, acting as Beneficiary of the process, and subdivided into Recipient (the entity, normally animate, to whom/which something is given, sent, passed, etc.) and Client (the entity for whom/which something is done). The examples from Table 8.15 are analysed in these terms below:

- (101) *Maxim* (Actor) *offered the sealed envelope* (Goal), *Bruno* (Actor) *took it* (Goal), *broke it* (Goal) *open and passed it* (Goal) *to her* (Beneficiary/Recipient).
(BNC H86 2426)
- (102) *The door before him* (Actor) *shook violently*. (BNC FS4 2856)

Some material process clauses involve, as a second participant, not a Goal but a Range, which, as the label suggests, encodes the range or scope over which the process operates.

- (103) *The world's highest peak* (Range) *has been scaled many times since Sir Edmund Hillary and Sherpa Tenzing Norgay first conquered it in 1953.* (BNC CEM 1222)
- (104) *He* (Actor) *made an error of judgement* (Range), ... (BNC A53 39)

In (103), *the world's highest peak* indicates the extent of the process of mountain scaling, and in (104), we have a lexically weak verb *make*, the content of the process being indicated by *an error of judgement*.

8.3.1.3.4 Participants in mental process clauses. Since mental processes are not processes of 'doing', but rather involve perception, emotion and cognition, we might expect that the roles of Actor and Goal will be inappropriate for them. Furthermore, any attempt to extend the Actor/Goal analysis to mental processes would lead to unsatisfactory results with pairs such as *like/please*: since these are regarded, from the point of view of the ideational systems of transitivity, as representing the same state of affairs,²⁸ entities with the same role in that state of affairs should be given the same participant label; yet if what pleases is regarded as Actor, it seems very odd to say that what is liked is also Actor. Halliday (1994b: 117) therefore postulates two new participants for mental processes: *Senser* ("the conscious being that is feeling, thinking or seeing") and *Phenomenon* ("that which is 'sensed' – felt, thought or seen"). The examples in Table 8.15 are analysed in this way below.

- (105) *The children* (Senser) *really like his classes* (Phenomenon). (BNC KBK 1985)
- (106) *Edward III* (Senser) *believed that he had broken Scotland's will to resist English domination.* (BNC AS7 976)²⁹
- (107) *I* (Senser) *think strong drink is damnation.* (BNC EA5 1321)
- (108) *Philip* (Senser) *saw the date on one of the letters* (Phenomenon). (BNC ABX 3363)

Halliday (1994b: 148) suggests that the *Phenomenon* in a *like* type of mental process (as opposed to its *please* counterpart) resembles the *Range* which can occur with a material process, in that it delimits the scope of the liking.

28. They are not, however, synonymous, since they differ in the mapping of transitivity roles on to Subject and Theme.

29. Readers may be surprised to note that the clauses following *believe* and *think* in (106) and (107) respectively are not labelled as *Phenomenon*. This is because such clauses are regarded by Halliday as related hypotactically to, rather than as embedded within, the clause containing the mental process verb, and so are not seen as the *Phenomenon* in the mental process clause itself. Halliday (1994b: 115) refers to them by the term 'metaphenomenon', glossed as "something that is constructed as a participant by projection – that is, as indirect or 'reported' discourse". For discussion, see Chapter 3 of Part 2, where the structure of clause complexes is treated in some detail.

Either Sense or Phenomenon may be implicit:

- (109) *He can hardly talk, almost certainly can't see, ...* (BNC K23 889) [Phenomenon of *see* ('anything') implicit]
- (110) *Suppose an individual were persistently to follow another on a public highway, making rude gestures or remarks in order to annoy or vex.* (BNC ASB 152) [Senser of *annoy* and *vex* ('people') implicit]

8.3.1.3.5 *Participants in relational process clauses.* The Actor/Goal analysis is, of course, unsuitable for relational processes, since these are again not processes of 'doing', but rather of 'being'. In attributive relational processes, the quality ascribed to something is the Attribute, and the entity to which it is ascribed is the Carrier. This is shown below for the examples in Table 8.16.

- (111) *The number of compounds* (Carrier) *is large* (Attribute). (BNC HGR 1783)
- (112) *One of the Peckhams' sons* (Carrier) *is a poet* (Attribute). (BNC ANX 1662)
- (113) *The meeting* (Carrier) *is on Monday* (Attribute). (BNC K55 6167)
- (114) *Conrad's novel* (Carrier) *is about a fire-prone seaside South American republic* (Circumstantial Attribute), ... (BNC A05 118)
- (115) *One final illustration* (Carrier) *concerns defence* (Attribute). (BNC EAX 337)
- (116) *Nearly everyone* (Carrier) *has a car* (Attribute). (BNC K26 3612)
- (117) *The house* (Carrier) *is mine* (Attribute). (BNC CKF 1398)
- (118) *This place* (Carrier) *is theirs* (Attribute). (BNC K97 17090)
- (119) *Your body* (Carrier) *belongs to you* (Attribute). (BNC ARA 56)

In an identifying relational process, the basic participant roles are those of Identifier and Identified. There are, however, some additional complications here (for a fuller picture see Halliday 1994b: 122–128). Consider the following example from Table 8.16:

- (120) *The head of state is the President of the Republic.* (BNC HKU 3791)

This clause could be used, in the spoken language at least, either to identify the head of state as being the President of the Republic, or *vice versa*:

- (121) (*Which is the head of state?*)
The head of state (Identified) *is the President of the Republic* (Identifier).
- (122) (*Which is the President of the Republic?*)
The head of state (Identifier) *is the President of the Republic* (Identified).

Here, the larger type signifies the constituent with the main intonational prominence. Since the two halves of an identifying process can come in either order, we also have the following possibilities:

- (123) *The President of the Republic* (Identifier) is *the head of state* (Identified).
 (124) *The President of the Republic* (Identified) is *the head of state* (Identifier).

Halliday sees these alternations in terms of parts played, or roles fulfilled, and the entities playing those parts or fulfilling those roles. For the first of these he uses the term Value, and for the second Token.³⁰ Thus in (121) and (123), *the head of state* is the part played (Value) by the person who is *the President of the Republic* (Token), while in (122) and (124), *the President of the Republic* is the part played (Value) and *the head of state* the person playing that part (Token). A fuller analysis of the various possibilities so far is thus as shown below.

- (125) *The head of state* (Identified/Value) is *the President of the Republic* (Identifier/Token).
 (126) *The President of the Republic* (Identifier/Token) is *the head of state* (Identified/Value).
 (127) *The President of the Republic* (Identified/Value) is *the head of state* (Identifier/Token).
 (128) *The head of state* (Identifier/Token) is *the President of the Republic* (Identified/Value).

The situation is, however, even more complicated than this, since we can also have the opposite conflation of Identifier or Identified with Value or Token. In all of the above clauses, the role played (Value) is identified by reference to the person filling the role (Token): they all answer the question ‘What person identifies the role of head of state/President?’. But we can also have the situation in which the person (Token) is identified by the role (Value), so that the clauses answer the question ‘Which role identifies the person who is the head of state/President?’, as shown below.³¹

- (129) *The head of state* (Identified/Token) is *the President of the Republic* (Identifier/Value).
 (130) *The President of the Republic* (Identifier/Value) is *the head of state* (Identified/Token).
 (131) *The President of the Republic* (Identified/Token) is *the head of state* (Identifier/Value).

30. He also sees these in terms of a distinction between ‘function’ (Value) and ‘form’ (Token). This terminology will be avoided here, as adding potentially confusing uses to two already overburdened terms.

31. For further discussion of these relationships, as manifested in a corpus of texts, see Davidse (1996a). In Davidse (2000), this work is summarised and extended: in particular, Davidse discusses some of the problems with Halliday’s analysis of possessive relational processes, taking further the idea, proposed explicitly in Halliday (1996), that we can use the grammar as a tool to think about the grammar itself, in order to construct a ‘grammatics’, or theory of grammar. For further discussion of linguistic theory as sharing some of the properties of language itself, see Halliday (1997).

- (132) *The head of state* (Identifier/Value) is *the President of the Republic* (Identified/Token).

Halliday (1994b: 130–138) demonstrates that these distinctions can also be made for circumstantial and possessive types of identifying relational process.

Finally, note that a Beneficiary may occasionally occur in relational process clauses (cf. the paraphrase *She's been a good wife to/for David*):

- (133) *Well she* (Carrier) 's *made David* (Beneficiary) *a good wife* (Attribute) *actually*. (BNC KC2 133)

8.3.1.3.6 *Participants in behavioural process clauses.* The entity displaying the behaviour encoded in a behavioural process clause is labelled simply Behavior.³²

- (134) *I* (Behaver) 've *dreamed of the moon, and of a plain of salt*. (BNC CH0 2911)
 (135) *He* (Behaver) *smiled that charming sardonic smile* (Range).³³ (BNC APW 2953)
 (136) *Kate* (Behaver) *listened attentively to Amanda Dawkins*. (BNC FAB 1430)

8.3.1.3.7 *Participants in verbal process clauses.* The participant which occurs in all verbal process clauses is the Sayer, which, as we have seen, need not be animate. In addition to the Sayer, there may be a Receiver (a type of Beneficiary, the one to whom the process of saying is directed), an element with the participant role of Verbiage (the content of what is said³⁴ or the name of the kind of saying (e.g. *request, remark*)), and a Target (the entity targeted by verbs of saying such as *praise, condemn*) (Halliday 1994b: 140–141). Note that Verbiage can be interpreted as a kind of Range, delimiting the scope of what is said (1994b: 148). The examples from Table 8.15 are analysed below, followed by extra examples illustrating Verbiage involving the kind of saying (140), and Target (141).

- (137) 'Morning, prof?' *he* (Sayer) *said with a loud cheerfulness*. (BNC AN8 12)
 (138) *I* (Sayer) *told him* (Receiver) *there was no hope of hospitality here*. (BNC CJW 400)
 (139) *The two companies* (Sayer) *have also announced an agreement to co-operate on local network management technologies* (Verbiage). (BNC CR0 101)

32. The prepositional phrases *of the moon, of a plain of salt*, etc. are Circumstances – see §8.3.1.4.

33. Halliday (1994b: 146) notes that Range can express “the domain over which the process takes place” in behavioural as well as material processes.

34. It should be noted that Verbiage does not apply to a clause which, in most approaches, would be regarded as the object of a verb of saying in constructions such as *he said that X*, since such a clause is not regarded by Halliday as forming part of the verbal process clause, but as a separate, projected clause. Neither is directly quoted speech regarded as part of the verbal process clause – in this case, Halliday treats it as paratactically related. Further details will be given in Chapter 3 of Part 2.

- (140) ... *he* (Sayer) *had to shout the order* (Verbiage) *more than once* ...
(BNC EFW 1638)
- (141) *He* (Sayer) *unwisely criticised the Governments of both India and Pakistan* (Target) *in most undiplomatic terms*. (BNC HHV 16780)

8.3.1.3.8 *Participants in existential process clauses.* The entity which exists is labelled simply *Existent*.

- (142) ... *there was fair stubble* (Existent) *on his cheeks and jaw*. (BNC AC6 320)
- (143) *The following day, the feast of the immaculate conception, there was a closing ceremony* (Existent) *in St Peter's Square*. (BNC CRK 945)

8.3.1.4 *Circumstances*

Circumstances, as we have seen, are typically realised as adverbial groups or prepositional phrases. Those realised by adverbial groups are said to be simple, whereas those realised by prepositional phrases are termed 'macro-circumstances' (Halliday & Matthiessen 1999: 172–173, 217–222; cf. the similar initial classification of participants). The designation 'macro' reflects the fact that prepositional groups contain nominal groups. Nominal groups, of course, have the potential for being participants in a process, and as we saw in §7.3.3.1, Halliday regards prepositional phrases as constituting a kind of 'minor process', with the preposition as a minor Predicator and the nominal group as its Complement. Macro-circumstances are thus a kind of reduced figure which can act within another figure. The preposition represents an oblique relationship between the entity encoded by its complement nominal and the rest of the clause. This closer involvement with the rest of the clause is reflected in the fact that a prepositional complement in a macro-circumstance, just like a normal participant in a clause, can sometimes be made the Subject of the clause, as in (144).

- (144) *His bed hasn't been slept in*. (BNC G3E 1612)

In Halliday's view of circumstances, a circumstantial element expands the clause content in terms of "a process that has become parasitic on another process" (1994b: 151). Indeed, as he demonstrates, most types of circumstance can be derived from the three main types of relational process discussed earlier, or from the verbal process type. These relationships will be illustrated as I discuss the main classes of circumstance proposed by Halliday. These are: Extent, Location, Manner, Cause, Contingency, Accompaniment, Role, Matter and Angle (Halliday 1994b: 151, Table 5(9)). The following summary is based closely on Halliday (1994b: 152–161).

8.3.1.4.1 *Extent and Location.* Both Extent and Location can be cross-classified as either spatial or temporal, and as expressing definite or indefinite time or place. Location can be absolute or relative, the latter type being concerned with location in relation to some reference point in time or space, and divisible into near and remote. Locational circum-

stances can also be divided into those expressing rest and those encoding motion, either towards or away from some point in time or space. Some examples are given below.

- (145) ... *Andrew drove **eight miles** back to the royal estate.* (BNC CH6 5741) [extent, spatial, definite]
- (146) *The cost of the system is minimal, because the cards last **for such a very long time.*** (BNC ARJ 1216) [extent, temporal, indefinite]
- (147) ***On Monday 22 August 1642**, Charles I raised his Royal Standard **outside Nottingham Castle**, ...* (BNC EEG 263) [location, temporal, definite, absolute, rest], then [location, spatial, definite, absolute, rest]
- (148) *Then she went **back to the beach** ...* (BNC APY 1513) [location, spatial, definite, absolute, motion, towards]
- (149) *Bristol and Bath were not **far away**, ...* (BNC AB4 664) [location, spatial, indefinite, relative, remote, rest]
- (150) *The Chairman can wait **till Monday**.* (BNC FR1 2378) [location, temporal, definite, relative, motion, towards]
- (151) *As for the mother of both girls, she was **dead long ago**.* (BNC CD2 134) [location, temporal, indefinite, relative, remote, rest]

8.3.1.4.2 Manner. Manner circumstances subsume those of Means (including instrument), Quality and Comparison, as illustrated below.

- (152) *In the evenings he would sit on his bed **beating old tins into strange shapes with a hammer.*** (BNC B0U 2851) [means]
- (153) *They had travelled **by car**.* (BNC AS7 1571) [Means]
- (154) *The nun turned the handle **quietly and slowly** opened the door a few inches.* (BNC FS4 1125) [Quality]
- (155) *She moved round the flat **like a whirlwind**, ...* (BNC HWA 1526) [Comparison]

8.3.1.4.3 Cause. Circumstances of Cause include those indicating Reason, Purpose and Behalf.

- (156) *I've never missed a day's work **through illness** in my life ...* (BNC CBC 5459) [Reason]
- (157) *We attract certain people and events **because of our belief systems**.* (BNC CA5 210) [Reason]
- (158) *We're going to a restaurant **for dinner**, ...* (BNC AYK 60) [Purpose]
- (159) *The Group would review all proposals **with an eye to determining issues of policy**.* (BNC HTK 802) [Purpose]

- (160) ... *there are two things that I would like to say on behalf of the County Council.*
(BNC FMP 1049) [Behalf]

8.3.1.4.4 Contingency. There are three kinds of Contingency: Condition, Concession and Default.

- (161) *This course should be adopted only in case of absolute necessity, ...* (BNC FRA 998)
[Condition]
- (162) *Despite the objective evidence concerning levels of ill health and disability in old age, more than 60 per cent of people aged over 65 describe their health as 'good' or 'very good'.* (BNC B01 694) [Concession]
- (163) *There is no universal rule that you are always entitled to professional legal representation in the absence of a specific right in the company rules.* (BNC B08 782)
[Default]

8.3.1.4.5 Accompaniment. Accompaniment can be comitative (a single process in which more than one entity is involved) or additive (with the process presented as two instances), and can also be positive or negative.

- (164) ... *they came to stay with me and my husband Brian.* (BNC C8A 391) [comitative, positive]
- (165) *Why don't you go without me?* (BNC FA5 3265) [comitative, negative]
- (166) *Yet this could happen in addition to, rather than instead of, explicit language awareness activity in schools.* (BNC G0W 413) [additive, first positive then negative]

8.3.1.4.6 Role. Halliday divides Role into Guise and Product, the meanings of which should be clear from the examples below.

- (167) *But my recollection of him will be as a friend and food expert.* (BNC AA9 368)
[Guise]
- (168) *All this is tantamount to saying that, even in the role of student, the academic life exerts particular and considerable demands on the individual.*
(BNC G0R 1024) [Guise]
- (169) *She wondered what experience had moulded him into the cynical man that he now was.* (BNC H8H 1384) [Product]
- (170) *The boy grew into a man with blue eyes, a long straight nose, and dark red hair.*
(BNC FRU 44) [Product]

Halliday also notes that when an Attribute is added to a material process, as with [*he*] *broke it open* in example (101) given earlier, this Attribute could be seen as related to a circumstance of Role, in this case one of Product (see also §8.3.1.6).

8.3.1.4.7 Matter. Matter is concerned with what the process is about, as shown in the example below.

(171) *I worry about you so much, ...* (BNC FNV 2895)

8.3.1.4.8 Angle. Angle is concerned with questions of standpoint:

(172) *More than a third of Britain's bird species need urgent protection, according to a report by the Royal Society for the Protection of Birds.* (BNC A50 460) [Angle]

8.3.1.5 Generalising across process types: the ergative analysis

So far I have emphasised the differences between process types. Halliday (1994b: 161–174, Halliday & Matthiessen 1999: 153–158) also suggests, however, that from another perspective we can generalise across all the various types, in terms of one basic principle of structuring, the so-called ‘ergative’ analysis.

Let us start by looking again at material process clauses. Consider the following:

(173) *The glass broke with a loud noise.* (BNC GVM 162)

(174) *... I broke the glass angrily ...* (BNC GWH 176)

Under the Actor/Goal analysis, *the glass* would be Actor in (173), but there is no Goal to which the action extends. In (174), however, the Actor is *I*, and the action of breaking extends to *the glass*, which is therefore the Goal. Halliday labels this type of analysis, in which an action is seen as extending (or not) to a Goal, the **transitive** analysis. Under this interpretation, *the glass* serves a different semantic role in the two clauses.

It is clear, however, that the two clauses are very closely related, in that *I broke the glass* entails *the glass broke*. As we saw in §8.2.5.1 when examining the RRG approach to such clauses, and as is also pointed out by Halliday (1994b: 163, Halliday & Matthiessen 1999: 154), the relationship involves the concept of causation: in (174), the participant *I* causes the glass to break. Another way of putting this is to say that in (173) the breaking of the glass is presented as an event which happens without any external agency (even though, in the real world, there may be some external cause, this is not reflected in the linguistic formulation of the event), whereas in (174) it is made clear that there is external agency. This view of processes is what Halliday terms the **ergative** analysis. Halliday observes that ergative/non-ergative pairs such as these have become increasingly frequent during the development of Modern English.

We can now reinterpret the participant roles involved in such processes. The key distinction is not now that between Actor and Goal, but rather between the participant which is centrally involved in the event, and through which the process comes to occur, and

the external causer, if present. These two participants are labelled Medium and Agent, respectively. The analysis of (173) and (174) under the ergative analysis is, then:

(175) *The glass* (Medium) *broke with a loud noise*.

(176) *I* (Agent) *broke the glass* (Medium) *angrily*.

A similar pair is the following:

(177) *Her eyes* (Medium) *opened wide*. (BNC CKE 3313)

(178) *Mrs Findlay* (Agent) *opened her eyes* (Medium) *wide*. (BNC J0S 307)

With the second type of clause, there is the additional possibility of a passive version, with or without an explicit Agent:

(179) *The glass* (Medium) *was broken* (by *me* (Agent)).

We thus have not only an active and a passive version of the ‘effective’ clause type (i.e. the one with an Agent, at least in the semantics if not actually expressed), but also a ‘middle’ type (without Agent, as in (175) and (177)), seen as neither active nor passive.

Halliday (1994b: 165 ff.) goes on to suggest that we can extend this analysis to cover other types of process as well, since in each type there is one participant that is centrally involved: the Behavior in a behavioural process, the Senser in a mental process, the Sayer in a verbal process,³⁵ the Carrier in an attributive relational process, the Identified in an identificational relational process, and the Existent in an existential process. Each of these, then, would be the Medium under the ergative type of analysis. We have already seen that the roles of Beneficiary and Range can be generalised across process types. For instance, the Receiver in a verbal process is a subtype of Beneficiary, and we saw that a Beneficiary can also occur in relational processes. As the Range indicates the scope of the process, it too is a very general function, so that the Phenomenon of a *like*-type mental process, the Verbiage of a verbal process and, Halliday (1994b: 167) claims, the Attribute and the Identifier/Value pairing in relational processes, can be interpreted as subtypes of Range. Some examples from Table 8.15 are analysed below in these terms.

(180) *The children* (Medium) *really like his classes* (Range). (BNC KBK 1985)

(181) ... *the town square* (Medium) *is large* (Range). (BNC ECR 525)

(182) *I* (Medium) *’ve dreamed of the moon, and of a plain of salt*. (BNC CH0 2911)

(183) *I* (Medium) *told him* (Beneficiary) *there was no hope of hospitality here*.
(BNC CJW 400)

(184) *The two companies* (Medium) *have also announced an agreement to co-operate on local network management technologies* (Range). (BNC CR0 101)

(185) ... *there was fair stubble* (Medium) *on his cheeks and jaw*. (BNC AC6 320)

35. Halliday proposes that in effective verbal process clauses with a Target, the Target is the central participant. I shall not pursue this point here.

In all types of process, there is the possibility of adding an Agent³⁶ to create a causative process. Some examples follow:

- (186) *They* (Agent) *exploded the most powerful device ever created* (Medium), *inside a black hole*. (BNC HTY 4261)
- (187) *As a child, the mill* (Agent) *had frightened her* (Medium). (BNC B3J 1913)
- (188) ... *a grateful nation* (Agent) *made him* (Medium) *King Henry II* (Range) *thereafter*. (BNC CFS 1455)

Note that the participants labelled Medium are those which would have this role in the corresponding non-causative clause (*the most powerful device ever created exploded, she was frightened, he was King Henry II*).

Halliday & Matthiessen (1999: 155–156) extend the IFG treatment slightly, by pointing out that the Process + Medium forms a closely bonded nucleus, this bonding being shown in several ways: the Medium is the most restricted participant in so far as only certain types of phenomena may fill that role (e.g. a conscious being, in a figure of sensing); in differentiating between basically similar figures, it is usually the Medium which allows the differentiation (e.g. in differentiating between various types of dispositive process such as strewing, spilling, etc. – see Hasan 1987); the Medium also typically determines the manner of performance of a process, where this can vary (e.g. opening a door is mechanical, opening an account verbal).

Further discussion of the transitive and ergative paradigms in English can be found in Davidse (1992, 1998). In the former paper, she aims to demonstrate “that it is essential to account for both the transitive and the ergative systems in order to even begin to describe with any accuracy the grammar of actions and events, i.e. of material processes, in English” (Davidse 1992: 107). In the later article, she compares the treatment of English transitivity and ergativity in SFG and in accounts inspired by Government and Binding theory.

8.3.1.6 Participants and circumstances revisited

Now that the types of participant and circumstance in different process types have been examined, from both the transitive and the ergative perspectives, we can return to the similarities and differences between them. We have seen that participants and circumstances are on a cline rather than totally discrete categories, and that this cline can be interpreted in terms of degree of involvement. Halliday & Matthiessen (1999: 173) demonstrate that sometimes an entity can be construed either as a participant or as a circumstance (e.g. shooting someone vs. shooting at them), in which case the difference in meaning is concerned with the greater involvement implied in treating the entity as a participant.

Both participants and circumstances, however, can be classified in terms of their relationship to the nucleus of Process + Medium, and this relationship, as at other points in the grammar which I have already mentioned, may be any of the four logico-semantic relationships of projection, elaboration, extension and enhancement, the last three being

36. Indeed, more than one Agent can be added: for details and examples see Halliday (1994b: 172).

subtypes of expansion. Furthermore, we can recognise relationships between particular participant roles and particular circumstantial roles which show similar logico-semantic relationships to the Process/Medium nucleus. For instance, the participant role of Client and the circumstantial role of Cause in its 'behalf' manifestation, are clearly semantically linked, and are both involved in a relationship of enhancement; the participant role of Attribute, when it represents a class (e.g. dying a pauper) is related to the circumstantial role of Role (e.g. dying as a pauper), and both are elaborating relationships. For more detail, see the diagrammatic and tabular representations of these relationships in Halliday & Matthiessen (1999: 174–175, 219–220).

8.3.1.7 *Transitivity systems for English*

The distinctions in the area of transitivity discussed in Halliday (1994b), and summarised above, have been formalised as system networks by Matthiessen (1995: Chapter 4). Limitations of space preclude a summary which would do justice to Matthiessen's extremely detailed account, which covers almost 200 pages and also modifies and extends Halliday's work in places: all that can be given here is the barest of outlines, in the hope that readers will consult the original work in order to appreciate the richness of the description provided there. For purposes of exposition, Matthiessen divides the overall area of transitivity into two 'experiential regions', those of nuclear and circumstantial transitivity. Since, however, he provides no system networks as such for circumstantial transitivity, I shall concentrate on his account of nuclear transitivity here.

The basic nuclear transitivity system network (p. 207, Figure 4–11³⁷) has two sets of simultaneous choices at its least delicate end: those of AGENCY ([effective] vs. [middle]), and PROCESS TYPE ([material] vs. [mental] vs. [verbal] vs. [relational]).³⁸ Note that in Matthiessen's account (p. 210) behavioural and existential processes are not treated as separate categories, but are assimilated to material and relational types, respectively, and distinguished within the networks for those types. The first of these systems reflects the highly generalised ergative patterning discussed earlier, and so involves the specification of the participant roles of Medium, Beneficiary and Range; the second embodies the model of different process types conceived according to the transitive type of patterning, and so involves the specification of roles which are specific to particular types of process, such as Actor and Goal for material processes, Senser and Phenomenon for mental processes, and so on.

The [effective]/[middle] distinction is the one I discussed earlier in relation to pairs of clauses such as (175) and (176), (177) and (178). A clause with the features [effective, material] can be either one of [doing] or one of [happening]. The feature [doing] has as its realisation the inclusion of a nominal group acting as Goal and the conflation of this Goal with the ergative role of Medium; on the other hand, in a [happening] clause,

37. All page references in §8.3.1.7 refer to Matthiessen (1995) unless otherwise specified.

38. This basic network, on which the following brief summary is based, does not show all the detailed constraints on particular combinations of more delicate choices; these are, however, discussed in Matthiessen's exposition.

the Medium is conflated with the Actor, which is included as a realisation of the feature [material]. Clauses of [doing] are either [creative] (i.e. lead to the creation of some entity) or [dispositive], and the latter can have either the feature [recipency], realised by the addition of a Recipient in the form of a nominal group with or without *to*, or [non-recipency]. Clauses of [happening] can be [ranged] (with insertion of a nominal group acting as Range) or [non-ranged], and also [meteorological], [eventive] or [behavioural].

The feature [mental] is realised by the inclusion of a nominal group encoding a conscious being and acting as Sayer, and the conflation of this role with Medium. Mental processes are subdivided by means of two cross-cutting systems. The first of these is concerned with whether there is a Phenomenon in the clause, and if so, what kind it is. Clauses such as that in (189) have the feature [non-phenomenalisation].

(189) I (Senser) *'ve heard of it before.* (BNC HGK 1248)

Clauses with the feature [phenomenalisation] can be either [phenomenal] or [hyperphenomenal]. [Phenomenal] clauses take a nominal group as Phenomenon. [Hyperphenomenal] clauses are either [macrophenomenal], taking a non-finite clause such as *the children playing in the park* or [metaphenomenal], taking a hypotactically related finite clause. The further discussion of [hyperphenomenal] types of mental process and the realisation of the related features would take us beyond the consideration of the simplex clause, into the realm of the complex clause, and will therefore be dealt with in Chapter 3 of Part 2.

The second system for the classification of mental processes is concerned with the sub-categorisation of such processes into [perceptive], [cognitive], [desiderative] and [emotive] types.³⁹

The feature [verbal] is realised by the introduction of a nominal group acting as Sayer, and the conflation of this with Medium. Verbal processes are cross-classified on two dimensions: [verbalisation]/[non-verbalisation] and [receiver]/[no receiver]. Clauses with the feature [non-verbalisation] do not have any nominal group as Verbiage, or any clause expressing the content of what is said. The verbs involved are those of verbal behaviour such as *speak, talk, argue*, which Matthiessen (p. 284) considers to be on the borderline between verbal and behavioural, and those of verbal impact such as *accuse, blame, congratulate*. For clauses with the feature [verbalisation] there is a further systemic choice in the type of verbalisation: [as name] is realised by the inclusion of a nominal group acting as Verbiage. Clauses with the feature [as locution] have a clause as the verbalisation, and have two simultaneous systems open to them: whether [quoting] or [reporting], and whether [indicating] (representing what Halliday calls an indirect 'proposition', that is an indirect statement or question) or [imperating] (representing an indirect 'proposal', that is, an indirect command or offer). Again the realisations involve the clause complex and so will not be dealt with here. The choice of [receiver] leads to the introduction of the participant role of Receiver, realised by a nominal group optionally preceded by *to* or *of* (the latter after *ask*).

39. Note the addition of [desiderative] to Halliday's original three types of mental process, as in Halliday & Matthiessen (1999).

The subnetwork for relational clauses begins with the choice between [existential] and [expanding]. The first of these features specifies the introduction of *there* as Subject, and of a nominal group with the role of Existent. A further system distinguishes between pure [existence], realised by *be* as Process, and [existence plus], where various meanings such as posture or emergence can be added to the basic meaning, and the Process is *stand, come, etc.*

The feature [expanding] is the entry condition for two simultaneous systems. One of these distinguishes between [ascriptive] (i.e. attributive) and [identifying] processes; [ascriptive] is realised by the insertion of Carrier and its conflation with Medium, and the insertion of Attribute and its conflation with Range; [identifying] is realised by the insertion of Token, Value, Identifier and Identified. A further system subdivides [identifying] processes into [decoding] and [encoding], the first of these being realised by the conflation of Token with Identified and of Value with Identifier (see (129)–(132)), and the second by conflation of Token with Identifier and Value with Identified (see (125)–(128)).⁴⁰

The systems summarised above are only the least delicate in the network proposed by Matthiessen. He goes on to suggest further distinctions and to survey the range of lexical verbs which realise the more delicate features, and some of the collocational patterns into which they enter. Readers are strongly recommended to undertake a more detailed examination of this material.

Matthiessen (1999) has also presented the results of an investigation into the frequency with which various transitivity options and their combinations are selected in a small sample (approximately 2000 clauses) of texts with some degree of register spread. This manually-analysed corpus was supplemented by a larger corpus of 95,000 words of magazine text, checked for certain patterns by means of a concordancing program.

8.3.1.8 *Transitivity in languages other than English*

Halliday & Matthiessen (1999: Chapter 7) present a brief comparison of the ideation bases of English and Chinese. With respect to figures, they conclude that the overall pattern of process types is the same in the two languages, in that both have figures of doing, sensing, saying and being, with one to three participants, and the same participant types and roles. Both transitive and ergative patterning can also be seen in Chinese. Qualities are said to “include within themselves the ‘be’ (the relation of ascription)” (1999: 304): in other words, there is no copula in ascriptive relational clauses equivalent to English *I am busy*. Halliday & Matthiessen conclude that while in English the adjective is a type of noun, in Chinese it is a type of verb. They also comment on preferred patterns of figure organisation in the two languages. Further work on transitivity in Chinese can be found in Long (1981) and McDonald (1996).

Halliday & Matthiessen (1999: 316–319) also comment on the lack of typological studies on the construal of what they call “quanta of experience”, and highlight the work

40. The terms ‘encoding’ and ‘decoding’ are also used by Halliday (1994b: 129).

of Pawley (1987) on differences in the ways in which change is construed in English and in the Papuan language Kalam.

Caffarel (1997) investigates the applicability of Halliday's model of process types to French, concluding that the core experiential grammar of French can be interpreted in terms of complementary systems of Process Type and Agency, realised together in clause structure, and reflecting the transitive and ergative models of organisation. Degand (1996) discusses analytic causatives in Dutch and French, arguing that they involve a relationship of manipulative interaction between Causer and Causee which Degand interprets in terms of the interpersonal metafunction, the various possible realisations of causation being interpreted in terms of grammatically metaphorical variants of the basic structure in which the causing and caused events are present in separate parts of a clause complex. Martin (1996b) offers a detailed reinterpretation of case relations in Tagalog according to the SFG model, isolating 'case frames' such as 'mental Process + Senser + Phenomenon', 'material Process + Medium + optional roles of Goods and Direction', 'relational Specifier + Attribute or Possessor or Circumstance'. Shore (1996) describes process types in Finnish, bringing in covert categories and prototypes. McGregor (1996b) gives a systemically-oriented description of attributive and identifying clauses in Gooniyandi, while Rose (1996) offers a characterisation of processes in another Australian Aboriginal language, Pitjantjatjara, bringing in both systemic ('typological', in Halliday's sense) and topological perspectives. Thai (1998) gives a systemic functional interpretation of aspects of Vietnamese grammar.

Hori (1997) shows how the transitivity of mental processes reflects aspects of the culture in Japanese, distinguishing linguistically between 'the speaker's business' and 'other people's business': the grammar is constrained in such a way that any description of a mental process must be performed from the speaker's viewpoint, so that in the unmarked case the Senser is not marked overtly in the clause, regardless of person; mental processes are realised by adjectives or by adjectival verbs incorporating a copula, and if the implied Senser is not first person, it can be designated by suffixes or particles, second person Sensers being admissible only in an interrogative clause which asks about the addressee's mental processes, while with third person Sensers the Finite must be modalised or projected by means of special suffixes. Teruya (1998) presents a detailed investigation of transitivity in Japanese, parts of which operate at a sophisticated level of delicacy showing, for instance, that the motion type of material process displays distinctive profiles of circumstantial relations.

8.3.2 Representing situations in the Cardiff grammar

The work of Fawcett and his colleagues, like that of Matthiessen, presents us with the problem that it is impossible to reflect adequately, in the space available, the complexity of the material. As before, then, only an outline will be provided, emphasising the main points of contrast with the Halliday & Matthiessen accounts, leaving readers to fill in the detail for themselves. The main sources on which the following summary is based are Fawcett (1980, 1987, 1996, 2000a).

8.3.2.1 Participant and Circumstantial Roles, Complements and Adjuncts

Some elements which are treated as Circumstances in the Sydney grammar are handled as Participant Roles (earlier called ‘inherent roles’: see Fawcett 1980:136) in the Cardiff grammar. The criterion for the distinction between Participant and Circumstantial Roles is that the former are inherent to the Process, and predicted by it, whereas the latter are not (Fawcett 1980:136, 2000a:29). This distinction is reflected in that between Complements and Adjuncts at the syntactic level: a Complement realises any Participant Role which is not realised by the Subject of the clause; an Adjunct realises a Circumstantial Role. The following examples should make this clear (the first also has a second analysis in which *in mid-July* is a postmodifier of *return*).

- (190) *Mandela was to be assassinated by a sniper on his return from abroad in mid-July.*
- | | | | |
|-------------|-------------|--------------|-------------------|
| Participant | Participant | Circumstance | Circumstance |
| Subject | Complement | Adjunct | Adjunct (Cardiff) |
| Subject | Adjunct | Adjunct | Adjunct (Sydney) |
- (BNC HKV 201)
- (191) *The company recently appointed Charterhouse as merchant banking advisers ...*
- | | | | |
|-------------|-------------|---------------------|-----------|
| Participant | Participant | Participant | |
| Subject | Complement | Complement | (Cardiff) |
| Participant | Participant | Circumstance (Role) | |
| Subject | Complement | Adjunct | (Sydney) |
- (BNC K5L 2204)

Both the Sydney and the Cardiff grammars treat *a sniper* in (190) as a participant (Actor/Agent), but it is treated as an Adjunct in the former (despite its ability to become the Subject of an active clause), and a Complement in the latter (since it carries a Participant Role). In (191), the Sydney grammar treats *as merchant banking advisers* as a Circumstance, realised as an Adjunct, whereas in the Cardiff grammar it is a Participant Role (because it is predicted by the verb *appoint*), and so must be realised as a Complement.

It should be noted that Fawcett (1980:145–146, 1987:134, 2000a:250) makes a clear distinction between Participant Roles which are overtly expressed in the structure of the clause and those which, although inherent to the semantics of the process, remain covert (e.g. in an agentless passive, cf. Halliday’s (1994b:169) ‘implicit’ Agent).

8.3.2.2 Roles, systemic features and process types

In the Cardiff approach, Participant Roles are assigned by the semantic features of system networks, not to linguistic elements directly, but to elements of what Fawcett calls the ‘referent situation’, which is pre-linguistic (Fawcett 1980:136). The roles themselves are used as feature labels in networks, so avoiding the sometimes rather opaque labels for subclasses of process in Halliday’s networks. For instance, in an early network for action processes (Fawcett 1980:137), the primary classification is into processes with [agent only], [affected only], [attribuant only], and what Fawcett calls [affected-centred] and [agent-centred] types, each of which is subclassified in terms of combination with other roles

(Agent or Affected/Effectuated/etc., respectively), and in terms of the overtness or covertness of roles. As we shall see later, a similar line is taken in Fawcett's work on relational processes (see Fawcett 1987: 161). This approach reflects the primacy accorded to roles in Fawcett's grammar: it is argued that the more abstract feature labels in other systemic grammars are readily reinterpreted in terms of constellations of roles (Fawcett 1980: 139). Accordingly, formal tests are given (1980: 142–143, 1987: 142) for roles rather than for process types as such, "because the latter are (in part) defined in terms of configurations of the former, rather than vice versa" (1987: 141). We may summarise the Sydney and Cardiff approaches as follows:

- Halliday: **Process types appearing as features in networks** are associated with particular configurations of **functions/participant roles**, whose nature is nevertheless involved in the determination of process types.
- Fawcett: **Configurations of inherent semantic participant roles** which appear as **features in networks** (partially) define **process types**.

A further important difference is that whereas in the Sydney approach an element can normally have double role labelling only in the sense that one role reflects the transitive analysis and another the ergative,⁴¹ in the Cardiff grammar much use is made of a kind of double labelling ('compound roles') which reflects the fact that an element may have different roles to play in relation to different accompanying elements. Consider, for example, (192)–(194) below.

- (192) *But the weaker I became physically, the more inadequate I felt.* (BNC CEE 1379)
- (193) *After the trial she left her husband and became Jaggars' housekeeper.*
(BNC FPU 1824)
- (194) *He became emotional again.* (BNC H80 1002)

In what is much the most likely interpretation of (192), the participant represented by *I* is affected by something in such a way that s/he is then weaker: in Fawcett's terms, this participant is both Affected (in relation to the outside influence) and Carrier (of the Attribute of weakness). In (193), on the other hand, it is very likely that the participant referred to as *she* deliberately arranged to become Jaggars' housekeeper, and so is Agent with respect to this, and Carrier of the Attribute *housekeeper* as a result. In (194), either interpretation is possible, and *he* could be Affected-Carrier or Agent-Carrier. Further examples of double roles will be given below.

Each role (and each component of a compound role) can be identified by means of a 're-expression test', six of which are given for exemplification below.

41. The assignment of either Token or Value and either Identifier or Identified, to a single participant in identifying relational clauses appears to be an exception to this general rule.

- T1 for Agent:⁴² ‘What X did was to ...’
- T2 for Affected: ‘What happened to X was that ...’ (plus failure in Agent test; ...)
- T3 for Carrier: ‘The thing about X was that ...’ plus failure to pass the Agent and Affected tests.
- T4 for Attribute: ‘... (= Carrier) belonged to the class of Xs/X ones/was equivalent to X.’
- T5 for Location: ‘X is the place/time where/when ... (= Carrier) was/went to/from/past.’
- T6 for Possessed ‘X is what ... (= Carrier) had/lacked.’ (Fawcett 1987: 142)

In the Cardiff grammar, no need is found to postulate two separate analyses, ‘transitive’ and ‘ergative’, for transitivity choices, the latter type proving sufficient.⁴³ Fawcett’s Agent and Affected are thus similar to Halliday’s Agent and Medium, though with the important difference that while Halliday considers all clauses to have a Medium participant, there is no single participant which occurs in all clauses in the Cardiff grammar (Fawcett 1987: 140).

The basic types of process recognised in the Cardiff grammar are material, mental and relational. Halliday’s verbal processes are analysed in terms of ‘causing someone to know something’ (Fawcett 1996: 317), while existential processes are a type of relational process (Fawcett 1987: 156). Presumably the behavioural type recognised by Halliday is treated as a kind of material process.

8.3.2.3 Relational process clauses

The most detailed published work on transitivity in the Cardiff grammar is concerned with relational process clauses, an area in which there are considerable differences between the Cardiff and Sydney approaches.

Firstly, the relational class of processes has a rather wider scope in the Cardiff grammar, in that it includes some types which would be treated as material in the Sydney account. By way of exemplification, let us examine the following clauses:

(195) *Wilson gave it to the girl.* (BNC HR8 358)

(196) *Mrs Fry went straight to the kitchen, ...* (BNC BMS 3464)

(197) *He also sent Kaptan out of the room.* (BNC H9N 1887)

In Halliday’s grammar, all three would be material processes; in the Cardiff grammar, however, they are all relational, being analysed in terms of the action of an Agent causing a state to come about: Wilson causing something to be in the possession of the girl; Mrs

42. Fawcett (2000c: 341–342) makes it clear that although the Agent is typically human, it need not be, the different possibilities being handled in terms of probabilities.

43. Note, however, that the Cardiff grammar does make use of roles which are specific to particular process types, just as are the roles postulated in the ‘transitive’ type of analysis in the Sydney grammar.

Fry causing herself to be in the kitchen; 'he' causing Kaptan to be outside the room.⁴⁴ The associated roles are shown below.

- (198) *Wilson* (Agent) gave *it* (Possessed) to *the girl* (Affected-Carrier).
 (199) *Mrs Fry* (Agent-Carrier) went straight to *the kitchen* (Location), ...
 (200) *He* (Agent) also sent *Kaptan* (Affected-Carrier) out of *the room* (Location).

Such an analysis brings out the relationship between pairs such as *Wilson gave it to the girl/The girl had it, Mrs Fry went to the kitchen/Mrs Fry was in the kitchen*, etc. Note, however, that this analysis would not be possible within Halliday's grammar, since the fact that the progressive would be the unmarked present form for each of the above clearly marks them as material rather than relational (see Halliday 1994b: 173).

A second major difference between the Cardiff and Sydney approaches is concerned with what Halliday treats as 'identifying' processes. Following a hint in the work of Halliday himself (1985a: 124), Fawcett (1987: 138) proposes that identification is a relationship between two nominal groups, rather than the process realised in the clause. The rather complicated picture drawn by Halliday in this area can thus be simplified if we treat 'identifying' relationals as ones in which the Attribute consists of a class with just one member.⁴⁵ Thus in example (121), where we have as Halliday's analysis *The head of state* (Identified) is *the President of the Republic* (Identifier), Fawcett treats *the head of state* as being identified by the clause having as an Attribute the one-member class *the President of the Republic*.

Fawcett demonstrates that 'identifying' processes behave very like those which Halliday would consider attributive, with respect to their other properties. He also suggests (1987: 176–177) that the distinctions handled by Halliday in terms of the assignment of Identifier/Identified and Token/Value can be dealt with in terms of other parts of the grammar to which they are systematically related: Theme in the former case, and Information Focus in the latter.⁴⁶

A third important difference concerns what in the Sydney grammar are treated as 'circumstantial relational processes'. Fawcett (1987: 139) argues that in this type of process, the roles concerned are not circumstances but participants, since they are "roles system-

44. Davise (1996b) also interprets the ditransitive construction with *give*, etc., in terms of the causation of possession, recognising an eight-way set of paradigmatic contrasts, in which the relationship between 'Dative' (the third participant, covering Recipient and Client types of Beneficiary) and 'Patient' (covering the more specific roles of Affected, Effected, Range) is seen as inherently identifying and characterised not only in terms of the configuration of Identified and Identifier, but also in terms of 'Implicans' and 'Implicatum', terms which Davise uses as parallels, in the area of possession, to Token and Value for 'coding' (Halliday's 'intensive') identifying relational clauses.

45. For a very different view, see Davise (1996a).

46. The fact that in examples (125)–(132), discussed earlier, the Identifier always receives the information focus suggests that it may actually be the Identifier/Identified distinction which can be related to information focus.

atically associated with particular types of process". He then proposes to treat location (in both space and time) as a primary subtype of relational process, largely on the grounds of the greater frequency of this type compared with the others which come under Halliday's 'circumstantial' type.

The basic network proposed by Fawcett (1987: 161, Figure 6.6) for relational processes has two simultaneous initial systems: [attributive] vs. [locational] vs. [possessive], and [simple carrier] vs. [compound carrier] vs. [third party agent]. If either of the last two features is chosen, then there is a further choice between [change] and [maintain] – that is, the situation changes or stays the same. If [compound carrier] is chosen, then there is a further choice between [affected-carrier] and [agent-carrier]. In Table 8.17 each of the possible combinations of features is illustrated with an example from the British National Corpus. Fawcett (1987: 162–174) goes on to propose more delicate systemic choices for each of his three main types of relational process, which I cannot go into here, but which will repay close attention. These networks take us quite a long way into the individual lexical realisations of combinations of systemic features in this area. Fawcett (1987: 161) also observes that there is a measure of lexical unity across the three subtypes of relational process, in that, for example, each of the verbs *be*, *bring*, *get*, *go*, *keep*, *leave*, *remain*, *send*, *stay* and *take* can occur in two or all three of the subtypes. Fawcett (1987: 166–169) also gives examples of how the realisation rules for this area work, concentrating on possessive relational processes.

8.3.2.4 *Complementation and the grammar of mental process clauses*

Fawcett (1996) gives a very detailed account of how the Cardiff grammar handles the semantics and syntax of what, in most linguistic theories, is referred to as complementation. Exemplification is drawn from the complementation of the cognition class of mental process verbs, and in particular from the behaviour of the verbs *know* and *remember*.

A very important difference between the Cardiff and Sydney grammars in this area is that any dependent clause which represents something that is predicted by the semantics of the main verb is treated as a Complement of that verb, since it must represent a Participant Role in the process. The *that*-clauses which can follow verbs such as *know* and *remember* are thus treated as Complements of those verbs. This, however, takes us into the domain of complex constructions, and discussion will therefore be postponed until Chapter 3 of Part 2.

Fawcett (1996: 305–306) does not use Halliday's term *Senser* for the animate or quasi-animate participant in a mental process, but rather recognises three different roles for the three kinds of mental process (*Perceiver* in perception processes, *Emoter* in emotion processes and *Cognizant* in cognition processes), on the grounds that the three kinds of process differ quite markedly, and that re-expression tests are available for each of his proposed Participant Roles.

Fawcett's proposals involve three areas of the system networks of English and their associated realisation rules (the part of the transitivity network covering the cognition part of the mental process subnetwork; the dependent parts of the network dealing with complementation patterns; and the 'dependence' network, which specifies features of the unit

Table 8.17. Combinations of features in Fawcett's basic network for relational processes

[attrib/loc /poss]	[simple /cpd/3rd party]	[Af-Ca/ Ag-Ca]	[Change/ maintain]	Example
Attributive	Simple	–	–	<i>Asian airports</i> (Carrier) <i>are almost as congested as ever</i> (Attribute). (BNC ABJ 2119)
Attributive	Compound	Af-Ca	Change	<i>But the weaker</i> (Attribute) <i>I</i> (Affected-Carrier) <i>became physically</i> , the more inadequate I felt. (BNC CEE 1379)
Attributive	Compound	Af-Ca	Maintain	<i>Soft white clouds</i> (Affected-Carrier) <i>remained motionless</i> (Attribute) <i>against an azure blue sky</i> . (BNC AC2 7)
Attributive	Compound	Ag-Ca	Change	<i>After the trial she</i> (Agent-Carrier) left her husband and <i>became Jaggars' housekeeper</i> . (BNC FPU 1824)
Attributive	Compound	Ag-Ca	Maintain	<i>Five of the crew</i> (Agent-Carrier) <i>had remained loyal to the Orynthia</i> (Attribute), ... (BNC CBJ 747)
Attributive	3rd pty Ag	–	Change	He looked at her now, thinking that <i>time</i> (Agent) <i>had made her</i> (Affected-Carrier) <i>more beautiful</i> (Attribute). (BNC FPK 1830)
Attributive	3rd pty Ag	–	Maintain	<i>To his puzzlement, however, she</i> (Agent) <i>kept her eyes</i> (Affected-Carrier) <i>averted</i> (Attribute) ... (BNC FU8 40)
Locational	Simple	–	–	<i>He</i> (Carrier) <i>'s in the garden</i> (Location) <i>at the moment</i> . (BNC FS2 1114)
Locational	Compound	Af-Ca	Change	<i>... most of the exports</i> (Affected-Carrier) <i>went to developing countries</i> (Location), ... (BNC J3J 122)
Locational	Compound	Af-Ca	Maintain	This system was used before the advent of on-line catalogues to ensure that <i>at least one copy of a book</i> (Affected-Carrier) <i>remained in a library system</i> (Location), ... (BNC ARX 272)
Locational	Compound	Ag-Ca	Change	<i>Mrs Fry</i> (Agent-Carrier) <i>went straight to the kitchen</i> (Location), ... (BNC BMS 3464)
Locational	Compound	Ag-Ca	Maintain	<i>He</i> (Agent-Carrier) <i>stayed in his room</i> (Location) <i>most of the time</i> , ... (BNC H8P 564)
Locational	3rd pty Ag	–	Change	<i>He</i> (Agent) also <i>sent Kaptan</i> (Affected-Carrier) <i>out of the room</i> (Location). (BNC H9N 1887)
Locational	3rd pty Ag	–	Maintain	<i>Anyway, I</i> (Agent) <i>kept them</i> (Affected-Carrier) <i>in the aviary</i> (Location) <i>for about four weeks just to make sure they would adapt to one another</i> . (BNC CHE 1816)

Table 8.17. (Continued.)

Possessive	Simple	–	–	... <i>nearly everyone</i> (Carrier) <i>has a car</i> (Possessed). (BNC K26 3612)
Possessive	Compound	Af-Ca	Change	Shortly after I accepted Bantam's offer, <i>I</i> (Affected-Carrier) <i>got pneumonia</i> (Possessed). (BNC FYX 523)
Possessive	Compound	Af-Ca	Maintain	... <i>the colours</i> (Affected-Carrier) <i>retained their vibrancy</i> (Possessed)... (BNC CC0 1103)
Possessive	Compound	Ag-Ca	Change	... <i>she</i> (Agent-Carrier) <i>immediately got a house</i> (Possessed). (BNC KB8 8734)
Possessive	Compound	Ag-Ca	Maintain	<i>In this case, the seller</i> (Agent-Carrier) <i>has kept the rewards</i> (Possessed). (BNC CBU 2398)
Possessive	3rd pty Ag	–	Change	<i>Wilson</i> (Agent) <i>gave it</i> (Possessed) <i>to the girl</i> (Affected-Carrier). (BNC HR8 358)
Possessive	3rd pty Ag	–	Maintain	<i>They</i> (Agent) <i>left Alice</i> (Affected-Carrier) <i>with a little pile of pamphlets and leaflets ...</i> (Possessed)... (BNC EV1 967)

which acts as Complement), together with aspects of the 'belief system' which, although it is not part of the grammar itself, is concerned with certain aspects of the meaning of lexical verbs.⁴⁷ As with other accounts of transitivity in the SFG framework, I can do no more here than provide a condensed and over-simplified view of the original proposals.

8.3.2.4.1 *The transitivity network for mental process clauses.* The initial choice in the transitivity network for 'situations' in English is, as we have seen, between [material], [mental] and [relational] types of process, and [mental] processes are further classified as [perception], [emotion] or [cognition]. Processes of [cognition] are further differentiated into those (such as the various senses of *know* and the stative meanings of *remember*) which take a simple Cognizant, those (such as *realise* and change of state meanings of *remember*) which take the compound role of Affected-Cognizant, those (such as *study*) which require an Agent-Cognizant, and those (such as *tell* and *teach*) which have a third party Agent (Fawcett 1996:317). The realisation rules for these features introduce the relevant Participant Roles, the role of Phenomenon having been introduced as a realisation of the feature [mental]. Some illustrative examples follow.

- (201) *She* (Cognizant) *also knew that Bertie had been lying to her* (Phenomenon) ... (BNC ABW 710)
- (202) *Then I* (Cognizant) *remember another object hitting my colleague* (Phenomenon). (BNC K24 486)

47. It should be remembered that the Cardiff grammar has been developed in the context of a large Natural Language Processing project, in which components other than the linguistic system itself are required.

- (203) *When I* (Affected-Cognizant) *remembered that* (Phenomenon) I panicked.
(BNC FPF 1236)
- (204) *I* (Affected-Cognizant) *realised it was time to move out* (Phenomenon).
(BNC CA9 1107)
- (205) *The Japanese* (Agent-Cognizant) *studied the British motor cycle industry* (Phenomenon) *carefully* ... (BNC EDT 2107)
- (206) *He* (Agent) *told me* (Affected-Cognizant) *they were very cross* (Phenomenon) ...
(BNC G3P 578)
- (207) *Miss Thorne* (Agent) *had taught them* (Affected-Cognizant) *all the names of the different stage areas* (Phenomenon). (BNC CAB 3656)

The feature [simple Cognizant] acts as entry condition for systems which differentiate between [single knowing] (i.e. knowing and understanding) and [knowing again] (i.e. remembering and forgetting), and between knowing or re-knowing a thing (leading to a nominal group as Phenomenon) or a situation (leading to a clause as Phenomenon), with further, more delicate distinctions dealing with the various individual senses of the relevant verbs. The feature [Affected Cognizant] is the entry condition for similar distinctions in the area of 'coming to know (again)'. The features in this network are realised by the appropriate verbs.

8.3.2.4.2 *Dependent parts of the network dealing with complementation patterns.* For each subtype of cognition process defined by the network considered so far, the mechanisms of simple, conjunct and disjunct systemic dependency are used to specify, still in semantic terms, the range of possible types of 'thing' or 'situation' which can act as Phenomenon. For instance, the sense of *know* which can be glossed as 'knowing how to communicate through', as in *to know German*, must have as a Phenomenon a thing which is a semiotic system of some kind (e.g. a language, Morse code), while the senses of *know* which can be formulated as 'knowing a situation' have a range of options open to them, which take us beyond the simple clause and so are not discussed further at this point.⁴⁸

8.3.2.4.3 *Specifying verb meanings: the belief system.* Above the semantics itself, in the computer implementation of the Cardiff grammar, is a model of the language user's belief system, consisting of ontologies of types of object (corresponding to noun senses), types of predicate (corresponding to lexical verb senses), and so on, expressed in a Systemic Functional Logical Form being developed by the Cardiff team. Choices within the ontologies are logically prior to those in the semantics of the lexicogrammar. Although the ontologies and the semantics of the lexicogrammar have close correspondences, they are not isomorphic. As examples of entries in the predicate ontology, we may take Fawcett's specification of the lexical meaning for remembering a thing and for remembering a situation:

48. See, however, §3.4.2 of Part 2.

remember th: to have in one's conscious memory a representation of an object that one first knew in the past (e.g. *I remember the first banana that I ever ate*)

remember sit: to have in one's conscious memory a representation of an event that one first knew in the past (e.g. *I remember seeing her last week*) (Fawcett 1996:329)

8.3.2.5 *Circumstantial Roles*

Fawcett (1980:155–156) recognises various types of Circumstantial Role, including place, means, instrument, beneficiary and accompanier, as well as Adjuncts realising various types of temporal meaning. Further detail is available in Fawcett, Tucker & Lin (1993).

8.4 Comparison of approaches

In this final section, I shall look rather more critically at a number of salient aspects of how the three theories handle the representation of situations, at the same time comparing FG, RRG and SFG in these respects. The considerable potential for illuminating comparison, as well as the complexity of this area and the importance accorded to it in each of the three theories under discussion, means that this section will be considerably more lengthy than the comparable sections of earlier chapters.

I shall begin with the distinction between situations in the real world (or some imagined world) and the linguistic representations of such situations. I then look at the distinction between arguments/participants/core elements and satellites/circumstances/peripheral elements, and the related distinction between Complements and Adjuncts. I shall then move on to consider the relationships between typologies of (linguistic representations of) States of Affairs and argument/participant roles. A substantial section is then devoted to the distinctions postulated in the various typologies, and the types of semantic/thematic/participant roles involved. The discussion will include the possibility of multiple labelling of constituents for semantic role, the treatment of experiential and causative types of SoA, and non-verbal predication and the status of *be*. A single example clause is then analysed in accordance with each approach. Finally, by way of conclusion, I examine the ways in which each theory seeks to account for similarities and differences in the area under discussion, and make some suggestions for the incorporation of an explicitly paradigmatic component within the FG and RRG accounts.

8.4.1 Situations and their linguistic representation

All three theories recognise the importance of the fact that what is objectively the same situation in the world can be represented in language in different ways. As we have seen, however, there are some important and potentially confusing differences of terminology. FG emphasises that what it calls a State of Affairs is a conceptualisation of 'reality', not the 'reality' itself. RRG, on the other hand, uses the term 'State of Affairs' for the situation in the world, and prefers the use of the terms 'Aktionsart' or 'predicate class' for kinds of lin-

Table 8.18. Central and non-central elements in FG, RRG and SFG

Theory	Central		Non-central
FG	Predicate	Argument	Satellite
RRG	Predicate	Argument	Non-argument
SFG	Process	Participant	Circumstance

Table 8.19. Semantic and syntactic units in RRG and Cardiff SFG

Theory	Semantic unit	Syntactic unit
RRG	Predicate	Nucleus
	Argument in semantic representation of predicate	Core Argument (syntactic)
	Non-argument	Peripheral Adjunct
SFG (Cardiff)	Process	Main Verb
	Participant	Subject, Complement
	Circumstance	Adjunct

guistic representation. SFG uses the term ‘process type’ for the kind of linguistic representation of situations in the world. In both FG and SFG, in contrast to RRG, it is emphasised that the typology is one of whole SoAs/processes, rather than of predicates/verbs, though RRG, too, builds in ways of making the analysis of predicates sensitive to the effects of the immediate linguistic context. In what follows, I shall be discussing the linguistic representations of situations in the world, not the situations themselves. In discussing individual theories, the terms appropriate to the theory will be used.

8.4.2 Arguments/participants and non-arguments/non-participants, Complements and Adjuncts

All three theories distinguish between elements which are central to the semantics of the predicating element in the clause and those which are more peripheral. Table 8.18 shows approximate correspondences across the theories.

In RRG and the Cardiff version of SFG, there are also types of syntactic unit with which the semantic units correlate, as shown in Table 8.19.⁴⁹ Since FG does not have any separate syntactic level of representation, it does not postulate syntactic units of the kind shown in Table 8.19, although, of course, Subject and Object are recognised as syntactic functions of constituents.

The criteria for distinguishing between arguments/participants and non-arguments/satellites/circumstances in FG and SFG have much in common. FG makes much of the

49. It will be remembered that Subject, Complement and Adjunct are also proposed in the Sydney grammar, but that they are not part of a separate syntactic level.

criterion of omissibility: satellites can always be left out without compromising grammaticality, whereas in principle arguments cannot. It is recognised, however, as we have seen, that this criterion is not without its problems. In SFG, participants are said to be inherent in, or predicted by, the process (and this criterion is applied rather more strictly in the Cardiff than in the Sydney version) while circumstances are less closely associated with the process, and many kinds can occur with any process type. Again, however, it is recognised that the borderline between the two is fuzzy. In RRG the emphasis is on the differential coding behaviour of syntactic arguments and non-arguments across language types.

The argument/satellite distinction in FG has been the subject of critical discussion by Siewierska (1991:55–62). As she notes, Dik's characterisation of this distinction is open to charges of circularity: a nuclear predication is defined as one with no satellites, but a satellite is defined as not being implicated in the definition of the SoA which the nuclear predication designates (Siewierska 1991:55).

Siewierska (1991:56–62) also deals in some detail with the problems involved in distinguishing between arguments and Level 1 satellites. She notes that what for Dik would be Level 1 satellites can even determine the type of SoA: the telicity of *walk to the station* as opposed to the non-telicity of *walk in the park* is a function of the nature of the satellite expression. Here, however, we may note an apparent anomaly in Dik's account which goes unnoticed in Siewierska's discussion. At different points in *TFG1*, Dik treats Direction expressions, in the context of the same predicate, sometimes as arguments, at other times as Level 1 satellites:

(208) (= Dik's (43)f, 1997a:121)

John (Ag) drove to London (Dir).

(209) (=Dik's (40), 1997a:231)

John drove from Amsterdam (Source) to Rotterdam (Direction) along the highway (Path)

Example (208) is given in the context of illustrating combinations of semantic functions in different argument positions,⁵⁰ while (209) is used to illustrate Level 1 satellites of spatial orientation. While it is quite possible for an expression with the same semantic function to act as an argument with some predicates and as a satellite with others, the above examples, using what is clearly a single predicate, suggest a fundamental uncertainty with regard to the argument/Level 1 satellite distinction. Anstey (2002:7) even goes so far as to claim that there are no Level 1 satellites at all, pointing out that all the candidates introduce additional participants into the SoA. He therefore treats them as optional arguments.

Siewierska regards the contextually-determined omissibility of arguments, which as we have seen is discussed by Dik, as a continuing problem for the argument/satellite distinction. She also casts doubt on the reliability of the tests for the detachability of satellites as opposed to arguments. In her view, the most convincing differences between arguments

50. The combinations given in Tables 8.4 and 8.5 likewise assume that Direction and Source are A2 or A3 semantic functions.

and satellites are syntactic rather than semantic: predicates impose not only semantic but also categorial subcategorisation (in terms of whether they are NP, PP, VP, S or S') on their arguments, but not on their satellites. This kind of diagnostic is, however, not available to FG, since predicates subcategorise for the semantic function but not for the syntactic class of their arguments.

The importance of syntactic properties in the argument/satellite distinction is also foregrounded by Martín Arista (2002), who proposes two criteria for the identification of true arguments. Firstly, they should satisfy the Completeness Constraint of RRG (see §4.13.1) or the similar Argument Realisation Condition of Rappaport Hovav & Levin (1998:113): in other words, all the variables explicitly specified in an underlying decomposed semantic representation of the clause should be morphosyntactically realised. Secondly, true arguments should comply with Rappaport Hovav & Levin's (1998:112) Subevent Identification Condition, according to which each subevent in the semantic specification of a complex event (i.e. one in which an 'outer' event causes an 'inner' state to come about) should correspond to a lexical head in the syntax. On these grounds, he concludes that Result (e.g. cutting something *into pieces*), Recipient (e.g. giving something *to someone*), and also Locative in telic SoAs (e.g. putting something *somewhere*), should be regarded as true arguments, since they satisfy both conditions; on the other hand, Manner and Instrument, for instance, are satellites rather than arguments, since they satisfy only the Argument Realisation Condition.

8.4.3 Typologies and semantic roles

8.4.3.1 *Some initial issues*

It is possible, in principle, either to postulate a primary typology of States of Affairs/predicates/processes from which a set of argument/participant roles is (fully or partially) derived, or to treat the role classification as primary and that of States of Affairs/predicates/processes as derived. Figure 8.2 shows that FG, RRG and the two variants of SFG are at different points on a cline with respect to this variable.

RRG, as we saw in §4.10 and §8.2.3, takes the position that the Aktionsart typology is primary, and that the semantic roles of arguments are totally predictable from the Aktionsart class of the predicate in the context of a particular clause. In this approach, the

Aktionsart typology primary, roles entirely derived	SoA typology primary, roles set up to correspond partially to this typology	Participant roles claimed to determine process types, but both appear in networks, and some tests for types do not involve participants	Participant roles primary, process types derived
RRG	FG	Sydney SFG	Cardiff SFG

Figure 8.2. Relationship between SoA typology and argument/participant roles

Aktionsart class is decided by means of a battery of tests, and in turn determines the logical predicate/argument structure of the clause. Thematic relations are then simply mnemonics for argument positions in this logical structure, and so are claimed to be independently motivated.

As seen in §8.1.3, FG also postulates the primacy of its SoA typology, based on tests for defining features, but does not claim total derivability of semantic function from SoA class. FG does, however, set up its semantic function inventory to correspond, at least in part, to the SoA typology. All Actions have an Agent at A1, all Positions a Positioner, and all States a constituent with Zero semantic function. It would, then, be possible to define Agent as the A1 which appears in the predicate frame for an Action, which is in turn recognisable through the tests for the features [+dyn] and [+con] which define this class of SoAs. Similarly, Positioner could be defined as the A1 of a Position ([−dyn, +con]), and Zero as the A1 of a State ([−dyn, −con]). With the semantic function Processed we have a slight complication, in that we must say that it is the A1 of a non-instigated Process ([+dyn, −con]), while Force is A1 in a Process instigated by the entity with Force function.

The definition of second and third arguments in terms of SoA type is perhaps more problematic. For instance, in order to define Goal in this way we would have to resort to disjunction: it is the second argument of an Action, Position or instigated Process. Nevertheless, it seems to be possible, in principle, to reduce semantic roles to (sets of) positions in predicate frames for particular, independently defined SoA classes. This claim has indeed been made in recent work by Cornish (2002), mentioned briefly in §6.2.2.2. We saw there that Cornish proposes a new model for the predicate frame which integrates meaning decompositions with such frames, while retaining object language predicates within these definitions. Apart from this last (important) aspect, Cornish's lexical entries are very similar in many ways to the logical structures of RRG, and he claims that

... there is no need for semantic functions within the proposed format (apart from their usefulness as convenient mnemonics [...]), since these may be derived from the embedded predicate structure in terms of the relation of given arguments to particular underlying predicates (as is the case in Role and Reference Grammar [...]).

(Cornish 2002: 275–276)

Also highly relevant to the relationship between SoAs and semantic functions is the work of Schack Rasmussen, also referred to briefly in §6.2.2.2. It will be remembered that she postulates a scheme for the specification of meaning definitions in FG and their interaction with the predicate frame. This scheme also has advantages in the treatment of semantic functions, in that some of the functions postulated by Dik can now be seen as variants arising not from the properties of the arguments themselves, but from other aspects of the semantics of predicates (Schack Rasmussen 1994: 56ff.). For instance, Reference, Possessor and Recipient can all be viewed as types of Location, in different types of semantic field: Reference with respect to the field of Condition, Possessor in relation to the field of Possession, and Recipient as the animate terminal point within a non-locational semantic

field. Examples are given below: E is the located entity, L the location, S the starting point, T the terminal point, and A the agent.⁵¹

(211) *The voice was Tony's.* (BNC A61 429)

(212) ESTARpos(*voice, Tony*)

E L

(213) *You resemble her.* (BNC APM 1565)

(214) ESTARcond(*you, her*)

L E

(215) *She gave him rags ...* (BNC CBF 1109)

(216) CAUSAR(*she, IRpos(rags, she, him)*)

A E S T

Schack Rasmussen also further clarifies the status of the generalised arguments A1, A2 and A3, explaining why a particular semantic function occurs with one of these generalised functions: A1 is the first nonlocative argument (K or E) in a semantic structure formed according to her scheme, A2 the second argument (E or L), and A3 the locative argument in a 3-place relation. As Falster Jakobsen (1994: 130) has pointed out, the semantic functions listed by Dik as belonging to the three generalised categories are not identical with those specified in the Semantic Function Hierarchy: for instance, of the A1 functions only Agent appears in that hierarchy. Schack Rasmussen's scheme allows a reinterpretation of the Semantic Function Hierarchy in the following terms:

(217) (= Schack Rasmussen's (50), 1994: 61)

Agent (as a restriction attached to the first argument) > Instrument (because of its dependence on an Agent) > Causator (K) > Entity > Locative (with Source and Terminal as variants) > and Modification (corresponding to satellite arguments)
– or: A, I, K, E, L, S, T, M

Further discussion of the relationship between SoA typology and semantic function in FG is contained in unpublished work by Bramley (1997), who has challenged the classically Aristotelian, dichotomous character of the distinctions which Dik and other proponents of FG employ in the definition of SoAs and of the semantic functions attached to arguments. Under a strict Aristotelian approach, categories are defined on the basis of sets of properties which are singly necessary, and jointly sufficient, to delimit that category. Categories have clear boundaries, and all members of a category are seen as equally good exemplars of that category. Crucially, gradation within category properties is not permitted. Finally, where categories are split into subcategories, all members of the subsets are claimed to have all the properties of the larger set from which they were derived.

51. Despite the fact that predicates such as ESTAR, CAUSAR and IR are intended as abstractions from the structure of Spanish itself, Schack Rasmussen actually uses them in analyses of English clauses too, where predicates such as BE-AT, CAUSE and GO might seem more appropriate.

Bramley points out that in some other linguistic models of States of Affairs, such as those of Givón (1984a, 1989, 1995), Dowty (1991) and Schlesinger (1995), it is demonstrated that a more satisfactory approach is one based on prototype theory, in which semantic functions (case roles, theta roles, or whatever else they may be labelled as in a particular account) are analysed not as discrete, sharply bounded categories, but as fuzzy categories based on a set of cluster concept features.

Having reviewed these other prototype-based approaches, Bramley concludes that it may be possible to construct a more adequate model of SoAs than any so far proposed in the FG literature, by recognising clusters of features which characterise prototypical exemplars of each major semantic function. Furthermore, Bramley suggests that a classification of SoAs based on semantic function could make the semantic features of Dik's SoA typology redundant, since, for example, the feature of dynamicity becomes subsumed under the Change represented in the Patient cluster concept, while that of control is subsumed as a feature of the Agent cluster concept. He claims that it may even be possible to assimilate the features of telicity and momentaneity to the Patient cluster, through the concept of 'Incremental Theme' proposed by Dowty (1991), according to which second argument entities can be divided into subparts, seen as participating in subevents, and the relationship between the subevents and the whole SoA can be used to distinguish between telic and non-telic SoAs. Clearly, these interesting ideas, which move in the direction of treating the underlying features of semantic roles, rather than those of SoA types, as primary, can only be put to the test by the construction of sets of cluster concept features which adequately account for the properties of the various semantic functions.

Further suggestions for the relevance of prototype categories to the specification of States of Affairs in FG can be found in the work of Goossens (1994) and of Guerrero Medina (1998). Goossens (1994) remarks on the lack of discussion of the widespread notion of transitivity in Dik's work, and shows how the concept of a transitive prototype, as worked out in cognitive linguistics, can be integrated within FG theory. He cites (1994:66) a definition of this prototype from the work of Rice:

The prototypical transitive event is one in which two asymmetrically related entities are involved in some unilateral activity. The activity requires forceful movement or some energized transfer instigated by one entity resulting in either contact with or some observable effect in the other. A view of transitivity as a graded category organized around a prototype can accommodate sentences coding events that depart from the canon, either because the events are construed as transpiring in nonphysical space or because they do not invoke enough facets of the prototype. (Rice 1987:xii)

He summarises Rice's exploration of non-prototypically transitive clauses, which can nevertheless be regarded as transitive because they passivise. He then associates the transitive prototype with the presence of the FG semantic function Goal. He notes, however, that since Goal is conceived as covering both affected and effected entities, the resulting prototype would be wider than that of Rice's definition, since an effected Goal only comes into existence through the actualisation of the SoA, so that this SoA does not denote contact or impact of one entity on another. Nevertheless, because of the evidence from passivi-

sation, Goossens wishes to retain the effected Goal type of situation within the transitive prototype.

He goes on to demonstrate, however, that not all second arguments which have been labelled as Goal should be so labelled, if we are to maintain the association of this function with the transitive prototype. For instance, verbs of possession and containment such as *have* and *contain*, and also mental state predicates such as *see*, *like*, *believe* and *know* are proposed to take Reference as second argument (though in the case of mental state predicates Goossens suggests that in order to reflect the specific nature of Experiences we could label the second argument Phenomenon, either instead of or in addition to the label Reference). In the case of verbs of saying, Goossens demonstrates that not all occurrences of *say* are passivisable, so that it is problematic to analyse what is said as being the Goal: instead, Goossens proposes the function Message. Furthermore, the person addressed is unlike a typical Recipient with respect to Subject and Object assignment, appearing only in a *to* phrase, and for this reason Goossens proposes the special function Addressee in place of Recipient. The parallels here with Halliday's analysis of semantic function in mental and verbal process clauses are obvious, and are recognised by Goossens with respect to his proposed Phenomenon function.

In order to deal with non-prototypical transitivity in FG, Goossens proposes that the function Affected be added to a non-Goal second argument, a third argument or a Level 1 satellite where the SoA involves a transfer of energy (sometimes metaphorically interpreted) from the first argument to this additionally labelled entity. Some cases may require the addition of an Effected function for the same purpose.

Guerrero Medina (1998) develops a model for the transitive prototype which involves the features [\pm human], [\pm animate] and [\pm concrete], correlating with the degree of agentivity of the first argument and the degree of affectedness of the second.

As far as the question of the primacy of process types or of roles in SFG is concerned, we saw earlier that Halliday provides tests to distinguish between material and mental types of process, some but not all of which make reference to particular types of participant. In the system networks proposed by Matthiessen, both process types and roles appear as features (e.g. [material]/[mental]/[relational]), but also, for example, [phenomenal], [receiver]/[no receiver]). Roles appear even more conspicuously as features in the networks of the Cardiff version of SFG, and indeed, as we have seen, Fawcett regards them as primary, since process types are claimed to be defined, in part at least, in terms of the role configurations which appear in them. Yet even in the Cardiff grammar, we have seen that the process types themselves are the least delicate options in the transitivity network.

Note that in the 'transitive' type of analysis proposed in the Sydney grammar, it would to some extent be possible to define participant roles in terms of the types of process in which they occur.⁵² An Actor is the obligatory inherent participant role in a material process, a Goal the second inherent participant for material processes with more than one

52. McGregor (1997:114), in the Semiotic Grammar framework derived initially from work in SFG, claims that 'micro-roles' are derivable from 'macro-roles' and semantic types of situations. However, as we shall see later, his 'macro-roles' include the 'ergative' roles of Agent and Medium as well as Actor and Undergoer.

participant; a *Senser* is the obligatorily animate or quasi-animate inherent participant in a mental process, and the *Phenomenon* the other inherent participant; a *Carrier* and *Attribute* are the inherent participants in a relational process of attribution, and *Identifier* and *Identified* those in a relational process of identification. In the ‘ergative’ type of analysis, however, generalisations across process types mean that it is no longer possible to derive roles from processes: in the Sydney model, *Medium* appears, and *Agent* can appear, with all process types; in the Cardiff model, likewise, *Agent* and *Affected* are generalised roles, while *Carrier*, *Cognizant*, etc. are specific to particular process types.

8.4.3.2 *Typologies and semantic roles in FG and RRG: a more detailed view*

As the typologies of SoAs/Aktionsart in FG and RRG are based on shared antecedents (Vendler, Dowty) and use similar tests, I shall begin by comparing these two theories in relation to typologies and semantic roles, later bringing in comparison with SFG.

8.4.3.2.1 *Control, dynamicity and telicity.* Let us begin with some problems in the FG typology concerned with the concepts of control and dynamicity, and with the hierarchical nature of SoA features, as discussed by Siewierska (1991). Since, for a SoA to have the feature [+con], the first argument must be an animate entity, it might be deduced that there is a close relationship between Dik’s notion of control and that of intentionality. Siewierska (1991:48) assumes that control is at least incompatible with being unaware of what one is doing. These characteristics mark the concept of control off from that of agentivity, which is commonly conceived to be a wider category, not necessarily implying an animate, volitive agent. If the above characterisation of control is correct, then, as Siewierska (p. 69) points out, we might expect that predications will be assigned different SoA types, and their first arguments different semantic functions, according to whether what occurs is deliberate or accidental (cf. Siewierska’s examples (53a and b):

- (218) *Miller (Ag/Fo) broke a pair of scales on the stall.* (BNC K4V 1289)
[Action or Process]
- (219) *Miller (Ag) deliberately broke a pair of scales on the stall (Go).* [Action]
- (220) *Miller (Fo) accidentally broke a pair of scales on the stall (Go).* [Process]

This, as Siewierska observes, is at odds with most conceptions of agentivity. A re-examination of the concepts of control and *Agent* would seem to be indicated, particularly with respect to their relationship with the more general concept of agentivity and that of intentionality.

François (1997)⁵³ attempts to solve some of the problems in this area by using the category of causativity proposed by Vet (1991). The classification involves three levels of specification, originally set up for the analysis of predications in French and German. Firstly, the predication is classified as either [+transitional] or [–transitional]. François does not define these terms, but states that in French and German “transitionality is easier to access than dynamicity which is salient only for non transitional SoAs” (1997:44–45). For English, on the other hand, the process of classification begins with dynamicity, reflected in the ability of the predication to take continuous (progressive) forms. [+Transitional] SoAs are either [+telic] or [–telic], while [–transitional] SoAs are [+dynamic] or [–dynamic]. Certain types of non-dynamic predication involve the preservation of a situation which is expected to change but does not (as in keeping cool, holding one’s breath, or holding back a mass of water). All other non-dynamic predications are classified as [+transitory] (states) or [–transitory] (properties). It is at the second phase of classification that causativity and agentivity (or control) are involved, applying to all but state or property predications, which are non-causative and non-controlled. The effect of this second phase is to assign a semantic function to A1: that which is passively involved in a transitional SoA, undergoing a relative or absolute change of state, is the Patient, while the A1 passively involved in a non-transitional SoA is Affected. Assignment of Causer and Agent roles occurs in response to the classification of transitional and preserving predications in terms of the features [±causative] and [±controlled]. The third and final phase of classification introduces a number of further hierarchically ordered features which produce more delicate distinctions among the basic types, allowing, for example, for ‘psychological predications’ in which an Experiencer is involved, and for locative predications where the locative expression is either literal or metaphorical (including the Recipient in SoAs such as those of giving).

53. In this paper François also criticises Dik for inconsistency in his account of the Goal function; however, several of these arguments are based on an incorrect reading of Dik’s work. For instance, François (1997:40–41) claims that in *Fred gave John the money* Dik treats *John* as Goal, so allocating a different function from that in *John gave the money to John*. François gives no specific reference to support this claim. In fact, however, Dik (1989a:210, 215, 219; 1997a:248, 253, 258) explicitly indicates that *John* would have Recipient function, and *the money* Goal function, in both types of clause. François (1997:41) also claims that Dik’s characterisation of the Goal function implies that the predication must be [+control] and so does not take into account examples with Force + Goal, which would be [–control]. Once again, this is simply incorrect: as we saw in §8.1.3, Dik (1989a:103, 1997a:121) defines Goal as “the entity affected or effected by the operation of some controller (Agent/Positioner) or Force” (emphasis added). Furthermore he gives an example with Force + Goal (example (47a) in 1989a:104; (45a) in 1997a:121). Thirdly, François repeats an assumption made by Siewierska (1993:8), namely that only clauses with a Goal can be passivised, so that the second argument of clauses such as *The circle surrounds the square* and *Three lines form a triangle* should be treated as Goal, not as Reference, which Siewierska and François see as the most likely function to be assigned in a Dik-style analysis. However, I can find nowhere where Dik states that only clauses with Goals can be passivised. The Semantic Function Hierarchy does not help us here, since in Dik’s formulation Reference does not figure in it at all, though Siewierska (1993:37) adds it to the functions occupying the A2 slot.

In relation to the concept of dynamicity, Siewierska (pp. 53–55) refers to work by Rijksbaron (1988) which challenges Dik's concept of change, preferring the Aristotelian view of change as requiring an initial point and end point. This means that only telic SoAs can represent change, so ruling out Dik's Dynamism type of SoA ([+dyn, –tel]). Because of the logical dependence of change on telicity, Rijksbaron regards telicity as the primary distinguishing characteristic rather than dynamism. This in turn means that atelic events are, at the least delicate level, put together with Situations, as both being [–tel]. Siewierska (p. 54) lists a number of properties which these two types of SoA have in common, and also observes that the only property suggested by Dik as differentiating the two is the ability to occur with a satellite of Speed (see Table 8.1), perhaps a rather flimsy piece of evidence for such a major distinction. Siewierska herself suggests (p. 53) that Dik's hierarchy of features should be replaced by a non-hierarchical feature grid, as also proposed by de Groot (1985) as well as by Vendler (1967), on whose work Dik's classification is ultimately based.

Siewierska (pp. 51–53) also discusses briefly the problems caused by Dik's treatment of momentaneous processes as telic. As she points out, momentaneous SoAs are conceived as lacking in duration, while telicity depends on it. Correspondingly, momentaneous SoAs either do not take the progressive, or turn out as atelic in the test whereby, for atelic but not telic SoAs, *X was V-ing* entails *X has V-ed*. They also come out as atelic in the test with *almost*. Siewierska suggests that these problems can be circumvented by the kind of non-hierarchical feature grid she proposes.⁵⁴

If we now compare the Dik typology with that proposed in RRG, we see that there is a clear parallel between the FG [±dyn] and RRG [±static] features, but that [±con] in FG has no parallel in RRG, while [±telic] is promoted to a primary classifying feature in RRG. Note that both of these differences echo the difficulties with the FG proposals outlined above. We have to be a little careful in drawing these parallels, however, since the (sets of) tests used to isolate particular features in FG and RRG, though similar, are not identical. Comparing Tables 8.1 and 8.12, we see that the differences arise from the fact that [±punctual] enters into the primary classification in RRG but the equivalent [±mom] in FG does not.

- In FG the test for [±dyn] is whether the SoA can take a Speed satellite such as *quickly* or *slowly*: if the test is positive, the SoA is [+dyn]; in RRG this test is used to isolate [–static, –punctual] predicates, as is the ability to take the progressive. The RRG position appears to be correct, in that, for example, if something explodes quickly, the speed adverbial relates to the time up to the explosion, not to the speed at which the explosion occurs: only a limited range of speed adverbials such as *instantly* can occur with [–static, +punctual] verbs.
- The ability to take an adverbial of the type '*for <time period>*', and expressions of the form *it took X <time period> to*, or *X spent <time period> Y-ing* is taken as evidence for [–tel] in FG; in RRG, the lack of this ability is used to underline the punctual, i.e. non-durative, nature of Achievements ([–static, +telic, +punctual]).

54. For further discussion of (a)telicity in FG and its relationship with (un)boundedness, see Guerrero Medina (2001).

- The ability to take an adverbial of the type ‘in+ time period’ is taken as an indication of [+telic] in both FG and RRG.

In the light of the above comparisons, let us now contrast the SoA/Aktionsart categories proposed in FG and RRG. Table 8.20 shows the correspondences: where a cell is left blank in one column, this indicates that there is no parallel to the category in the other column. The category of Situation in FG is effectively the same as State in RRG, since both refer to any static SoA/predicate. Because there is no direct parallel to [\pm con] in RRG, there is no equivalent to the FG distinction between the categories of State and Position. RRG has no overall label for [-static] processes, equivalent to the FG Event, and because of the lack of any feature for control, does not make a distinction parallel to that between Process and Action. Neither does RRG distinguish, in terms of its basic categories, between Dynamism and Activity, or between Change and Accomplishment, as these are defined in FG: the former pair are both classified as Activities in RRG, and the latter pair as either Accomplishments or Achievements, depending on whether they are non-punctual or punctual. In talking about SoA/Aktionsart types in these two theories, then, one has to be particularly careful about the usage of the terms ‘Activity’ and ‘Accomplishment’.

Although control is foregrounded, and momentaneousness backgrounded, in the FG typology, while the reverse obtains in RRG, each theory is still able to account for at least some of the distinctions made by the other. In FG we can simply distinguish between [-mom] and [+mom] variants of Change and Accomplishment, as I have done in Table 8.20. We have seen that the FG concept of control implies volitional, deliberate behaviour, rather than simply the power to effect a change. In RRG, as we saw in §8.2.5.3, power to effect a change (Siewierska’s ‘agentivity’) is reflected in the presence of an EFFECTOR, while volitional, deliberate actions are performed by an AGENT, which in turn is a subtype of EFFECTOR. However, since many verbs can be used in both ways, RRG treats an interpretation in terms of AGENT function as implied by the use of a verb in particular contexts, unless the verb is such that it can have only a volitional interpretation (e.g. *murder*). The RRG analysis of examples (218)–(220) above would treat all of them as Activities, and each would have *Miller* as EFFECTOR, but in (219) the presence of *deliberately* would force the AGENT interpretation, in (220) this interpretation would be blocked, and (218) leaves the matter open. This approach would appear to solve the problem raised by Siewierska in relation to the FG account.

More problematic still is the Position category in FG, regarded as a controlled Situation ([-dyn, +con]). Below are given the examples which Dik provides for this class of SoA.

(221) (= Dik’s (30)a, 1997a: 114) *John kept his money in an old sock.*

(222) (= Dik’s (31)a, 1997a: 115) *John did not believe the story.*

(223) (= Dik’s (32)a, 1997a: 116) *John did not wait for his friend.*

(224) (= Dik’s (44)a, 1997a: 121) *The enemy occupied the city.*⁵⁵

55. Presumably (224) is intended to have the interpretation ‘The enemy was in a state of occupying the city’.

Table 8.20. Basic SoA/Aktionsart classes in FG and RRG

FG		RRG	
Category	Features	Category	Features
Situation	–dyn	State	+static, –telic, (–punct)
State	–dyn, –con		
Position	–dyn, +con		
Event	+dyn		
Process	+dyn, –con		
Dynamism	+dyn, –con, –tel	Activity	–static, –telic, (–punct) +dynamic
Change	+dyn, –con, +tel, –mom	Accomplishment	–static, +telic, –punct –dynamic
	+dyn, –con, +tel, +mom	Achievement	–static, +telic, +punct –dynamic
Action	+dyn, +con		
Activity	+dyn, +con, –tel	Activity	–static, –telic, (–punct) +dynamic
Accomplish- ment	+dyn, +con, +tel, –mom	Accomplishment	–static, +telic, –punct –dynamic
	+dyn, +con, +tel, +mom	Achievement	–static, +telic, +punct –dynamic

(225) (= Dik's (44)b, 1997a: 121) *John impressed Mary.*

(226) (= Dik's (44)c, 1997a: 121) *John was grateful to Mary.*

(227) (= Dik's (44)d, 1997a: 121) *John lives in London.*

In some of these cases, it is doubtful whether the putative Positioner really does have control over the SoA: beliefs are surely only partly 'controllable', as is the feeling of gratitude, and John may not have any control whatever over whether he impresses Mary. On the other hand, keeping something somewhere, waiting for someone, remaining in occupation of a city, and living in a place are indeed all situations over which people do have control. The distinction between the two sets is that the former are 'experiential Positions', in which one argument is marked as [Exp] in addition to some other semantic function, whereas the latter set are non-experiential. I shall discuss experiential SoAs very shortly, but for the time being I shall simply note that (222), (225) and (226) might be better classified as States. This leaves (221), (223), (224) and (227), and it is instructive to compare these with examples of Actions, such as *The child was playing with her toys* or *I finished the novel*. In the Positions, the control is potential: for example, John has the power to change his state of living in London, or the location of his money, or his state of being in wait for his friend, but does not exercise it. In the Actions, however, this potential is actualised: the child not only has the power to play with her toys, but actually does so; I not only have the power to read the novel to the end, but actually do this. What this amounts to is that the kind of 'control' exerted is intimately bound up with dynamicity, or more neutrally, the

[±static] distinction. A similar point is made by Goossens when he remarks that he does not consider clauses of belief to be Positions:

Beliefs are perhaps to some extent ‘controllable’, but they are not typically [+Control]. They ‘exist’; you cannot ‘do’ them. (Goossens 1990:175)

All of the above examples would be classified as States in RRG. Clauses such as (221) would be analysed as Causative States, with *John* as EFFECTOR in the causing predication and a locational State logical structure as the second argument of CAUSE.

If we compare the nuclear semantic functions proposed by Dik with the thematic relations of RRG, we find that there are rather few direct correspondences. In part, this is because lexical decomposition in RRG operates in terms of abstract, putatively universal components, while this kind of abstract representation is disallowed in FG. So, for example, the Recipient in FG shows up in RRG as the ‘x’ argument in a logical structure of the form BECOME/INGR *have*’ (x, y). On the other hand, some semantic functions in FG correspond to whole sets of roles in RRG. For instance, there is a range of more specific configurations in RRG which can correspond to the Agent + Goal configuration in FG: PERFORMER + PERFORMANCE, CONSUMER + CONSUMED, CREATOR + CREATION, USER + IMPLEMENT, and others.⁵⁶ Similarly, the secondary function [Exp] proposed by Dik, will correspond to a set of roles in RRG: PERCEIVER, COGNIZER, WANTER, JUDGER, EMOTER, etc. For some functions in FG, such as Positioner, there is no RRG equivalent.

Also relevant here is the FG classification of Schack Rasmussen (1994), alluded to earlier. Since Agent can appear with both dynamic and causative action schemes, Schack Rasmussen treats it as a value which can be attached to the first argument of such schemes. The presence or absence of an Agent can differentiate between intentional and non-intentional uses of verbs such as *roll* or *cry*. Instrument is defined as the E argument representing the entity which is caused, by an Agent, to effect a SoA. Control is seen as derivable from the feature of animacy on what she terms the Causator, so avoiding the necessity to postulate a separate Force function. Positioner can be defined as the agentive causer of a non-dynamic SoA, Processed and Zero as the Entity argument in dynamic and non-dynamic SoAs respectively. Since inanimate Agents are allowed in this classification (see Schack Rasmussen 1994:56), the function of Agent here appears to be very close to that of Effector in the RRG account.

8.4.3.2.2 *Experiential SoAs/predicates.* We saw in §8.1.1 that Dik proposes to treat [Exp] as a secondary semantic function attached, in appropriate cases, to constituents with another semantic function in uncontrolled SoAs, on the grounds that the distinction between experiential and non-experiential is usually not coded and does not have deep grammatical consequences in most languages, and in those where it does have grammatical repercussions, these are evidenced only in [-con] SoAs. Schack Rasmussen (1994)

56. These can, however, be interpreted in terms of a single pair of generalised roles in terms of their positions on the Actor-Undergoer Hierarchy, as shown in §8.2.5.3.

claims that her scheme is able to explain this observation: experience is indeed semantic, but is not the same kind of factor as Agent or telicity. Similarities between experiential and non-experiential constructions can be attributed to their shared semantic fields and basic types of function, while their differences are due to the existence of two different ‘semantic universes’, one mental, the other non-mental.

In RRG, experiential predicates are not singled out as a coherent class, but emerge as various subtypes of State and Activity predicates, with specific thematic relations depending on the kind of experience involved (see Tables 8.13 and 8.14).

8.4.3.2.3 Causativity. In §8.1.5 we saw that in FG, different conceptualisations of the same situation in the world under description are echoed in different semantic analyses, one instance of this principle being the treatment of transitive/intransitive pairs in which the transitive member involves causation. Examples (7) and (8) are repeated for convenience below.

(228) ... *Elinor's eyelids* (Proc) *slowly opened*. (BNC FPB 2676)

(229) *Elinor* (Ag) *slowly opened her eyelids* (Go).

Siewierska (1991:70–71) notes (citing Halliday (1985a:145)) that, *pace* Dik's view that the expressions referring to the eyelids have a different semantic role in the two sentences, because they are subject to the effect of an Agent's action only in (229), it is in fact the eyelids which undergo some kind of change in both cases, an observation which was also made by Mackenzie (1981:307) in relation to Dik's (1978a) original account of FG. Furthermore, the difference on which Dik's view is based is already reflected in the presence of an Agent in (229), but not in (228), so that there is no need to show this difference again by having different semantic function assignments for the other argument.⁵⁷ Although Dik also argues that the distinction between Processed and Goal in sentences such as (228)–(229) is needed for correct Subject/Object assignment, Mackenzie (1981:307) rightly observes that the motivation of semantic functions in terms of syntactic behaviour “undermines the autonomy of the levels of semantic functions and syntactic functions in an undesirable manner”, so leading to the conclusion that it would be better to revise the rules for S/O assignment than to force a semantic analysis which ignores important regularities.⁵⁸ This point is also made by Schack Rasmussen (1994), in whose scheme the Processed of (228) and the Goal of (229) would both represent the E(ntity) function of a locational structure, the difference arising from the action schemes, (228) being of the Motion type, (229) of the Causative type (with Motion embedded).

Note that although intransitive and transitive pairs such as the above are seen in FG as constituting different SoAs, it is possible that the predicates involved can be related by

57. Note, however, that Mackenzie (2002:16–17) cites work by Mithun (1999) on Nez-Perce, where A1 Agent, A1 Processed and A2 Goal are distinguished morphologically, so supporting Dik's position. Such systems are, however, rare.

58. For a dissenting view, see Marín Rubiales & Mairal Usón (1991:122).

means of a transitivity predicate formation rule. Dik (1997a:219–220) discusses predicate formation rules which convert certain types of adjectival predicate such as *white* to intransitive verbal predicates such as *whiten* (in the sense of ‘become white’), and to transitive verbal predicates (*whiten* in the sense of ‘make something white’) and analytical causatives such as *make white*. Note also, though, that the transitive sense is derived directly from the adjectival predicate, not from the intransitive verbal predicate. There are situations where Dik postulates a predicate formation rule deriving a transitive verb from an intransitive one, but these are the cases where there is an external Agent, the original Agent becoming the Goal of the transitive clause, as in the derivation of *he walked the dog* (BNC HSA 457) from *the dog walked* (see Dik’s similar example, 1997b:8–9). There would, however, seem to be no objection in principle to a predicate formation rule of this kind operating on an intransitive predicate such as *whiten*, converting the original Processed constituent into a Goal, as shown in (228)–(229).

The treatment of such pairs in RRG shows very clearly the underlying relationships involved. The logical structures corresponding to (228) and (229) are as in (230) and (231) respectively (ignoring the adverb, which is irrelevant to our present concerns).

(230) BECOME *open*’ (Elinor’s eyelids)

(231) [*do*’ (Elinor, Ø)] CAUSE [BECOME *open*’ (Elinor’s eyelids)]

The logical structure for the intransitive clause (representing an Accomplishment) is embedded as the second argument of CAUSE in the structure for the transitive clause (representing a Causative Accomplishment), and the EFFECTOR (interpreted as AGENT) is shown as doing some unspecified action which is the first argument of CAUSE.

Dik’s discussion of transitivity and causativity predicate formation rules, summarised above, suggests that each of the basic/causative pairings of SoA types in RRG could be handled in terms of predicate formation in FG.⁵⁹

8.4.3.2.4 Multiple semantic functions. Except in the case of the addition of [Exp] as a ‘footnote’ to primary semantic functions, FG does not allow double labelling. In RRG, a given constituent can have only one thematic relation with respect to a given logical structure, but it may have different roles with respect to different logical structures within an overall representation. Consider (232):

(232) *The accused took money from his employers.* (BNC HXE 67)

The underlying semantics of (232) is as shown in (233):

(233) [*do*’ (the accused, Ø)] CAUSE [BECOME NOT *have*’ (employers, money) & BECOME *have*’ (the accused, money)]

where *the accused* is EFFECTOR with respect to the causing SoA and also RECIPIENT with respect to the final possession SoA.

59. For further discussion of causativity in relation to FG, see Podolski (1998).

8.4.3.2.5 Non-verbal predication and the status of copular verbs. We have seen that FG admits a wide range of non-verbal predicates: Dik (1997a:214) lists adjectives and bare nominals (basic predicates), indefinite, definite, possessor and locative terms (derived predicates), and Hengeveld (1992a, 1992b) adds adverbial predicates. The use of such predicates triggers copula support in those languages, such as English, which require it. According to Dik's approach, all occurrences of main verb, copular *be* in English can be accounted for in this way. In those languages, such as Spanish, which have two different verbs corresponding to English *be*, two support rules apply, activated by different input conditions (Dik 1997a:201–202). Hengeveld (1992a:37), as we saw in §7.2.1.6, regards *ser* as a true copula, but *estar* as a semi-copula. He distinguishes (1992a:13) between two separate types of expression rule which are triggered by the two types: replacive rules turn an abstract element in the underlying structure into an actual formal element of structure, while support rules often create the conditions under which replacive rules apply. The insertion of *ser* comes about as a result of a (copula) support rule, while that of *estar*, which is claimed to realise a meaning of progressivity, is the result of a replacive rule acting on the progressive operator.

In RRG, the copula required by English non-verbal predicates arises as the realisation of Tense and Illocutionary Force operators. For example, the structure of (234) below can be represented as in (235) (cf. Van Valin & LaPolla's example of a similar clause in their Figure 2.19, 1997:51).

(234) *The town square is large ...* (BNC ECR 525)

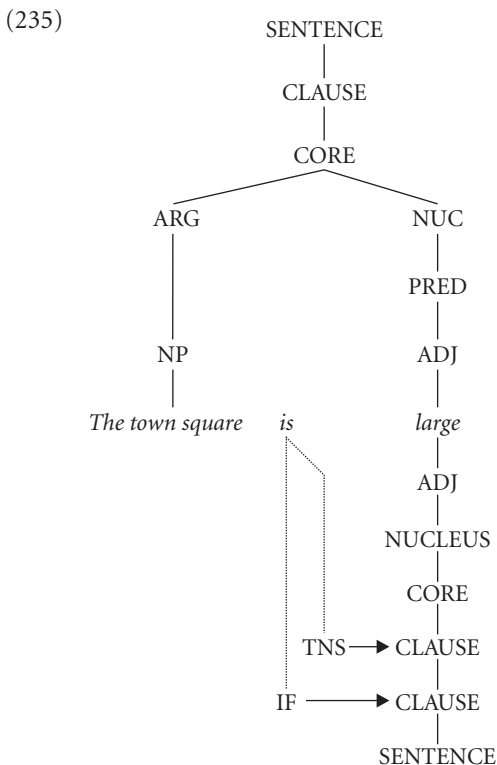


Table 8.21. Process types in the Sydney version of SFG and their classification in FG and RRG

SFG transitivity type	FG features	Corresponding SoA type	RRG features	Corresponding Aktionsart type
Material	[+dyn] [+con] [-con]	(no single type) Type of Action Type of Process	[-static]	Type of non-State
Verbal	[+dyn, +con]	Type of Action	[-static, -punct]	Type of Activity or Accomplishment
Mental	[+exp]	(no single type)	[+static] (in exp. LS)	Types of State and Causative State
Behavioural	[+dyn, +exp]	Type of Experiential Action or Process	[-static]	Type of non-State
Relational	[-dyn, -exp]	Type of non-experiential Situation	[+static]	Type of State
Existential	[-dyn, -exp]	Type of State	[+static]	Type of State

8.4.3.3 Process types and semantic roles in SFG in comparison with FG and RRG

8.4.3.3.1 SFG process types in relation to SoA/Aktionsart typologies in FG and RRG. In this section, I shall investigate to what extent the process types postulated in SFG can be mapped on to the SoA classes/Aktionsart types of FG and RRG, and look at work which suggests modifications to the FG scheme, based on work done in SFG.⁶⁰

An overall comparison of the SFG and FG classifications is given in tabular form by Halliday & Matthiessen (1999: 490): FG Actions correspond to figures of doing; Processes cover both the happening kind of 'doing' and effective sensing clauses; Positions are seen as a type of being/having;⁶¹ and States can correspond to either sensing or being/having.

Table 8.21 shows in some detail how the six types of process proposed by Halliday would be classified in FG and RRG. The main division of the process types, in terms of the FG and RRG schemes, is between material, verbal and behavioural processes, on the one hand, and relational and existential processes on the other. The former are [+dyn] in FG and [-static] in RRG, the latter [-dyn] and [+static]. Mental processes in Sydney SFG are a subset of those SoAs in which an argument is secondarily labelled as [Exp] in FG, while in RRG they correspond to a range of types of State and Causative State with particular types of thematic relation, as set out in Tables 8.13 and 8.14. Van Valin & LaPolla's (1997: 125) perception subclass corresponds to Halliday's perception subclass; the RRG cognition and propositional attitude subclasses are subsumed under Halliday's cognition type; the RRG desire and emotion subclasses correspond to the SFG affection/emotive type.

60. Some of the material in this section was first published in Butler (1990), and many of the suggestions made there are summarised in Marín Rubiales & Mairal Usón (1991).

61. It should be noted, however, that the Dik example of a Position cited as example (223) earlier (*John did not wait for his friend*) would presumably be regarded as a material process in SFG.

Let us now examine in more detail the relationships between the SFG and FG classifications. Halliday & Matthiessen (1999:488) have pointed out that figures of sensing do not form a homogeneous group in Dik's scheme, despite the evidence which can be adduced for such a class. The relationship between the mental processes of SFG and the FG typology of SoAs has been discussed in some detail by Goossens (1990), who points out that Halliday has proposed a set of criteria which, taken together, successfully delimit a class of mental processes, and that this set corresponds to those experiential SoAs in FG in which the 'sensing' dimension is most salient. Goossens (1990:176) proposes that Experience should be reinstated as a SoA type in those cases where the first argument is fully determined by the property [+cognizant] (or [+experiential]), rather than being simply a first argument of another kind, to which the feature is added. Goossens suggests that experiential Actions and Processes are not of the former type. In the case of Actions, he points out that the experiential aspect of meaning is connected with the [+control] feature which is present in all Actions: everything which is under our control has an experiential dimension to some degree, and Goossens therefore feels that it is redundant to add any indication of experience to the Agent. The following examples are quoted by Goossens from Dik (1989a):

- (236) (= Goossens' 4, p. 173)
John (Agent-Experiencer) thought about the story for a while.
- (237) (= Goossens' 5, p. 173)
John (Agent-Experiencer) conceived a clever trick.

Furthermore, such clauses would also take the progressive rather than the simple present tense as an unmarked form, and this goes against one of Halliday's criteria for mental processes. This is also true, as Goossens (p. 175) observes, of experiential Processes. Again he quotes examples from Dik (1989a):

- (238) (= Goossens' 6, p. 173)
John (Processed-Experiencer) dreamed about his former teacher.
- (239) (= Goossens' 7, p. 173)
John (Processed-Experiencer) got an interesting idea.

This leaves Dik's experiential Positions and States as candidates for truly experiential types of SoA: Goossens quotes the following examples from Dik (1989a).

- (240) (= Goossens' 2, p. 173)
John (Positioner-Experiencer) did not believe the story.
- (241) (= Goossens' 3, p. 173)
John (Zero-Experiencer) did not know the story.

In the case of experiential Positions, as we saw in §8.4.3.2.1, Goossens (p. 175) would not classify them as Positions, on the grounds that they are not typically [+control]. We can adduce evidence for Goossens' position from tests proposed by Dik for [+control]: although we sometimes find *believe* in the imperative, the following seem odd:

(242) ?*John promised to believe the story.*

(243) ?*John believed the story for my sake.*

Goossens also argues that there is a difference in conceptual salience between Halliday's pairs of mental process verbs as exemplified by *like/please*: the experiential dimension is more central in the *like* type than in the *please* type. Goossens' (p. 176) final proposal, then, is that those SoAs in which the first argument is a true Experiencer (i.e. corresponds to the first participant in a *like* rather than a *please* type of mental process in Halliday's classification) should be regarded as a new class of SoA, Experiences, while cases where the degree of 'Cognizance' is lower can be qualified as Experiential in addition to their main classification, as in Dik's scheme. Indeed, Goossens goes further, in suggesting marking two degrees of Cognizance, indicated by + and (+) respectively, a proposal which echoes Goossens' espousal of many aspects of cognitive linguistics. Below, the experiential aspect of the examples in Table 8.3 is reanalysed according to Goossens' proposals.

(244) *We* (Experiencer) *consider it a problem* ... (BNC CDR 1454)

(245) *I* (Experiencer) *believe you*. (BNC JY8 936)

(246) *He* (Processed-Experiencer) *dreamed often of his sister*. (BNC FAT 927)

(247) *Then I* (Processed-Experiencer) *received a shock*. (BNC CDM 2539)

(248) *I* (Agent) *was ruminating on his chances* ... (BNC CS4 1125)

(249) *But then someone* (Agent) *thought up a more subtle charge*. (BNC G3C 1616)

We should also note that Marín Rubiales & Mairal Usón (1991:118–120) compare the allocation of the Phenomenon participant role in Halliday's class of mental processes unfavourably with the detailed classification of perception verb complements proposed by Dik & Hengeveld (1991) and reviewed briefly in §8.1.7.

Let us now turn to a more detailed examination of the relationship between the SFG and RRG classifications. Halliday & Matthiessen (1999:491–503) offer a critique of the RRG scheme, though unfortunately, despite the fact that both Van Valin (1993b) and Van Valin & LaPolla (1997) were available prior to the publication of their own book, it is the early Foley & Van Valin (1984) account that they discuss. Given that RRG has moved on considerably since that initial account, it makes little sense to comment on Halliday & Matthiessen's criticisms of detailed points relating to the semantic classes set up there. I shall therefore confine myself to an examination of the more general comments relating to features in the 1984 account which have persisted into present-day RRG.

Firstly, Halliday & Matthiessen comment that semantic decomposition in RRG is "really a way of handling paradigmatic, systemic relations in syntagmatic terms" (1999:497), and that operators and connectives, rather than being seen as components of a logical structure, could be handled systemically. I shall take up this suggestion again later, in a more specific discussion of how the three theories under discussion handle similarity and difference in the representation of situations.

Secondly, Halliday & Matthiessen feel that the RRG approach misses some interesting questions, such as the metafunctional nature of the distinctions made, and whether the

proposed features are exhaustive. While the second of these questions is clearly important for any theory, the first is of less relevance to RRG which, as we have seen, makes no overt use of a system of metafunctional characterisation.

Thirdly, the authors cast doubt on the usefulness of the Vendler/Dowty classification on which the RRG model is based: it is demonstrably not a classification of verbs, since it involves taking account of information about participants and circumstances, and this in turn suggests that

... the Vendlerian classification is not a system that is inherent in the general system of the grammar or the semantics: it is merely a possible interpretation of the profile of the unfolding of a process in time, one that is determined by many factors.
(Halliday & Matthiessen 1999: 497)

We might observe here that the SFG classification is itself just one possible angle on the analysis of situation types.

Fourthly, proponents of RRG argue from “accounts of ‘the real world’” (for instance in the area of perception) rather than on “an exploration of reactances in the grammar” (1999: 500). For Halliday & Matthiessen, this is attacking the problem from the wrong end: what is relevant, for their account, is not, for example, how modern science construes perception, but how it is construed by the grammar of a language. This criticism is clearly related to Halliday & Matthiessen’s approach to language and cognition, which, as we have seen, starts from language rather than from what is purportedly known, perceived, etc.

Fifthly, Halliday & Matthiessen comment that Foley & Van Valin “argue from paraphrases and metaphorical variants” (1999: 500), for instance linking *believe/think* to *be of the opinion that* and *hold the belief that*, or *know* to *have knowledge of*. While they regard such relationships as significant, they resist the implication that, for example, *know* should actually be analysed in terms of ‘having knowledge’, reasoning that “[i]f we argued along these lines, most of grammar could be reconstrued metaphorically as forms of being & having, realized by relational clauses” and that “[s]uch interpretative reductions tend to obscure the multiplicity of perspectives built into the transitivity system” (1999: 501).

The validity of these criticisms clearly depends on just what a model is trying to do, and why it is trying to do it. The aim in RRG is to give an account of verb semantics which allows the linking of semantic and syntactic structures, and does full justice to the bewilderingly large range of types of behaviour to be found in the area of representing situations, across the world’s languages. It is therefore natural that RRG will propose a more abstract characterisation based on putatively universal primitives – though, as we have seen, this approach is in need of further development. The account of transitivity in SFG, on the other hand, is based very largely on the analysis of English, the recent work on other languages having had rather little impact, as yet, on the overall model in this area.⁶² Furthermore, the aim in the analysis of transitivity in SFG is to situate it within an overall

62. McGregor (1997: 106), for example, claims that for Gooniyandi there is no language-internal evidence for a distinction between material and mental types of clause; he also claims, however, that a Vendlerian typology of the kind found in FG and RRG is little better for this language.

In this particular respect, then, SFG resembles RRG more than either resembles FG, and the problems with the FG account noted by Siewierska and by Mackenzie (see §8.4.3.2.3) are avoided.

8.4.3.3.3 *Multiple semantic functions.* We saw in §8.3.2.2 that both the Sydney and Cardiff grammars allow double labelling for semantic function, though in somewhat different ways. Halliday & Matthiessen both label constituents for both transitive and ergative types of role. Fawcett makes much use of double labelling, to capture situations in which a constituent has different roles with respect to different aspects of the clause meaning.

8.4.3.3.4 *Non-verbal predication and the status of copular verbs.* The most striking difference between SFG and FG/RRG in the area of representing situations is that processes in SFG are seen as realised primarily in the main verb of a clause:⁶³ what in FG and RRG is analysed as non-verbal predication is treated in SFG in terms of the assignment of participant roles concerned with attribution and identification in relational processes. The crucial factor here is the status of copular verbs, such as *be* in English:⁶⁴ as we have seen, FG treats *be* as arising from the expression rule of copula support, and RRG in terms of the realisation of Tense and Illocutionary operators, while in SFG *be* realises the Process in a relational clause. This has some important consequences in terms of the ability of the three theories to show certain kinds of semantic relatedness. Consider (254):

(254) *Her tears dried ...* (BNC ADS 1063)

This is clearly semantically related to (255):

(255) *Her tears are dry.*

in that (255) represents the state which comes about as a result of the process in (254). We can, of course, go one step further from (254) and say something like (256):

(256) *John dried her tears.*

FG can account for these relationships in terms of predicate formation rules deriving (i) intransitive verbal predicates from adjectival predicates, and (ii) as suggested in §8.4.3.2.3, causative transitive verbal predicates from intransitive ones, respectively. RRG accounts for the same relationships in terms of the occurrence of the underlying logical structure for (255) in that of (254), and that of (254) in (256). SFG is, as we have seen, able to account for the causative relationship between (255) and (256) in terms of the addition of an Agent. However, SFG has no obvious way of showing the relationship between (254) and (255), since *are*, not *dry*, represents the process in (255). We might wonder whether the relationship could be captured through the relevant system networks, which are, after all,

63. Processes can, of course, be realised in nominal form through that kind of ‘grammatical metaphor’ which gives rise to nominalisation – see §7.2.3.6.

64. For a very thorough survey of approaches to copular sentences, see Keizer (1992b: Chapter 2).

intended to capture meaning relationships. This avenue, however, is also blocked: the process in (255) is a relational one, whereas those in (254) and (256) are material. The partial material and relational process networks published in the work of Halliday, Matthiessen and Fawcett do not allow for any interconnection which formalises the relationship in meaning. Matthiessen (1995:245) does recognise the relationship when he says that he has “tabulated subtypes of material processes according to the type of relational process to which the result of the occurrence of the material process can be classified as belonging”. The intransitive *dry* of (254) would be treated as a middle type of material process clause, and the transitive *dry* of (256) as the corresponding effective type, both related to an ‘intensive result’ of ‘state’. It is possible that the material process network presented by Matthiessen (1995:245) could be extended to incorporate more delicate subtypes of this kind. According to the relational transitivity network given by Matthiessen (1995:325), the clause in (255) would have the features [relational, expanding, ascriptive, intensive, nonphase, quality, quality as attribute]: the feature [intensive] can clearly be related to the ‘intensive result’ mentioned above. Nevertheless, such a strategy would not itself offer a formalisation of the meaning relationships, since one would have to rely on informal cross-matching of features in different networks.

Halliday & Matthiessen (1999:159–165) take further the discussion of the relationship between action and result presented in Matthiessen’s earlier account. As was mentioned in passing in §8.3.1.2.1, doing and being are now seen as complementary modes of construal, in that they present different perspectives on change in the flow of events. Put simply, if something dries, or someone dries it, the result is that the object is dry, and these represent alternative, complementary construals of the flow of events. In terms of the generalised, ergative model of patterning, the object which dries is the Medium in all the possible construals. In terms of the particularised, transitive model of patterning, the ‘middle’ process in ‘X dried’ involves a single participant ($X = \text{Actor}$), while in the effective process in ‘Y dried X’, we have $Y = \text{Actor}$, $X = \text{Goal}$; in ‘X was dry’, we have an ascriptive process with $X = \text{Carrier}$, and in ‘Y made X dry’, X is still the Carrier, and Y the Attributor which causes the final state to come about.

Goossens (1990) makes a detailed comparison of relational process clauses in SFG with the treatment of these clauses in FG, as a result of which he makes some interesting proposals for the modification of the FG account.

While accepting Dik’s analysis for most of the uses of *be*, Goossens argues that certain uses require an independent predicate. One such case is the existential use, where the presentative-existential *there* construction is not used:

(257) *I drink, therefore I am.* (BNC BNS 1586)

Another is where *be* can be paraphrased as *behave*, in which case it shares the characteristics of an Action: for this, Goossens (1990:180) suggests a mixed Zero-Agent argument (implicit in (258)):

(258) *Be bold with contrast as well as with harmony.* (BNC ACX 536)

These proposals are further developed and modified in Goossens (1991a, 1992), where it is argued that a single abstract meaning (glossed as ‘ascriptive’) is involved in property assignment, classification and identification. Under this view, *be* is meaningful even in the uses which Dik deals with entirely in terms of the expression rules, though Goossens (1992:71) leaves open the important question of whether the meaning of ascription should be part of the underlying structure, or alternatively whether certain expression rules can themselves be meaningful. Goossens (1992:65) furthermore maintains that *be* is ascriptive in ‘*be to + infinitive*’, the modal meaning of the combination coming from the infinitive rather than from *be*. Goossens (1992:68) also proposes a predicate formation rule to account for the use of *be* with a mixed Zero-Agent in examples such as (258), and a further such rule to account for uses which imply training for a job (e.g. *Why don’t you be a nurse?*). Readers are referred to the original articles for further detail.

For copula-like verbs other than *be* (e.g. *become, remain, seem*), which would also be relational in SFG terms, Goossens (1990:182–185) argues that neither copula support nor treatment as independent predicates is an adequate solution. Copula support is insufficient because the verbs clearly add meaning to the clause; but they do not represent independent predicates because they still need to combine with a non-verbal predicate, with its own arguments and selection restrictions (e.g. *chief executive* in (259)):

(259) *I became chief executive in 1971.* (BNC A6L 801)

Goossens proposes that copulas of the type exemplified by *become* and *remain* should be dealt with in terms of a predicate formation rule, as in (260) below. The verbs *seem*,⁶⁵ *appear, look, sound, feel* require a different predicate formation rule (262), since they can have an optional non-nuclear Experiencer, as in (261).

(260) (=Goossens’ 49, p. 183)

PREDICATE FORMATION RULE

INPUT: $\varphi(x_1)_\emptyset$

φ = Adjective predicate, Bare nominal predicate, Term Predicate

OUTPUT: Copula_v: stay, remain, keep $\varphi(x_1)_\emptyset$

or Copula_v: become, get, grow etc. $\varphi(x_1)_{\text{Proc}}$

Meaning: the copula adds some aspectual notion (‘continue to be’; ‘enter into the state of being’)

(261) *It seems pointless to me now.* (BNC C8S 2117)

(262) (= Goossens’ 56, p. 184)

PREDICATE FORMATION RULE

INPUT: $\varphi(x_1)_\emptyset$

φ = Adjective predicate

OUTPUT: Copula_v: seem, appear, sound ... $\varphi(x_1)_\emptyset(y)_{\text{Exp}}$

(where *y* is optional)

65. This rule is not intended to cover Subject raising uses of *seem*.

Meaning: the copula adds the notion *exhibit the appearance of being*; to be specified according to each individual copula as ‘generally, with uncertain probability’ (*seem*), ‘generally, with considerable probability’ (*appear*), ‘... visual appearance’ (*look*), ‘... auditory appearance’ (*sound*)

Note that Goossens treats *become* and *seem* alike, in terms of predicate formation, while Hengeveld (1992a), as we saw in §7.2.1.6, shows that they belong to different categories in terms of their behavioural properties, and introduces them through different mechanisms. Verbs such as *become* are semi-copulas in Hengeveld’s classification, and are introduced as the expression of operators (in this case for ingressive aspect), while verbs such as *seem* are pseudo-copulas, represented as separate predicates in the underlying structure. Thus (263) below would be given the derivation in (264), while (265) can be analysed as in (266), where only the immediately relevant parts of the structure are shown (cf. Hengeveld’s examples (47)/(48), p. 38, and (51)/(57), pp. 39–40):

(263) *Gloria became angry.* (BNC AC5 149)

(264) Representation:

(past e_i : [ingr $angry_A$ (d1 x_i : $Gloria_N$ (x_i) $_{\emptyset}$) $_{\emptyset}$] (e_i))

Expression of ingressive aspect:

ingr pred $_{-V}$ → *become* $_V$ pred $_{-V}$

Result:

(past e_i : [*become* $_V$ $angry_A$ (d1 x_i : $Gloria_N$ (x_i) $_{\emptyset}$) $_{\emptyset}$] (e_i))

(265) *Tom seemed angry again.* (BNC H9H 2319)

(266) [*seem* $_V$ (X_I : ... [$angry_A$ (d1 x_i : Tom_N (x_i) $_{\emptyset}$) $_{\emptyset}$] ... (X_I) $_{\emptyset}$) $_{\emptyset}$]

In other words, as Hengeveld (1992a:39–40) observes, a pseudo-copula such as *seem* differs from a semi-copula such as *become* in not establishing a relationship between the non-verbal predicate and its arguments: in (265), the relationship between the adjectival predicate *angry* and its argument *Tom* is in the complement of *seem*, as shown in (266), and as demonstrated by the paraphrase *It seemed that Tom was angry again*.

A further possible alternative analysis of items such as *seem*, *appear* could be based on the fact that the meanings expressed by these verbs are basically evidential, and so are closely related to the area of modality. It might therefore be worth considering whether they could be integrated into a unified account of modality and evidentiality.⁶⁶

Possessive relational verbs in SFG are treated as independent predicates by Goossens, with the possible exception of *have*, which he suggests could perhaps be dealt with in terms of a rule of *have*-support parallel to that for *be*. Goossens does not discuss circumstantial relationals in any detail, but it is clear that verbs such as *accompany*, which fall into this class for Halliday, would be treated as representing separate predicates in FG. They are [+control] and so should be classified as Positions rather than as States.

66. For some FG proposals in this area, see Hengeveld (1988), and for reaction to these, Nuyts (1990); see also Chapter 9 of this book.

The suggestions made by Goossens, though clearly modifying FG in the direction of SFG, would still be subject to criticism by proponents of current SFG. Halliday & Matthiessen (1999:458–460) reject the characterisation of *be* as a semantically empty carrier of inflections, for all its uses. Their criticisms are in fact levelled at the arguments of Chafe (1987), but are equally relevant to discussion of FG and indeed RRG. They point out that it should not simply be assumed that *be* is semantically empty: in their own account, as we have seen, it is meaningful in that, like any other verb, it represents a particular process type, with all the semantic and lexicogrammatical implications of that type. Halliday & Matthiessen also observe that it makes little sense to recognise verbs such as *seem*, *appear*, *become*, etc. as meaningful, but to refuse to accord this status to *be*, which they see as simply the most general member of the set. They also reject arguments from the relationship between the predicative use of adjectives (with copula, in languages such as English) and their attributive use (where no copula is present): for them, the two uses are not functionally equivalent, in that the first involves a relationship between participants in a clause, while the second involves a relationship of modification. Finally, they reject the argument from cross-language studies, according to which languages which have no copula in predicative constructions are used as evidence for the merely formal nature of the copula: for them, such differences are merely indicative of the fact that languages do not all categorise experience identically.⁶⁷

The status of the copula is also relevant to the treatment of the distinction between classifying (attributive) and identifying clauses in FG and SFG. In Halliday's version of SFG, as we have seen, the two types of clause carry different sets of semantic functions (Carrier/Attribute and Identifier/Identified respectively). In Dik's account of FG, both types of clause are handled in terms of term predicate formation, and the difference between them is said to be due to (in)definiteness of the term involved. Consider examples (112) and (120) given earlier, and repeated for convenience as (267) and (268) below:

(267) *One of the Peckhams' sons is a poet.* (BNC ANX 1662)

(268) *The head of state is the President of the Republic.* (BNC HKU 3791)

Dik's account would have the terms headed by *poet* and *President* converted to term predicates, which are then applied to the arguments *one of the Peckhams' sons* and *the head of state* respectively. The insertion of a form of *be* in each case arises by copula support in the normal way.

Keizer (1990) points out some problems with this account: unlike other term predicates, those involved in identifying clauses are referential, behaving like terms rather than like non-verbal predicates; furthermore, Dik is incorrect in attributing the difference between classifying and identifying constructions to the indefiniteness or definiteness of the predicate term, since it is already established in the literature that both definite and indef-

67. McGregor (1997:107–109), in the Semiotic Grammar framework which he developed as a reaction to what he saw as deficiencies in SFG, rejects Halliday's position, offering arguments for the non-experiential functioning of copular *be* which are essentially those of Dik (1989a: 166) and Hengeveld (1992a:29–30).

inite terms can be either property assigning or identifying. Keizer's suggestion is to revert to an earlier analysis by Dik (1978a:150–151), in which identification in English involves a predicate *be*. This analysis, then, brings us rather closer to the Hallidayan position in the case of identifying clauses, though not for classifying (attributive) ones. In a later account, however, Keizer (1992b:Chapter 4) presents a solution which does not involve the postulation of a predicate *be*. Classifying constructions are seen as containing a non-verbal predicate which is not referential, but assigns a property to its argument (in (267), the property of being a poet is assigned to one of the Peckhams' sons). Identifying constructions, on the other hand, contain no predicate at all (an idea first mooted by Mackenzie (1987b)), since neither of the two expressions predicates a property of the other; rather, such constructions consist only of two expressions which refer to an entity of the same order (first order in (268)). The relation of identification is seen as recoverable from, though not expressed by, the underlying representation, but as being itself assigned at a pre-verbal, conceptual level. This account clearly takes us back to a position very different from that in Halliday's account.

8.4.3.3.5 Roles in FG and SFG. Table 8.22 offers a comparison of semantic functions in FG (incorporating Goossens' suggestions for Experience SoAs) and participant roles in the Sydney version of SFG. Since the SFG roles are rather more numerous than those in FG, it is easiest to start from the FG roles and seek equivalences in SFG. Examples are taken from Tables 8.2 to 8.5.

Dik's Agent, occurring in Action processes, is clearly equivalent to the Actor of Halliday's transitive analysis of material processes, and so to the Agent in an ergative interpretation of a causative process, and to the Medium of a non-causative process.

Positioner has no single correlate in SFG, because Positions correspond to certain types of both material and relational process (and even, according to Dik, mental processes of belief, though this analysis, as we have seen, is somewhat dubious).

The Force function of FG has no exact parallel in SFG. As Dik (1997a:118–119) points out, however, Forces do not behave like Agents, since they occur in [–control] SoAs.

The Processed function of FG, corresponding to the entity undergoing the process, would be the Actor/Medium of a material process in SFG in cases such as the following:

(269) *The book fell to the floor with a loud bang.* (BNC AC7 461)

(270) *Blood was trickling from two deep cuts in his bottom lip.* (BNC G1U 2982)

Where the Process is an experiential one, however, we may have a Behavior, as in (271):

(271) *He dreamed often of his sister.* (BNC FAT 927)

though Processes expressing 'coming to have', such as that in (272), are treated by Halliday (1994b:134) as material:

(272) *Then I received a shock.* (BNC CDM 2539)

Table 8.22. Semantic functions in FG and participant/circumstantial roles in SFG

FG semantic function	Type of SoA	SFG transitivity type	SFG roles transitive	ergative
Agent	Action	Material	Actor	Agent/ Medium
Positioner	Position	Material	Actor	Agent/ Medium
		Relational	Carrier	Medium
Force	Process	Material	Actor	Agent
Processed	Process	Material	Actor	Medium
Processed[Exp]		Behavioural	Behaver	Medium
Zero	State	Relational	Carrier	Medium
			Identifier or Identified	Agent/ Medium
Zero[Exp]	State	Mental	Senser	Medium
Experiencer	Experience	Mental	Senser	Medium
Goal	Action, Position or Process	Material	Goal	Medium
	Action	Verbal	Verbiage Target	Range Medium
	Position	Mental	Phenomenon	Range
Goal[Exp]	Action or Position	Mental	Senser	Medium
Recipient	Action or Position	Material or Relational	Beneficiary/ Recipient	
Location	Action, Position or State		Location/spatial rest	
Direction	Action or Process		Location/spatial towards	
Source	Action or Process		Location/spatial motion/away from	
Reference	Action	Material	Range	
	State	Relational	Identified or Identifier	Medium/ Agent

The Zero semantic function assigned to the entity in some State corresponds to several different functions in SFG, according to whether the process is relational or mental, and if relational, according to whether it is attributive or identifying. In (273) we have an attributive relational process where FG Zero corresponds to SFG Carrier:

(273) *Even a simple device like this is large.* (BNC FNR 1803)

In an identificational clause, the Zero element in an FG analysis can correspond to any combination of Identifier/Identified and Token/Value. In (274), under the interpretation of Goossens which I have adopted here, we have an Experiencer which corresponds to the Senser in SFG:

(274) *We consider it a problem.* (BNC CDR 1454)

We see, then, that there is a rather complex relationship between the FG semantic functions at A1 position and those postulated in SFG. Let us now turn to the A2/A3 functions of FG, shown below the line in Table 8.22. Goal is clearly parallel to the SFG Goal function in material process clauses. However, those cases in which Dik recognises a Goal with Experiencer function, such as (275), are treated by Halliday (1994b: 117) as mental processes, with Senser as the equivalent participant role:

(275) *He frightened me.* (BNC FSG 477)

What Dik would analyse as Goal in mental process clauses with verbs such as *believe* corresponds to the Phenomenon in SFG (or, in some cases, to a quite separate clause) while the FG Goal in verbal process clauses corresponds to the Verbiage or Target in SFG (or, again, to a separate clause).

Recipients in FG are equivalent to the Recipient subtype of Beneficiary in SFG. Location, Direction and Source have straightforward parallels in subtypes of Halliday's Location function as shown in Table 8.22. (276) and (277) involve Reference in the FG analysis. In SFG terms, the process in (276) is relational/identifying, while in (277) we have a material process with the participant function Range (*all the names of the different stage areas*).

(276) *Fewer dollars equals less support for internationally related communication projects.*
(BNC EB9 480)

(277) *Miss Thorne had taught them all the names of the different stage areas.*
(BNC CAB 3656)

8.4.3.3.6 Roles in RRG and SFG. Halliday & Matthiessen (1999: 491–495) consider that the dual treatment of semantic roles in RRG, as macroroles and more specific roles, is more adequate than that of classical case grammar, because the postulation of macroroles facilitates the making of generalisations, especially in the area of relationships with syntactic functions, and the more specific semantic roles are identified in a more principled way. They nevertheless feel that the RRG proposals are incapable of certain generalisations which can be made in their own systemic framework.

Firstly, they claim that “[t]he characterization of Actor and Undergoer does not differentiate the ergative and transitive perspectives on transitivity” (1999:493).⁶⁸ Their argument here rests on the fact that the macroroles of Actor and Undergoer in RRG do not correspond in a one-to-one manner either with the specific transitivity roles of Actor and Goal in SFG, or with the roles of Agent and Medium in the generalised, ergative interpretation of transitivity. However, note that the unity of Medium in transitive/intransitive pairs with verbs such as *open* is paralleled by unity of the Undergoer of the basic (intransitive) predication in RRG. Furthermore, as we have seen, the Cardiff version of SFG makes no use of the transitive/ergative distinction.

Secondly, Halliday & Matthiessen claim that “[t]he Actor-Undergoer model in RRG, when applied to English, does not capture the significant generalizations embodied in this notion of Medium” (1999:494). Let us examine each of these proposed generalisations in turn. The Medium is, they claim, restricted relative to the Process in identical ways in effective and middle pairs (e.g. the example discussed earlier: *Elinor opened her eyes/Elinor’s eyes opened*). We have seen that in RRG, there is consistency of the Undergoer in such cases, and we might therefore predict the same restrictions in both types, just as in SFG. The Medium is also said to be the participant which is connected most closely to the Process by collocation. If this is true (and its demonstration would require a good deal of corpus-based analysis which has not yet been done), then it represents an argument, based on probabilities, for recognising some category akin to the SFG Medium.

As we saw in §8.3.1.5, the Medium is also said to be closely bonded to the Process to form a nucleus which determines the subclassification and interpretation of the process. The examples given by Halliday & Matthiessen include *run* in combination with *dog*, *factory* and *nose* as Medium, and *kill/die* in combination with *animal*, *light* and *motion*. Clearly, we are very much involved here in matters of lexical metaphor: it is by no means obvious that the verbs in such sets of uses should be treated as representing the same process at all, though an account of the meaning relationships involved must, of course, be part of a comprehensive model of verbal meaning. While Halliday & Matthiessen stress the unity of the Medium, we might rather want to say that the differences in interpretation between, for example, *The dog ran quickly*, *The factory ran smoothly* and *His nose ran copiously* could be interpreted in terms of the differences in the semantic roles involved (the dog is a volitional Agent, whereas the factory and the nose are not), and that these role differences in turn are bound up with the very different meanings of *run* that are signalled, these meanings being related only at a very much more general level of the semantics.

Halliday & Matthiessen also point out that the Medium is the only participant which cannot be treated as a circumstance, through the mediation of a preposition. For instance, in (277) above, *Miss Thorne* can be made the complement of the preposition *by* in the

68. McGregor (1997:98ff.), working within his Semiotic Grammar framework, makes a related point, arguing that both an Actor/Undergoer type of analysis and an ‘ergative’ analysis in terms of Agent/Medium are required in order to distinguish the four transitivity types he recognises for Gooniyandi. McGregor suggests that the two systems apply to differing degrees in different languages: in Gooniyandi they apply to all clauses, but this is just one end of a spectrum of possibilities.

passive, and the Recipient *them* could be preceded by *to*, but the Medium *all the names of the different stage areas* cannot be mediated by a preposition in this way. The validity of this argument depends on what sets of variants are considered to be agnate. For instance, is it permissible to relate *His nose ran copiously* to *Mucus ran copiously from his nose*? If so, then we have made the erstwhile Medium into a directional circumstance. The question of which sets can be regarded as agnate is, of course, is a constant source of incompatibility in arguing from similarities and differences between sentences, and one which Halliday himself frequently mentions.

8.4.4 An example analysis

In this section, I shall look at a single example, (278) below, in relation to the proposals made in FG, RRG and SFG. The example is deliberately chosen to bring out some strengths and weaknesses of the various approaches.

(278) *I remembered my homeopathy seminars.* (BNC A0U 30)

One problem which immediately strikes us here is that of ambiguity. Out of context, at least, the clause could have any of four interpretations:

- i. I still had my homeopathy seminars in my mind.
- ii. My homeopathy seminars came into my mind.
- iii. I remembered to do something connected with my homeopathy seminars (e.g. attend them).
- iv. I consciously thought back to my homeopathy seminars.

A good model of situations should be able to assign different analyses, in a principled way, the decision as to which is appropriate being conditioned by the linguistic context.⁶⁹

In FG, we can attempt to establish the SoA class by means of the relevant tests for dynamicity, control and telicity. The test Dik proposes for dynamicity, namely the addition of a Speed satellite which modifies the SoA itself, differentiates interpretations (ii), (iii) and (iv), in which the clause will take adverbials such as *quickly* and thus represents a dynamic SoA, from (i), which will not, and so is stative.

Now let us turn to telicity. Addition of an expression such as *in ten minutes* rules out interpretation (i) (as it should, since telicity is only an issue in dynamic SoAs), but *for ten minutes* is fine, as expected for a non-telic SoA. *In ten minutes I remembered my homeopathy seminars* can be interpreted in senses (ii) or (iii), whereas *For ten minutes I remembered my homeopathy seminars* cannot be taken in these senses, indicating that the predicate is telic. Similarly, *It took me ten minutes to remember my homeopathy seminars* can be taken in senses (ii) and (iii). Sense (iv), however, is ruled out, since it is compatible with *for ten minutes* but not with *in ten minutes* or *it took me ten minutes*. The test for telicity involving addition of *almost*, however, is problematic. In connection with senses (ii) and (iii) it should, if Dik is right, produce ambiguity of the type ‘almost did it, but

69. The context in the passage from which the sentence is taken suggests that the ‘coming to mind’ interpretation is the correct one here.

didn't in the end' vs. 'did it, but not completely'. With sense (ii), *I almost remembered my homeopathy seminars* can indeed mean 'My homeopathy seminars almost came into my mind, but didn't quite make it', or 'My homeopathy seminars came into my mind, but not completely'; but with sense (iii), only the first interpretation seems possible ('I nearly remembered to attend my seminars, but didn't manage to remember in the end'). Sense (iv), as predicted, gives no ambiguity.

A further problem is that the *in ten minutes* and *it took ten minutes* tests also indicate that the kind of remembering we have in senses (ii) and (iii) is not momentaneous, and yet the test Dik proposes for [+mom], namely inability to take aspectual verbs such as *start*, *continue*, *finish*, suggests that the SoA is indeed momentaneous, as witness the fact that *I started/continued/finished remembering my homeopathy seminars* cannot easily be taken in senses (ii) or (iii), though it is predictably acceptable for the non-telic sense (iv). A possible explanation is that time can elapse between the last appearance of some thought in the mind and reappearance coded as *remember*, but that the mental process of reappearance itself is instantaneous: an explanation of this type is suggested by Rijksbaron (1988:5), as cited by Siewierska (1991:52).

Tests for control, it will be remembered, involve the embedding of the SoA in a directive or a promise. *He asked me to remember my homeopathy seminars* and *I promised to remember my homeopathy seminars* can be taken in senses (iii) and (iv) only, and this suggests that both are [+control]. And yet with sense (iii) there is something rather odd, in that remembering something in the sense of remembering to do it is not, as we all know too well, something over which we have full control. What the directive and promise really mean is something like 'He asked me to try to remember (to attend) my homeopathy seminars'/'I promised to try to remember (to attend) ...', where what is under true control is the act of trying. The same applies to Dik's test involving the addition of a Beneficiary: *For her sake I remembered my homeopathy seminars*, means 'I tried, for her sake, to remember (to attend) them, and I succeeded in this'. It is, of course, uncontroversial that the act which someone remembers to do is controlled.

It will have been noted that paraphrases of sense (iii) involve an alternative structure with which *remember* can occur: *remember to do something*, with an infinitive clause as complement. The fact that *remember X* can be a kind of shorthand for *remember to do X* leads to problems when it comes to assigning semantic functions. If we conclude, from the above arguments, that sense (iii) represents a [+con] SoA, then *I* will be Agent, and *my homeopathy seminars* Goal; but this clearly does not represent the true meaning of the clause in sense (iii), since it does not in any way show that what is remembered is the intention to perform a future action.

The evidence, then, though not unproblematic, leads us to the following classification of the four senses of *remember* which could be read into our example:

- | | | |
|-------|--------------------------|----------------|
| (i) | [-dyn] | State |
| (ii) | [+dyn, +tel, +mom, -con] | Change |
| (iii) | [+dyn, +tel, +mom, +con] | Accomplishment |
| (iv) | [+dyn, -tel, +con] | Activity |

The classification of the [+con] senses in the model proposed by Goossens (1990) is not totally straightforward. Clearly, they are not Experiences, since these are defined to be [-con, -dyn], as well as exhibiting full Cognizance. One would think, then, that the SoA might be an Experiential Action (more specifically, an Experiential Accomplishment for (iii), an Experiential Activity for (iv)) and I an Experiential Agent. The problem is that Goossens (1990: 176–177) mentions only Experiential States and Processes. This may, of course, be simply because of the particular context in which his discussion is conducted, but even so, Goossens' scheme needs some amplification if it is to cope with all possible types of SoA where the Experiencer is added, as a secondary role, to an argument which already has a primary semantic function.

Let us now see how our sentence would be analysed in RRG. It was mentioned in §6.2.2.2 that Van Valin & Wilkins (1993) have provided a rather detailed account of the semantics and syntax of various senses of *remember*, which pushes their lexical decomposition system to quite delicate components. In their paper, Van Valin & Wilkins (1993: 509) claim that *remember* can belong to any of three Aktionsart classes: Activity, where it is used to indicate a conscious recalling to mind; State, as in remembering one's first day at school; and Achievement, where an inchoative activity (e.g. suddenly remembering something) is involved. It is important to realise here that Van Valin & Wilkins are working with the version of predicate classes given in Foley & Van Valin (1984) and in Van Valin (1993b), according to which Achievement predicates are those with a logical structure of the form BECOME predicate' (x) or (x,y), and can be either punctual or non-punctual (see §8.2.5.1). In terms of the current RRG model, the punctual ones would be Achievements, with a logical structure involving INGR rather than BECOME, while the non-punctual ones would be Accomplishments, with BECOME in their LS. In order to check the classification of the four interpretations of example (278) in current RRG, I shall use Van Valin & LaPolla's tests, the results being set out in Table 8.23.

Sense (i), which does not respond positively to any of the tests, is thereby classified as a State. Sense (iv) is the only one which takes the progressive, marking it out as [-static, -punctual]. It is non-telic, since it can take *for* + duration, but not *in* + duration. We can therefore classify it as an Activity. Note, however, that Activities are claimed to take adverbs such as *vigorously* and *actively* and while sense (iv) of *remember* can perhaps take the latter adverb, it cannot take the former, even though Van Valin & Wilkins (1993: 509) themselves classify this sense as an Activity. This suggests that greater care needs to be taken in specifying the adverbs for this test. The fact that (ii) and (iii) can take the full range of pace adverbs, as well as taking *in ten minutes* without any problem, suggests that they are [-punctual] and so are Accomplishments: Achievements in current RRG are claimed to take only those pace and durational adverbs which indicate very short duration, not those indicating a longer time span. And yet, as we saw above, the FG test for momentaneusness suggests that (ii) and (iii) should be classified as [+mom], or in RRG terms [+punctual], and so Achievements rather than Accomplishments. The problem, of course, is the one I alluded to in relation to the FG analysis: the RRG tests respond to the fact that time can elapse between the previous appearance of conscious reflection on an event and the appearance coded in *remember*.

Table 8.23. Tests for RRG classification

Test	Test sentence	Sense (i)	Sense (ii)	Sense (iii)	Sense (iv)
Progressive [–static, –punctual]	<i>I was remembering my homeopathy seminars</i>	–	–	–	+
<i>vigorously</i> [+dynamic]	<i>I vigorously remembered my homeopathy seminars</i>	–	–	–	–
<i>quickly/slowly</i> [–punctual] (when [–static])	<i>I quickly remembered my homeopathy seminars</i>	–	+	+	+
<i>in ten minutes</i> [+telic]	<i>I remembered my homeopathy seminars in ten minutes</i>	–	+	+	–
<i>for ten minutes</i> [–telic]	<i>I remembered my homeopathy seminars for ten minutes</i>	–	–	–	+

What Van Valin & Wilkins regard as the Achievement sense of *remember* is analysed as BECOME **think.again (x) about something.x.intends.be.in.mind.from.before (y)** (Van Valin & Wilkins 1993:511, 513). Each of these components is justified in terms of occurrence elsewhere in the semantics of English and other languages, and some can be decomposed further (e.g. **intend** is claimed to be based on the primitive **want** (1993:514)). The complex of components **something.be.in.mind.from.before** is common to all senses of *remember* (the others differing in what kind of thing is in mind: knowledge, belief or perception, instead of intention). Relationships between more and less specific complexes of components are specified by semantic redundancy rules.

Let us turn now to the analysis of our example in the Sydney version of SFG. Remembering clearly has a strong mental component, however it is used. We should bear in mind, however, that behavioural processes also share characteristics with mental processes, as well as with the material type. In particular, the first argument of a behavioural process (as well as that of a mental process) is normally animate, and this is the case with *remember*. In sense (i), *remember* is clearly a mental process: not only is its first participant normally animate, but also, as we have seen, it does not take the progressive (or, as Halliday would have it, present-in-present) easily. The same criteria apply to sense (ii); furthermore, we could postulate a pair *I remembered it/it came back to me*, parallel to the *like/please* pairing which Halliday says characterises a subset of mental processes. With sense (iii), the situation is slightly less clear: like (i) and (ii), it does not take the progressive easily, suggesting a mental process classification; but we could also perhaps see this sense as an instance of “[near mental] processes of consciousness represented as forms of

behaviour” (Halliday 1994b:139) and there is an alternative form *I remembered about my homeopathy seminars* which corresponds to Halliday’s observation that such behavioural processes are associated with circumstances of Matter. The behavioural classification is quite clear in sense (iv), where the progressive is perfectly acceptable and there is a clear component of activity.

Matthiessen’s (1995) networks for mental process clauses do not explicitly distinguish senses of *remember* when it takes a simple nominal group as Complement: the mental clause readings would have the features [mental, phenomenalisation, phenomenal]. Although Matthiessen does not discuss *remember* as a possible behavioural process, any such use would, as we have seen, be classified as a subtype of material process.

Sydney SFG, then, although it can distinguish sense (iv) (and possibly (iii)) from the others, does not foreground the distinction, between stative and non-stative, which is needed in order to differentiate between (i) and (ii).

Within the treatment of mental processes clauses in the Cardiff grammar, as briefly summarised in §8.3.2.4, Fawcett (1996) gives a detailed account of an even more finely differentiated range of meanings for *remember* than those discussed by Van Valin & Wilkins. Senses (i) and (ii) are defined within the ‘belief system’ ontology as follows (‘th’ stands for **thing** here):

Sense (i):

remember th: to have in one’s conscious memory a representation of an object that one first knew in the past (Fawcett 1996:329)

Sense (ii):

coming to remember th: to come to have in one’s conscious memory a representation of an object that one first knew in the past (Fawcett 1996:330)

Since we are dealing here with the belief system ontology, which in Fawcett’s model lies outside language itself, we can presumably characterise sense (iii) as follows:

remember and execute intended situation: to come to have in one’s conscious memory a representation of an event that one first knew in the past and that one had decided to cause, and then to cause that event to occur (Fawcett 1996:330–331)

However, the example discussed by Fawcett is one in which the intended situation is realised as a clausal complement (*Ike remembered to take her a bunch of flowers*), the possible nominal packaging of such a situation not being discussed. Fawcett makes a comment which is relevant to the problem of control discussed earlier in relation to the FG account: he notes (1996:331) that although the remembering is something that happens to the rememberer, so that this participant is an Affected-Cognizant, this meaning of the verb implies the fulfilment of the intention to do the relevant act, so also implying Agent-like function. We might equally say that the remembering itself is not controlled, but that the performance of the act itself is. Fawcett decides to treat the agency interpretation as an implication rather than as part of the basic meaning, on the grounds that examples like *What Ike did was to remember to take her a bunch of flowers* seem odd.

Sense (iv), in which *remember* indicates deliberate recalling, is not included in Fawcett's scheme.

As far as the semantic networks themselves are concerned, we have the following characterisations of senses (i) and (ii):

sense (i): [mental, cognition, simple cognizant, knowing again, knowing thing again, remembering state thing, phenomenon thing]

sense (ii): [mental, cognition, affected cognizant, coming to know again, coming to know thing again, coming to remember state thing, remembering change-of-state thing, phenomenon thing]

It is not clear how sense (iii) would be analysed, since the feature combination [mental, cognition, affected cognizant, coming to know again, coming to remember situation, remembering and executing intended situation, potential situation phenomenon] would trigger realisation rules leading to an infinitive clause as complement. It could perhaps be proposed that although in the underlying belief system we have an instance of 'remember and execute intended situation', in the linguistic semantics we have 'coming to remember state thing', the underlying interpretation being derived inferentially, via the context.

To conclude this extended example analysis, we may say that in this particular area of the grammar, RRG and the Cardiff version of SFG have produced much more detailed analyses than FG or the Sydney grammar. Furthermore, each of the four accounts we have discussed faces problems with particular aspects of the analysis.

8.4.5 Modelling similarity and difference in the representation of situations: evaluation and proposals

We have seen in this chapter that FG, RRG and SFG show some fundamental differences, but also some similarities, in their approach to representing situations. In this final section I shall attempt to summarise the three approaches, and relate them to more general features of the theories, by asking how each theory tries to account for the similarities and differences between clauses, with respect to this area. The discussion will conclude with some suggestions for the incorporation of an explicitly paradigmatic component into FG and RRG, reinforcing the arguments already presented in §6.3.

FG and RRG both seek to build a typology of SoAs/predicates on the foundations laid by Vendler and Dowty, working within a philosophically-oriented approach to language. Their typologies are therefore understandably similar in some respects, though we have seen that they emphasise different features. Dik's FG prioritises similarities and differences of control and dynamicity, with telicity adding further subdivisions within the class of dynamic SoAs, but momentaneousness is an added feature of some SoAs which does not enter into the typology itself. RRG, on the other hand, emphasises the [\pm static] dimension (related to Dik's dynamicity), telicity then giving a subdivision of non-static predicates, with [\pm punctual] providing a more delicate division of telic SoAs; Dik's concept of control does not enter into the typology itself.

RRG postulates a separate category of Active Accomplishment for those situations in which a verb which is basically an Activity is used in a linguistic context in which it becomes an Accomplishment. FG deals with this situation simply by classifying the resulting SoA as telic rather than non-telic (i.e. as an Accomplishment rather than an Activity, in the FG senses of these terms).

RRG also postulates a causative counterpart for each of the five basic Aktionsart classes (including Active Accomplishment). In FG, on the other hand, we can handle the relationship between basic and causative types in terms of a predicate formation rule with the basic predicate as input and the causative predicate as output, with appropriate specification of the semantic roles of the causing and caused entities.

In FG, and perhaps even more in RRG, there is a noticeable emphasis on seeking formal justification for the categories proposed, in terms of differences in morphosyntactic behaviour correlating with features of SoAs/predicates. Furthermore, especially in RRG, such justification appeals to a range of languages and language types, as is consistent with an explicitly typological orientation.

The basis for recognising different kinds of process in SFG is rather different from that in FG and SFG. The basic categories of material, mental and relational process are relatable to three important aspects of human life: (i) the physical actions and events which human beings carry out and which impinge on them, (ii) the possession and exercise of mental and perceptual faculties, and (iii) description and identification of concepts and entities in real and imagined worlds. Of course, inanimate entities in the human environment, and also abstractions of various kinds, are also involved in various types of process; nevertheless, the basic classification clearly reflects the conception of language as human social activity which underpins SFG and determines the approach to theory and description.

Within the overall classification into material, mental and relational types, the more delicate distinctions made also tend to reflect teleological rather than process-internal properties. For example, material processes may be creative or dispositive; mental processes may involve perception, cognition or affection; relational processes are attributive or identifying, and also intensive, circumstantial or possessive – all properties which, in one way or another, are relatable to important aspects of the everyday lives we live so extensively through language. We can see a relationship, clearest for material processes, between process types in SFG and the dynamicity feature of FG or the stasis feature of RRG: the difference between happenings and states of being is of great importance in our lives. Significantly, however, there is nothing in a systemic network for process types which corresponds directly to the telicity or momentaneousness distinctions which are so important in FG and/or RRG: such features are perhaps of less obvious relevance within an approach which prioritises the role played by processes in human life.

Although proponents of SFG do seek formal justification for their proposed differences in process type, such justification is largely based on one language, English, and is often couched in semantically-oriented terms. For example, mental processes, as we have seen, are said by Halliday to be unlike material processes in being able to take a 'fact' as second argument; this in turn means that they can take a *that*-clause, but this fact about syntactic complementation, though certainly clear from Halliday's exposition, is secondary

to the semantic generalisation on which it is based. We have seen that systemicists do not in general look to a wide range of languages for support, although there are clear signals that the theory is getting rather less anglocentric. In the area of process type, SFG differs sharply from FG and particularly from RRG in not appealing to the cross-linguistic correlation of morphosyntactic properties with the distinctions postulated.

Clearly, one unifying aspect of the three theories is that each seeks to show similarities and differences of SoA/predicate/process type through sets of paradigmatic features: in FG [\pm dynamic, \pm control, \pm telic], with [\pm momentaneous] as a secondary feature; in RRG [\pm static, \pm telic, \pm punctual], and in SFG [material, mental, relational], with also the three minor types [behavioural, verbal, existential] in the Hallidayan version. Three further points are worth making here.

Firstly, the FG and RRG classifications can very easily be turned into system networks,⁷⁰ as shown in Figures 8.3 and 8.4. The asterisks and daggers in these networks show markedness conventions: in Figure 8.3, non-dynamic SoAs, which do not choose for telicity, are inherently non-telic; in Figure 8.4, similarly, static predicates are non-telic, and non-telic predicates are non-punctual.

Secondly, the three theories differ in the relationship between the underlying classification and the structures of SoAs. The features which are fundamental to the FG classification, and also the SoA classes derived from combinations of these features, play no direct part whatever in the semantic specification of the SoA as a predicate/argument structure. The only connection is through the number of arguments and the semantic functions they bear, and as we have seen, even this connection is not a straightforward one. Nevertheless, the features are actually crucial, because they offer the only way of making certain significant generalisations. Without them, there is no way of showing, for example, that Positions are like Actions in one respect (they are both [+control]), and that similarly Processes are like States in being [-control]. These similarities cannot be shown in terms of semantic functions, since no functions are necessarily shared by the relevant pairs. Furthermore, [\pm telic] is unlike other features in that although it distinguishes between Accomplishment and Activity, and between Change and Dynamism, there are no semantic roles which are dependent on this distinction, and so it does not act as the basis for any differences in the underlying semantic representation of clauses.

In RRG there is a very clear relationship between predicate classes and the logical structures they enter into, in that each class has a particular logical structure with specified numbers of argument positions, and these argument positions determine the thematic relations. In SFG, too, there is a direct relationship between underlying classification and the process/participant structure of the clause, in that the functional elements arise through the realisation rules attached to features in the transitivity networks: e.g. we have seen that in Matthiessen's network, [material] is realised by the insertion of a nominal group with the role of Actor, [mental] by a nominal group representing an animate entity with the role of Sensor, and so on.

70. See §6.3 for a more general discussion of the relevance of networks to FG and RRG.

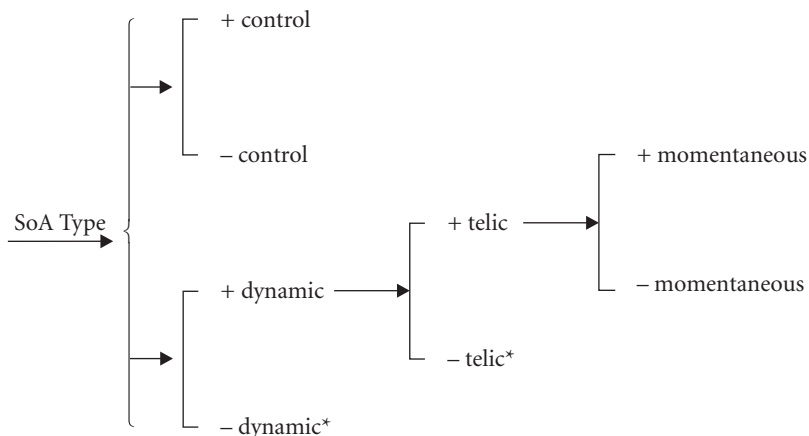


Figure 8.3. Network representation of FG distinctions in SoA type

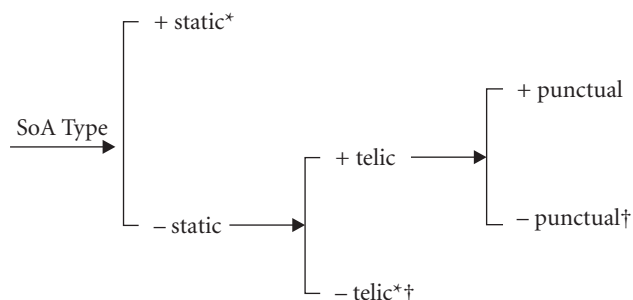


Figure 8.4. Network representation of RRG distinctions in predicate type

Thirdly, the SFG networks clearly go much further than just distinguishing material, mental, relational and possibly the three minor types of process; that is, the distinctions made are much more delicate than those in Figures 8.3 and 8.4, and this is hardly surprising, since SFG is a paradigmatically-based grammar, whereas FG and RRG are basically syntagmatic in orientation. We might ask, then, whether there is anything in the FG and RRG schemes which is at all comparable to the more delicate distinctions made in SFG. It does indeed seem to be possible to formulate further distinctions within the basic FG SoA types, characterised by different combinations of semantic roles, such as are set out in Tables 8.4 and 8.5. In RRG, although the thematic relations are fixed by the logical structure of the clause representing the SoA, subtypes of the key Aktionsart classes State and Activity are postulated, with corresponding sets of thematic relations: e.g. state/condition, existence, location, perception, cognition, desire, emotion, propositional attitude, possession, attributive/identificational types of State. Again, it is perfectly possible to formalise these distinctions in terms of a systemic network.

Table 8.24. Examples of SoA types and role combinations generated by networks

Features	SoA type and role combination generated
[+con, +dyn, non-affecting, without place, without transfer]	Action: Ag
[+con, +dyn, affecting, without place, with transfer]	Action: Ag + Go + Rec
[+con, +dyn, affecting, with place, place where to]	Action: Ag + Go + Dir
[+con, -dyn, two roles, with transfer]	Position: Po + Rec
[-con, +dyn, initiated, affecting, with place, place where to]	Position: Fo + Go + Dir
[-con, +dyn, initiated, non-affecting, with place, place where to]	Process: Fo + Dir
[-con, -dyn, experiential]	Experience: Experiencer + Go
[-con, -dyn, non-experiential, two roles, place where]	State: Zero + Loc

Figures 8.5 to 8.8 show tentative networks which relate configurations of semantic roles to the basic SoA classes of FG, based on just those combinations listed in Tables 8.4 and 8.5, but with the alterations suggested by Goossens (1990) with respect to truly Experiential SoAs, and leaving out, for the sake of simplicity, the occurrence of [Exp] as a secondary role, which could fairly easily be accommodated by further additions to the network. Note that each of the four subnetworks is for a particular feature combination from the network in Figure 8.3, and could have been attached by appropriate 'wiring' to that network, but at the expense of legibility.

It is left as an exercise for the reader to check that the networks do indeed generate the correct combinations, and only these. Just a few examples (see Table 8.24) will suffice to illustrate the principles involved. Note that no attempt has been made here to verify whether both Activities and Accomplishments can take the full range of role combinations specified by Dik for Actions, or whether both Dynamism and Change can take the range of role combinations specified for Processes. In other words, no attempt is made to test combinations with [\pm telic]: this is left for future work.

Networks for the predicate type distinctions in RRG are shown in Figures 8.9 to 8.11. As an example of how the networks in Figures 8.9 to 8.11 would generate the logical structure for a particular type of predicate, let us take the feature combination [-static, +telic, +punctual, -causative, state-based, *re-enter* [+static], single role, state/condition], the specification for an Achievement with a stative predicate inside the INGR modifier. The realisation rules specify INGR, then *predicate'* (x), then x=PATIENT, yielding the logical structure: INGR *predicate'* (PATIENT). As a further example, consider the feature set [-static, -telic, two roles, -causative, non-use, consumption]. This leads to the introduction of *do'* (x, [*predicate'* (x,y)]) and the specification of x as CONSUMER and y as CONSUMED, so giving the logical structure: *do'* (CONSUMER, [*predicate'* (CONSUMER, CONSUMED)]). No attempt has been made here to check whether all the subtypes of State and Activity predicate can be made causative.

Networks such as those in Figures 8.5 to 8.11 are not merely notational variants on the lists presented by Dik (1997a) and by Van Valin & LaPolla (1997): they formalise the internal relationships among the various SoA/predicate types, so explicitly showing sim-

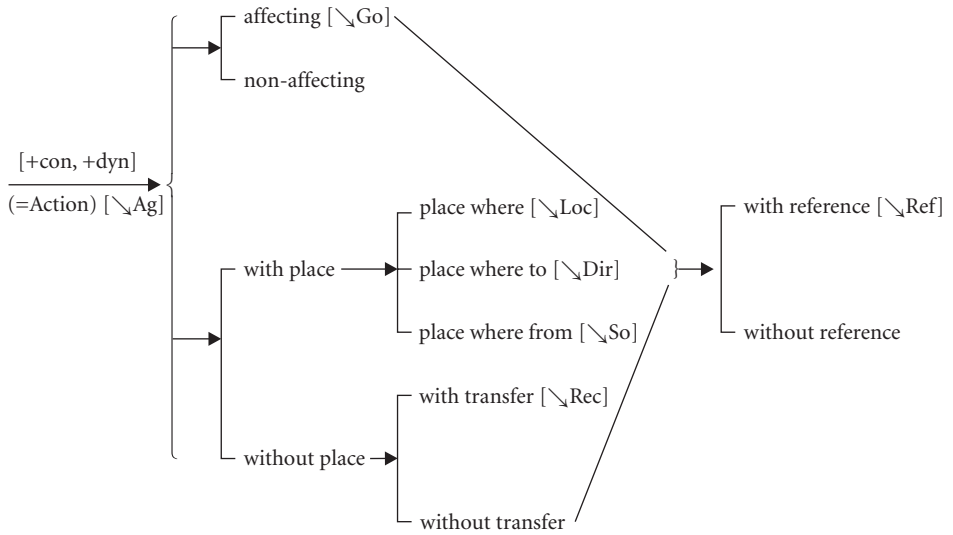


Figure 8.5. Network for Action SoAs in FG, with realisation rules

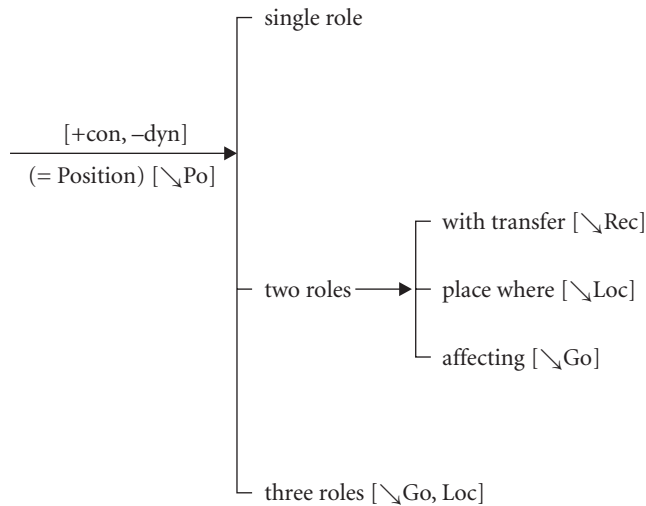


Figure 8.6. Network for Positions in FG, with realisation rules

ilarity and difference, and the realisation rules show how we can go from SoA/predicate type distinctions to semantic functions (FG) or logical structures (RRG).

As was discussed in §6.2.2, FG and RRG differ from SFG in the relationship between lexical phenomena and the rest of the grammar: while SFG generates lexical items through system networks of the appropriate delicacy, so minimising the difference between lexis and grammar, FG and RRG postulate a separate lexicon in which predicates (or basic, non-

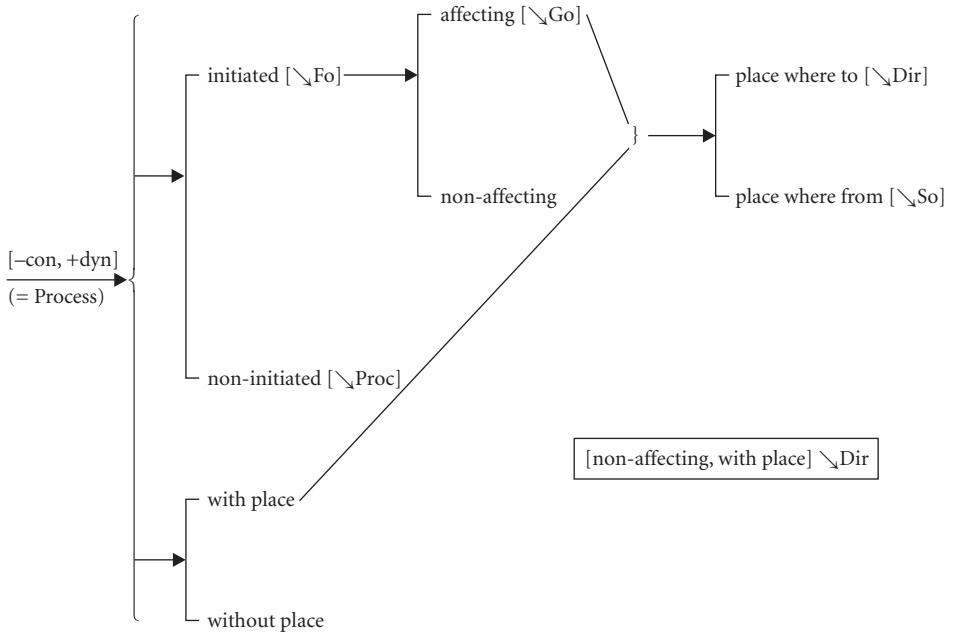


Figure 8.7. Network for Processes in FG, with realisation rules

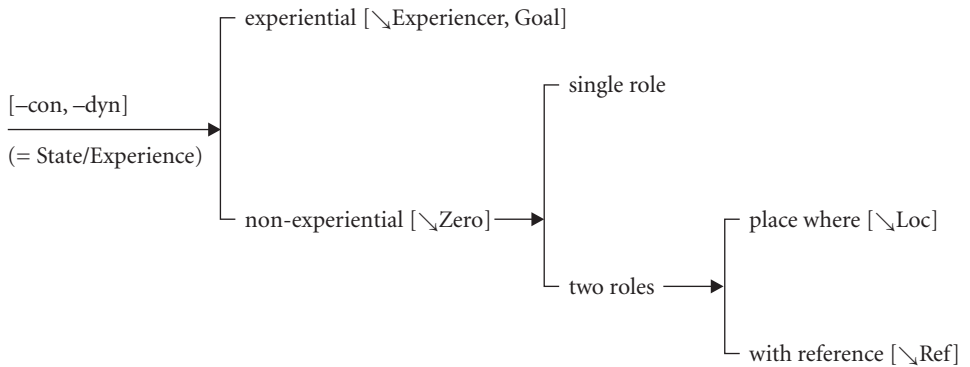


Figure 8.8. Network for States and Experiences in FG, with realisation rules

derived predicates in the case of FG) are stored. If we assume such a separation, then each semantic structure generated by a pass through the FG or RRG networks proposed above acts as a pointer to a set of predicates in the lexicon, belonging to a particular subclass and taking a particular set of semantic functions/thematic relations.

It is worth noting that the concept of a lexicon is not itself incompatible with the idea of specifying the semantics of lexemes through features. A lexeme is more than just a semantic entity: it is also associated with syntactic and phonological/graphological in-

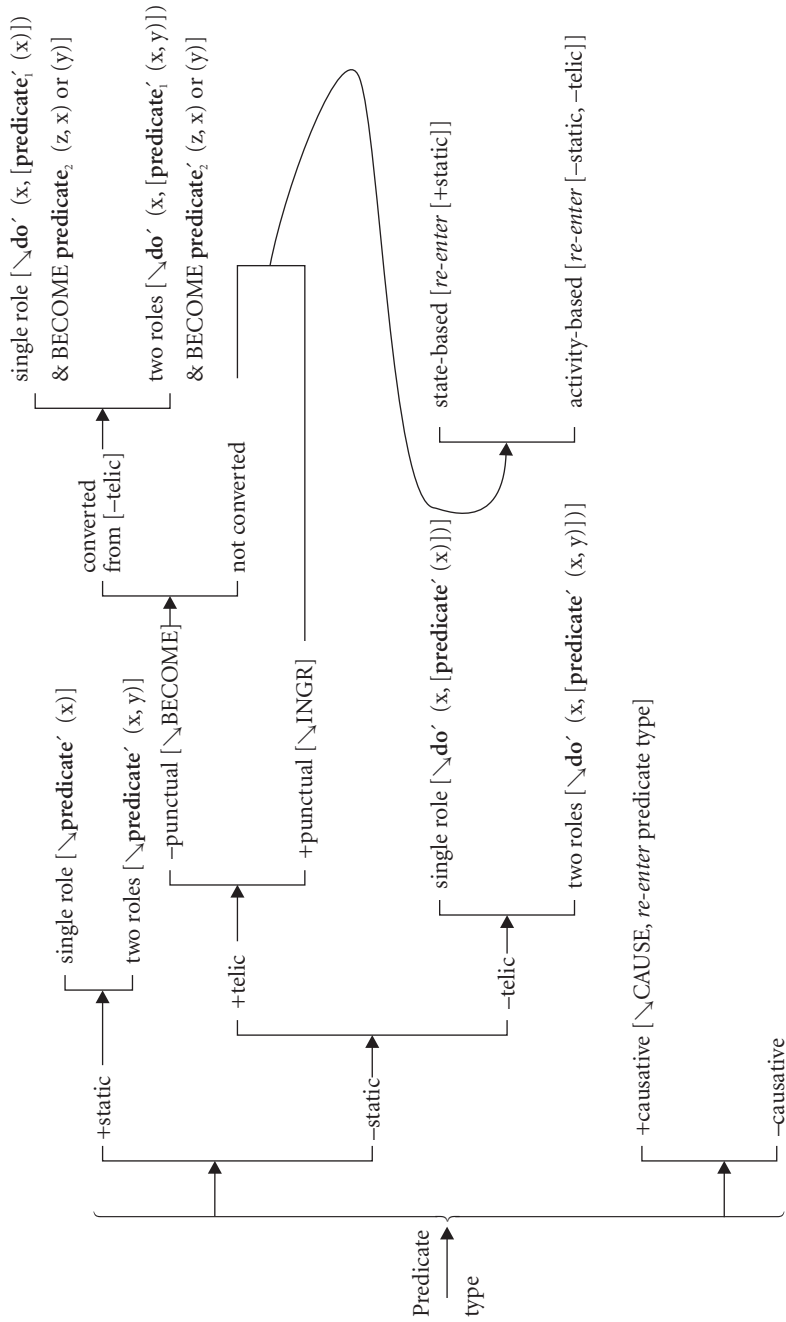


Figure 8.9. Basic network for RRG predicate types

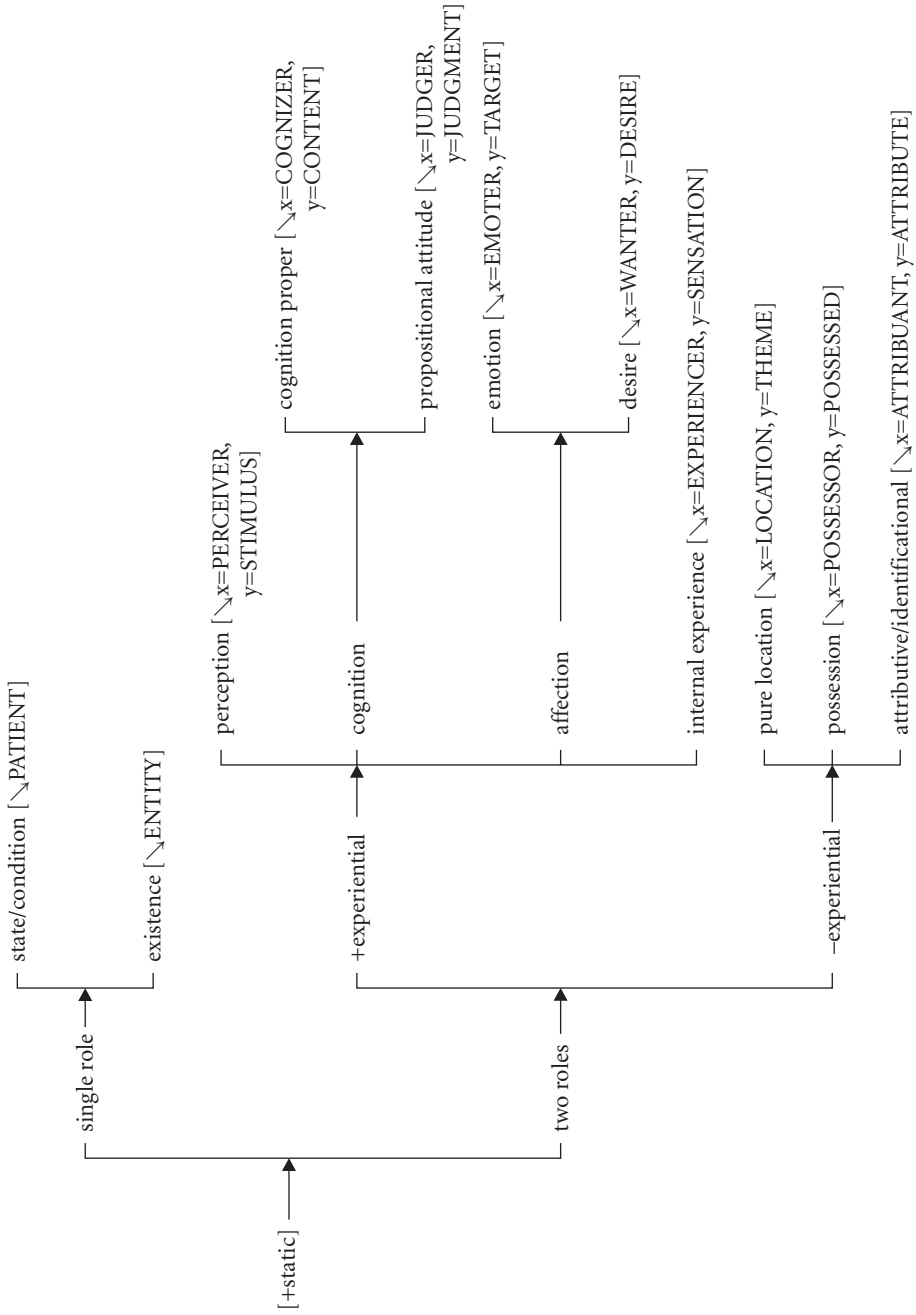


Figure 8.10. Network for State predicates in RRG, with realisation rules

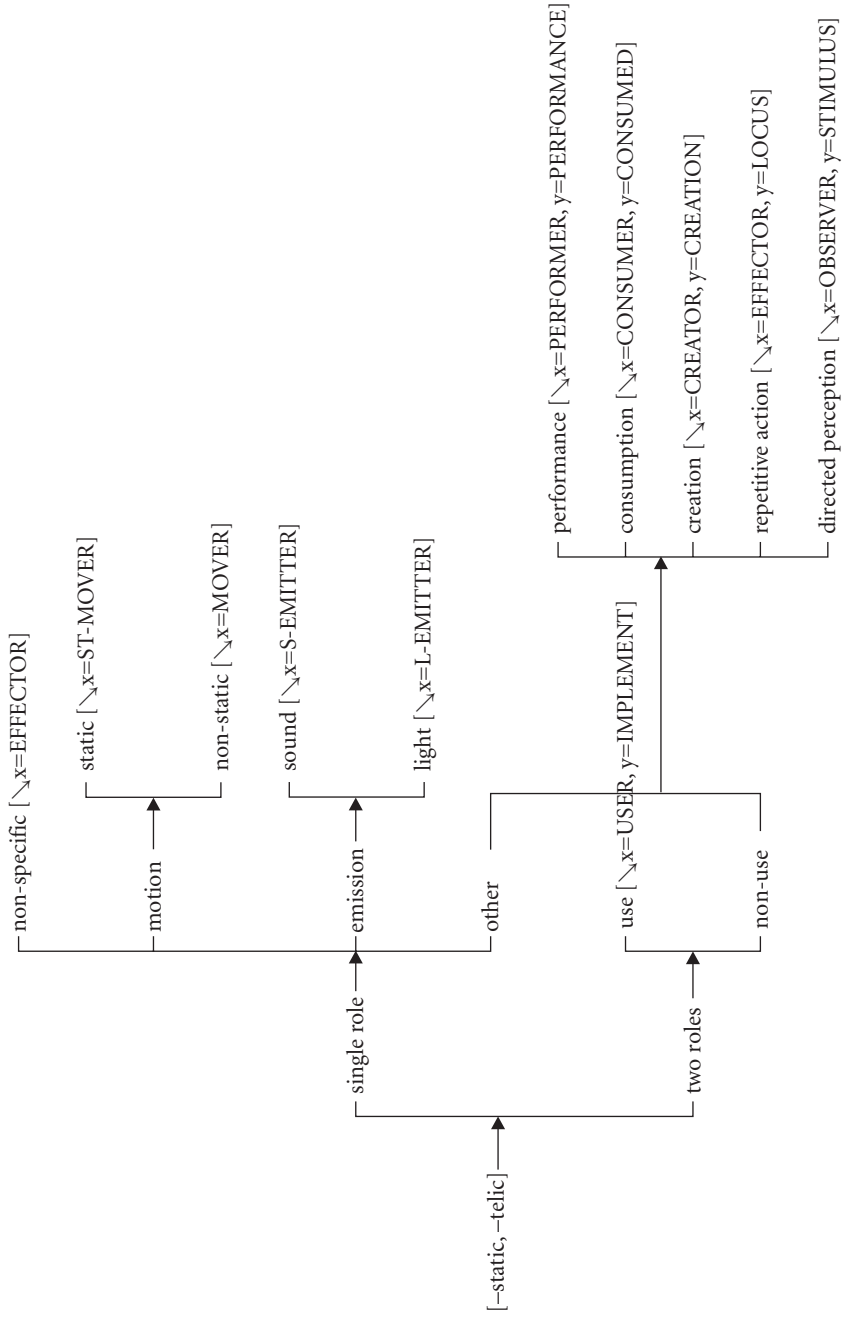


Figure 8.11. Network for Activity predicates in RRG, with realisation rules

formation, and the combination of these types of information is what we can regard as an entry in the lexicon. Nevertheless, the semantics of a lexeme can, as we have seen, be insightfully modelled in featural terms. As more and more delicate distinctions between predicates are investigated, the effect will be to add information to our store of knowledge which, if modelled in terms of networks, would extend these networks in delicacy. There remains, of course, the problem of the extent to which the relevant features can be regarded as universal, as in an RRG-based account, rather than language-dependent: this matter will be taken up briefly in Chapter 6 of Part 2.

There are also other reasons for thinking that an approach in terms of networks might offer advantages. Firstly, the requirement that the effects of feature selection be specified through realisation rules facilitates the explicit statement of relationships between the semantics of predicate/argument choice and the syntax of complementation, as we have seen in the work of Fawcett reviewed in §8.3.2.4. As was noted in §6.2.2.2, work in the FG-based Functional Lexematic Model (Faber & Mairal Usón 1994, 1998a, 1998b, 1999) and in RRG (Van Valin & Wilkins 1993) has also demonstrated the feasibility of predicting complementation patterns from the semantic properties of predicates.

Secondly, an approach to lexemes which treats their meanings as bundles of features might help to overcome the problems which beset a model in which the individual predicate is taken as the starting point for constructing the semantics of the clause and for interpreting the semantics from the surface form of the utterance. As Hesp (1990b:43) has pointed out with respect to parsing, such a proposal is highly implausible, since it implies that the hearer is unable to begin processing material which precedes the main predicate, until that predicate has been identified. This criticism was accepted by Dik (1992:173–174), who modified his proposal for a computationally-implemented parser to include a buffer which holds pre-predicate material until such time as the requirements of the predicate are known. Nevertheless, the centrality of the predicate, selected together with its frame from the lexicon, remains a cardinal feature of FG as presented in Dik (1997a), and this seriously weakens the claims of the model with respect to psychological adequacy. In a paradigmatically oriented approach, the problem can be circumvented by showing, in terms of features and the relationships between them, just how the selection of a predicate interacts with that of its arguments, and indeed how this area interacts with choices in other parts of the grammar, such as those concerned with illocution and information distribution. Such an approach would also allow an integrated treatment of predicates and their arguments with operators and satellites: we saw in §6.3 that there is dependency between operator and satellite choice (e.g. tense and time adverbials), and the tests for classes of predicate make it abundantly clear that there are also dependencies between predicate selection and operator choice (e.g. only [+control] predicates in FG can take the imperative; Accomplishments and Activities in RRG, but not States or Achievements, occur readily with the progressive in languages such as English).

Thirdly, as will be demonstrated in much more detail in Chapter 5 of Part 2, the adoption of a paradigmatic orientation such as that embodied in SFG offers advantages in terms of using descriptions derived from the grammar to illuminate a number of areas of applied linguistics, as broadly conceived: the concept of a language as a huge set of choices

which are constantly being made (often, but not necessarily, below the level of consciousness) in the course of language use provides a natural and powerful way of looking at phenomena as diverse as language acquisition, stylistic effect, natural language processing by computer, and language pathology. If, in the future, proponents of FG and RRG direct more of their attention to such matters, they may well find it worth considering whether a more explicit paradigmatic orientation would be useful here, as well as offering the more theoretical advantages sketched above and those already discussed in §6.3 in relation to the formalisation of relationships between operators, and between these and satellites/adverbials.

In the above discussion, I have been talking in terms of a characterisation of paradigmatic relations within the grammar itself, since this is how choice is modelled in the one theory which gives priority to such relations. There is, however, an alternative to this, namely that linguistic elements such as content lexemes and grammatical formatives have pointers to a combination of prelinguistic conceptual features which can be modelled as a network. I shall explore this possibility in the final chapter of Part 2, where I sketch a possible path towards an integrated functional model.

CHAPTER 9

Temporality, aspectuality, modality and polarity

9.1 Introduction

The first three themes of the present chapter are frequently treated together, and for good reason: as we shall see, they are related both semantically and in terms of the most frequent domain of their realisation, the verbal complex. The terms ‘temporality’ and ‘aspectuality’, borrowed from Dik (1997a:237), are being used here to refer to areas of meaning, whether realised grammatically or lexically. Tense and aspect are thus grammatical manifestations of temporality and aspectuality respectively. As we shall see, the term ‘modality’ is somewhat problematic, but is intended here to cover the area of ‘modal’ meanings to be discussed below. Polarity (that is, positivity and negativity) is included in this chapter because it is treated, in some accounts, as related to modality.

The distinction between tense and aspect is, in principle, quite clear, though as will emerge later, it is still an area of difference between theories. Comrie, in his classic book on tense, summarises the difference by saying that “tense is grammaticalised expression of location in time” (Comrie 1985:9), whereas aspect “refers to the grammaticalisation of expression of internal temporal constituency” (1985:6). He exemplifies this distinction using tense and progressive aspect in English:

Thus the difference between *John was singing* and *John is singing* in English is one of tense, namely a location before the present moment versus a location including the present moment; while the difference between *John was singing* and *John sang* is one of aspect. (Comrie 1985:6)

As pointed out by Givón (1984a:272), tense involves primarily, though not exclusively, time as seen in terms of points in sequence, whereas aspect is concerned with the boundedness of spans of time. In *John sang* the event is presented by the speaker as one which occurred within a bounded span of time, while in *John was singing* the relevant time span is unbounded.

The area of modality is rather harder to define, as has been demonstrated by Palmer (1986). It is concerned with “the ways speakers express their attitudes and opinions” (Palmer 1986:15), and also could also possibly be taken to include ways of reporting these attitudes and opinions. Other distinctions related to modality are also discussed by Palmer: for instance, subjectivity vs. objectivity; factuality vs. non-factuality; epistemic

modality (concerned with matters of knowledge, belief and opinion) vs. deontic modality (concerned with the necessity or possibility of acts). Important terminological confusions can arise in this area: different linguists often use different terms in talking about modality, and some terms, such as 'mood' and also 'modality' itself, are problematic. From the above, it will be clear that the term 'modality' is being used to indicate a semantic area, whereas 'tense' and 'aspect' are grammatical categories, with different aspects of 'time' as their underlying semantics.¹ As Palmer (1986:21) observes, mood is traditionally a category of verbal morphology (and so may not be considered by some to be present in all languages), and involves distinctions such as those between imperative, subjunctive, optative, etc. Categories such as the subjunctive tend to have multiple semantic functions, many of which are concerned with the general area of modality as defined above. Mood, then, in its traditional sense, is a grammatical category expressing modality, as well as basic speech acts. There are, however, other grammatical mechanisms in languages for the expression of modality, so that we have no generally accepted term for the grammatical manifestations of this semantic area. In practice, the term 'modality' is often used for both the semantic area and the mechanisms for the realisation of meanings in this area, though as we shall see, practices vary rather widely.

Modality and mood (in the traditional sense) are also closely linked to tense. For instance, in many languages, there is a subjunctive mood which, as noted above, may have a variety of specific meanings, all or most of which are claimed to have some component of non-factuality or hypothesis. This in turn links mood and modality to tense, since while the past and present can be used to refer to 'facts' (i.e. they are 'realis' tenses), the future is inherently a 'non-factual' ('irrealis') tense. In some languages, such as the Austronesian language Bikol, the main morphological distinction in the tense-aspect-modality complex is between realis (covering past, present and habitual) and irrealis (covering future and other modal categories) (Givón 1984a:309). Examples which will be presented in §9.2.1 demonstrate that in English and Spanish forms which can be used to refer to future time can also be used with a suppositional, and hence clearly modal, meaning.

The relationships between modality, mood and tense can be very complex. For Gooniyandi, for example, McGregor (1990a:516) recognises four tenses: past, present, future and irrealis, the future being used only to refer to future time, the irrealis indicating unreality in relation to past time, and being obligatorily associated with either the potential mode (see example (43) to be discussed later) or the subjunctive mood. The modes, including potential, are, as we shall see in §9.2.3.2, deontic modalities, while the subjunctive mood has a metapositional function in indicating that the speaker or a third party is presenting something as a hypothesis, supposition, wish, claim, hope, etc., and the factive mood, which occurs only with past and present (i.e. realis, in the sense in which the term was used above) tenses, indicates that the proposition is being presented as a fact. The modal implications of the subjunctive mood are clearly indicated by the

1. It is possible, as Givón (1984a:272) has shown, to relate modality, as well as tense and aspect, to the semantic concept of time: modality is concerned with whether, for example, a situation is seen as being in existence at a particular time, being in existence at no time at all, having potential existence, and so on.

fact that McGregor (1990a: 544) opposes “an unmodalised clause” to “the clause in the subjunctive”.

Tense, aspect and modality, as purely grammatical phenomena, are most often (though not always) properties of the verbal complex within the clause. Below are some examples from English, Spanish and Gooniyandi.

- (1) *I may have been being a bit selfish ...* (BNC ASH 485)
- (2) *La música clásica no podría estar durando toda la vida.* (HCM 8, 147)
 the music classical NEG be-able-CONDNL.3SG be last-PRES.PART all
 the life
 ‘Classical music couldn’t be lasting you all your life.’
- (3) *bij – goowa – ya – warni* (= McGregor’s 3–100, 1990a: 193)
 emerge PROG SUBJUNC it-will-emerge
 ‘It might be arriving’

As noted above, however, meanings concerned with time and modal concepts can also be expressed lexically. The following examples of lexicalised expression of modality are again from English, Spanish and Gooniyandi.

- (4) *It has certainly caused some confusion amongst my friends ...* (BNC K52 3835)
- (5) *... quizás no sé, a lo mejor me pongo a estudiar marketing y a lo mejor no me gusta, que tampoco lo sé, ...*
 perhaps NEG know-PRES.1SG probably REFL put-PRES.1SG to study
 marketing and probably NEG to-me please-PRES.3SG that not-either it
 sé, ...
 know-PRES.1SG
 ‘perhaps, I don’t know, probably I’ll start to study marketing, and probably I won’t like it, I don’t know that either, ...’ (HCM 2, 43)
- (6) *yiganyi maningga wardjawingi* (= McGregor’s 6–153, 1990a: 500)
 uncertain night I-might-come
 ‘Maybe I’ll come one night.’

As usual, I shall first examine FG, RRG and SFG separately, and in that order, finally presenting a comparative survey.

9.2 Temporality, aspectuality, modality and polarity in Functional Grammar

As we saw in Chapter 3, tense, aspect and modality as grammatical categories are represented in FG by operators at the different levels of the underlying structure of the clause. Table 9.1 summarises the operators and levels concerned, taking Dik’s own account as a

Table 9.1. The association of tense, aspect and modality with levels in the underlying semantic structure of the clause in FG

Semantic area	Level 1	Level 2	Level 3	Level 4
Tense	–	All localising (tense) operators	–	–
Aspect	(Im)perfectivity	Perspectival aspect	–	–
	Phasal aspect	Quantificational aspect		
Modality	Inherent modality	Objective modality (epistemic and deontic)	Epistemological ² (subjective and evidential) modality	–

starting point. Lexically realised temporal, aspectual and modal meanings are introduced as satellites in the clause.

9.2.1 Tense and temporal satellites in FG

In FG, as we saw in §3.2.2.4, tense is coded by a set of operators, while lexical meanings in the area of temporality are coded as temporal satellites. Since tense operators locate the State of Affairs in time, rather than affecting the SoA internally, they are at Level 2. Dik acknowledges that his very brief account of tense (Dik 1997a: 237–238) is based on Comrie (1985). Like Comrie, Dik relates tense to a time line, on which are located a reference time and a time corresponding to the moment of speaking. A distinction is made between absolute tense, in which the reference time coincides with the moment of speaking, and relative tense, in which the two are distinct. In §6.3 we saw that Dik expresses tense oppositions in the form of a tree diagram, reproduced again for convenience below.

This tree is intended to model not only the distinctions themselves, but also the variation in tense systems across languages: some languages stop at the top level, having no tense distinctions at all (i.e. no **grammaticalised** way of encoding relations between times); others have a Past/Non-Past distinction only;³ yet others have Past, Present and Future; and those with an even richer system are claimed to distinguish between Remote and Recent Past (at least), and/or Imminent or Remote Future. Dik himself does not give examples for each type, but Comrie allocates Burmese to the class of tenseless languages (Comrie 1985: 50), and most European languages as having the basic Past/Non-Past split, with the further Present/Future split as “at best secondary” (1985: 49), in that the ‘future tense’ usually has modal uses which do not necessarily refer to future time, and conversely

2. The term ‘epistemological’ is used by Hengeveld, on whose work Dik’s account is based, but not by Dik himself.

3. A different basic split, between Future and Non-Future, is possible, but rare (Dik 1997a: 238, based on Comrie 1985: 49).

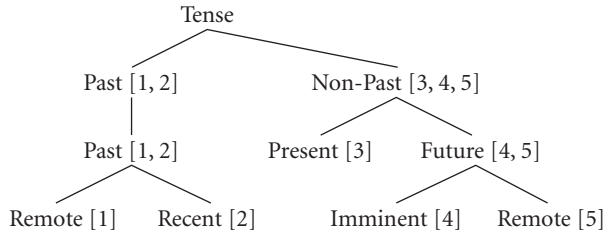


Figure 9.1. Tense distinctions according to Dik (1997a:238, example (4))

there are ways of referring to future time which do not involve the future tense. English and Spanish are examples of such languages, as witness (7)–(10) below.

- (7) *Some teachers will have been saying, as they have followed the argument up to this point: 'All very well.'* (BNC CKS 1174)
- (8) *I leave tomorrow, I'm afraid.* (BNC FPF 1696)
- (9) *Así que yo me imagino que será una chica de la alta*
 So I REFL imagine-PRES.1SG that be-FUT.3SG a girl of the high
sociedad de allí porque nos contaba que...
 society of there because us tell-IMPERF.3SG that ... (HCM 20, 379)
 'So I imagine she must be from high society there, because she was telling us that ...'
- (10) *Porque es que mañana no voy a poder...*
 Because be-PRES.3SG that tomorrow NEG go-PRES.1SG to be-able ...
 'Because the thing is that tomorrow I'm not going to be able to ...'
 (HCM 24, 441)

Note that the tree in Figure 9.1 shows absolute tense distinctions, in that Past, Present and Future tenses are defined with reference to the moment of speaking as reference time. Dik does not discuss relative tense, which Comrie (1985:56–64) illustrates from non-finite constructions in English and from finite constructions in, for example, Classical Arabic. Neither does he mention what Comrie (pp. 64–82) analyses as 'absolute-relative' tenses, which have as part of their meaning that there is a reference point fixed at some time at, before, or after the moment of speaking, and also that the situation is located at, before or after the reference point, as is the case with the English pluperfect.

Further insights into tense have come from the work of Vet (1986, 1992) on the French tense system. The account in Vet (1986) builds in what has been referred to above as 'relative tense'. French tenses, according to Vet, belong to two subsystems: the first has the moment of speaking as its reference point, and contains the Present, the Present Perfect, the Near Future (with the present of *aller* + infinitive)⁴ and the plain Future; the second

4. In later work, Vet (2001) treats the Near Future (or Periphrastic Future, as he now calls it) as a realisation of prospective aspect rather than tense (see §9.2.2).

has as its reference point some time anterior to the moment of speaking, and contains the Imperfect (for which event time coincides with the anterior reference time), the Pluperfect, the Near Future of the Past (expressed by forms such as *il allait boire*, 'he was going to drink') and the Future of the Past (i.e. traditional 'conditional, e.g. *il boirait*, 'he would drink'). Clearly, there is a proportionality among the members of the two sets. In order to accommodate the facts, Vet (1986:5) proposes a 'superoperator' for tense, with the values Present or Past, with reference to which the times involved in the four members of each subsystem can be located.

There are two tenses which do not fit neatly into the scheme proposed initially by Vet: the 'Passé Simple' (often referred to in English as the Past Historic) and the 'Passé Antérieur', formed with the Passé Simple of *avoir* plus the past participle of the main verb. In order to explicate the difference between the Simple Past and the Imperfect, Vet proposes, in line with other work outside FG, that tenses should be considered as anaphoric devices, similar to pronouns in their ability to refer back to some other element of the text. In the light of this suggestion, the difference between Simple Past and Imperfect can be seen as a pragmatic one: in the discourse context, as shown by examples provided by Vet, a verb in the Simple Past introduces an event which occurs in a new 'space-time region' rather than in one which has already been presented; a verb in the Imperfect can then follow, since it needs a temporal antecedent to be already established, and this, as we have seen, is provided by the Simple Past verb which precedes.

Harder (1990) takes up and expands on Vet's analysis in the instructional semantics framework described briefly in §6.2.1.1.2, within which tense operators are seen as signs with a content and an expression (i.e. a 'signifié' and a 'signifiant', in Saussurean terms), and the content of the sign acts as an instruction to the hearer to modify his or her mental representation of the universe of discourse. For instance:

The use of the present tense counts as an instruction to identify WS, i.e. the world of discourse at the time S of speech, as the world to which the content inside its scope applies. (Harder's (13), 1990:150)

Harder reinterprets Vet's tense system for French in terms of the system in 11 below:

- (11) (= Harder's (18), 1990:152)
Past/Present (Future/Near Future (Perfect (lexical verb)))

Here, bold type indicates obligatoriness, while the oblique represents a paradigmatic opposition, and brackets show scope relations. So there must be a lexical verb, with either Present or Past tense attached to it, and within the scope of this tense operator we have an optional possibility of choosing between Future and Near Future, and within this a further optional choice of Perfect. This analysis removes the need to postulate a separate 'superoperator' with the values Past or Present, and also explains why it is possible to have a Perfect within the scope of the Near Future (e.g. *je vais avoir fini*, 'I am going to have finished'), while, as Vet (1986:6) notes, the opposite is not possible (**je suis allé avoir fini*).

In a more recent article, Vet (1992:65–67) has proposed that the 'superoperator' of his original analysis, which indicates whether the reference time is simultaneous with or

anterior to the time of speaking, should be located at the propositional level (i.e. level 3) in the underlying clause structure, on the grounds that it represents the speaker's choice of perspective from which to present the event.⁵ Vet points out that this analysis explains why it is possible to have a level 3 modal expression within the scope of the Past/Present reference time operator, as in *Pierre a peut-être encagé le rat (hier)*, 'Maybe Pierre has caged the rat/Maybe Pierre caged the rat yesterday' and *Pierre avait peut-être encagé le rat (la veille)*, 'Maybe Pierre had caged the rat (the day before)'. Vet (1992: 60) also now proposes that the Simple Past expresses both Past tense and Perfective Aspect (see §9.2.2.1.1 below), but that since the latter has no effect on the meaning of the predicate as represented in the lexicon, it can be omitted from the representation.

We saw above that Harder has reinterpreted Vet's proposals within his own instructional semantics model, which owes much to FG but also brings in a cognitive perspective. A very detailed account of Harder's view of tense within an instruction-based model with both 'content syntax' and 'expression syntax' can be found in Harder (1997). Having reviewed important past positions on tense, Harder discusses the meanings of the deictic tenses in terms of content syntax, relationships between content elements being handled in terms of operator/operand relations. He proposes (1997:326) three paradigms, with scopal relations between them: past vs. present, which has scope over \pm future, which in turn has scope over \pm perfect, the whole tense structure having scope over the State of Affairs. Past and present tenses are interpreted as pointers rather than as denoting particular event times: the meaning of the present tense is an instruction to the addressee to identify a situation as at the time of utterance as that situation which the State of Affairs within its scope refers to; the meaning of past tense differs from this only in that the relevant situation is at a time before the utterance time. Detailed accounts are given for the present/past dichotomy (pp. 326–348), future (pp. 349–376) and perfect (pp. 376–386). Harder (pp. 386–390) also discusses the relationship between his account of tense and that of Langacker's Cognitive Grammar, in terms of an increase in subjectification as we get closer, both synchronically and in terms of historical development, to the highest 'grounding' element in the clause: the future is, he argues, more subjectified than the perfect and is closer, in scopal terms, to the conceptual core of the clause, that is the State of Affairs. This, for Harder, illustrates the general thrust of his theory, which is to see language as conceptualisation embedded in interaction: the conceptual base, the SoA, is embedded in a structure of functions which instruct the addressee as to what to do with the clause.

Harder then shows (pp. 391–404) how time reference can be seen to emerge from the interaction of the coded meanings of the tenses with other meanings in the clause hierarchy. For instance, the present future perfect (*he*) *will have played* first instructs the addressee to apply the entire construction to the world as it is at the time of utterance (present tense); the operand of this instruction contains a future form which specifies that the remaining material is to be interpreted in relation to a time ahead of the utterance time; and finally, in the scope of the future tense we have a perfect, instructing the addressee to treat the SoA as anterior (p. 397): in other words, the present future perfect tells

5. This proposal is taken over by Cuvalay (1995) in her version of the underlying structure of the clause.

the addressee that at the time of utterance there is a situation ahead, in which the SoA is anterior. Harder also deals with relationships between tense and adverbials (pp. 404–422). Finally, he goes into some detail on tense in subordinate clauses (pp. 423–465), including treatments of indirect speech and conditionals, and also discusses tense in relation to discourse (pp 475–495).

As the above brief discussion of Harder's work reminds us, temporal meanings can be expressed lexically as well as through grammatical tense. As outlined in Chapter 3 and summarised in Table 8.6 of Chapter 8, satellites of temporal location are at Level 2, since they situate the whole SoA in time. Matters concerned with the compatibility of tense operators and temporal satellites do not appear to have been addressed within mainstream FG.

9.2.2 Aspect in FG

Aspect in FG refers to those meanings within the overall area of aspectuality which are grammatically realised. It therefore excludes *Aktionsart*, which is sometimes referred to as a kind of 'lexical aspect' but is, as we have seen, handled in FG in terms of the classification of States of Affairs.

As shown in Table 9.1, aspect is associated, in the work of Dik (1997a) with Levels 1 and 2 of the underlying structure of the clause, according to whether the meanings involved modify the internal structure of the State of Affairs or not. At Level 1, where aspectual meanings change the nature of the SoA itself, we have Perfective/Imperfective and Phasal aspects, while at Level 2 we have Perspectival and Quantificational types of aspect.⁶

9.2.2.1 *Aspect operators at Level 1*

9.2.2.1.1 *Perfective and Imperfective aspects.* The Perfective/Imperfective distinction is concerned with whether the SoA is viewed in its entirety, without reference to its internal make-up, or from an internal point of view. Perfective SoAs are presented as complete, bounded, closed, indivisible, and seen from an external viewpoint; Imperfective SoAs are presented as non-complete, non-bounded, open, divisible and seen from an internal viewpoint (Dik 1997a:222). The following examples from Spanish will serve as illustrations.

- (12) *Precisamente, este verano estuve en San Sebastián.*
 Precisely this summer be-SIMPLE.PAST.1SG in San Sebastián
 (HCM 11,181)
 'Just this summer I was in San Sebastián.'

6. This proposal represents a shift in nomenclature from the account given in Dik (1989a: 186–192), where what are now called Perspectival aspects were assimilated to the Phasal type, being labelled 'outer' Phasal aspects, in contrast with the 'inner' Phasal aspects Ingressive, Progressive and Egressive. There is no shift in assignment to levels, however: 'inner' Phasal aspects were seen as Level 1 operators, while 'outer' ones were at Level 2.

- (13) ... *un día fui* a Mahón, porque yo no *estaba*
 one day go-SIMPLE.PAST.1SG to Mahón, because I NEG be-IMPERF.1SG
en Mahón, sino en un destacamento del Regimiento ... (HCM 9, 152)
 in Mahón but in a detachment of-the Regiment
 ‘... one day I went to Mahón, because I wasn’t in Mahón but in a regimental
 detachment ...’
- (14) *Cuando volvió* *tenía* la niña seis meses ...
 When return-SIMPLE.PAST.3SG have-IMPERF.3SG the girl six months
 ‘When she returned, the girl was six months old.’ (Referencia CCON035B.ASC)
- (15) *Yo, la verdad es que en París he estado una*
 I the truth be-PRES.3SG that in París have-PRES.1SG be-PAST.PART one
vez, no sé, hacía yo COU, tenía
 time, NEG know-PRES.1SG do-IMPERF.1SG I COU have-IMPERF.1SG
dieciséis años, y estuve en París capital ... cinco días ...
 sixteen years and be-SIMPLE.PAST.1SG in París capital ... five days
 ‘Actually I have been to París once ... I don’t know ... I was doing COU,⁷ I was
 sixteen, and I was in París for five days ...’ (HCM 20, 376)

Contrast the use of the Simple Past (Preterite) form *estuve* (‘I was’) in (12), where the stay in San Sebastián is seen as a completed event in the past, with the use of the Imperfect *estaba* (again ‘I was’) in (13), where the speaker is saying that he was not staying in Mahón but was attached to a regimental detachment elsewhere. Note also that the Imperfect *estaba* contrasts, within (13), with the Simple Past *fui* (‘I went’), the first indicating a state, the second an action which took place while the SoA representing the state obtained. A similar contrast is found in (14), where the condition of being six months old (Imperfect *tenía*, literally ‘had (six months)’) is the background for the single act of returning (Simple Past *volvió*, ‘returned’). Finally, in (15), the Imperfect forms *hacía* (COU), ‘I was doing (COU)’ and *tenía* (*dieciséis años*), ‘I was (lit. had) sixteen (years old)’; provide the background for the Simple Past *estuve* (*en París*), ‘I was (in París)’. In each case, Imperfective Aspect contrasts with Perfective. It seems, then, that we can analyse the Spanish Simple Past ‘tense’ as realising Past tense but also Perfective aspect, while the Imperfect realises Past tense and Imperfective aspect.

The basic structure of *estuve en San Sebastián* in (12) can be represented as in (16), and that of *no estaba en Mahón* in (13) can be shown as in (17).⁸

- (16) Past e_i: Pf {(d1x_i: San Sebastián [N])_{Loc}} (d1x_i: [+S, -A])_∅

7. COU (Curso de Orientación Universitaria) is a set of courses which students do in preparation for university entrance in Spain.

8. I am assuming here that *estar* arises through a copula support rule whose parameters are specific to the conditions under which *estar* rather than *ser* is required, as suggested by Hengeveld (1986) and accepted by Dik (1997a: 201–202).

(17) Past Neg e_i: Impf { (d1x_j: *Mahón* [N])_{Loc} } (d1x_i: [+S, -A])_Ø

Dik (1997a:223–24) points out that the use of the Imperfective can give rise to further, more specific interpretations, such as ‘progressive’, ‘habitual’, ‘iterative’ or ‘continuous’, but distinguishes these secondary interpretations of Imperfective from the operators which represent precisely these different meanings in some languages. For instance, as we shall see below, the English Progressive is treated, not as a manifestation of Imperfective aspect, but rather as one type of Phasal aspect.

Finally, we should note that there is some doubt about whether Dik is correct in treating (im)perfectivity as at Level 1. As Anstey (2002:7) has pointed out, it is only an event, and not a property or relation, which can be viewed from an external or from an internal viewpoint, suggesting that (im)perfectivity should be located at Level 2.

9.2.2.1.2 *Phasal aspects*. Dik (1997a:225) defines Phasal aspect as “those aspectual distinctions which bear on the developmental phase of the SoA, in terms of beginning–continuation–end of the SoA”. He distinguishes four types: Ingressive (with the meaning ‘start X-ing’), Progressive (‘be X-ing’), Continuous (‘continue X-ing’) and Egressive (‘stop X-ing’). Examples of Progressive aspect in English and Spanish are given in (18) and (19) respectively.

(18) *A man in a raincoat is running towards me.* (BNC G02 913)

(19) *¡Me está dando una envidia tremenda!*
to-me be-PRES.2SG.POLITE give-PRES.PART an envy tremendous
‘You’re making me tremendously envious!’ (HCM 16, 284)

The basic structure of (18) is given in (20) below.

(20) Pres e_i: Prog run [V] (i1x_j: *man* [N])_{Ag} (d1x_j: [+S, -A])_{Dir}

As far as English is concerned, Goossens (1991b) has proposed an alternative analysis of the Progressive, in which, *pace* Dik’s position as set out earlier, it is seen as a special manifestation of Imperfective aspect, rather than as Phasal. Goossens demonstrates that the various meanings of the English Progressive can be accounted for in terms of a basic Imperfective meaning (incompleteness or temporariness), combined with the meanings of other elements in the clause. For instance, the more narrowly Progressive meaning (‘in progress’) arises from the combination of Imperfective meaning with a selection restriction on the type of predicate, which normally requires that it be dynamic. Where Imperfective combines with a basically non-dynamic SoA, that SoA is reinterpreted as a dynamic process as in (21):⁹

(21) *At last, I think we can safely say that you are understanding the situation correctly.*
(BNC GUE 2793)

9. As evidence for this dynamicity, note the acceptability of *you are now understanding the situation more quickly*.

Iterative and Habitual readings of the Progressive are explained by Goossens in terms of the combination of Imperfective with non-Semelfactive (i.e. Repetitive, which can be further differentiated into Iterative and Habitual) types of Quantificational aspect.

Work by van den Hauwe (1992) on Progressive markers in Dutch raises the issue of the degree to which such markers have become grammaticalised from their original status as independent lexical elements. Van den Hauwe refers to the grammaticalisation scale proposed by Goossens:

[...] predicate operators can be said to deal with fully grammaticalized meanings, predicates in their own right are in no way grammaticalized, predicate formation gives us a position in between. (Goossens 1985a:206)

Van den Hauwe argues that the marker '*aan het* plus infinitive' is nearly fully grammaticalised, and so should be represented in FG as an operator. On the other hand, the auxiliary-like verbs *liggen* (literally, 'lie'), *zitten* ('sit'), *staan* ('stand'), *lopen* ('run') and *hangen* ('hang') are at a lower level of grammaticalisation, since they impose selection restrictions on the predicates with which they combine, though these restrictions seem to be loosening. The third type of marker, ' *bezig te* + infinitive' ('engaged in', 'busy doing'), is at the lowest end of the grammaticalisation scale. Since only (almost) fully grammaticalised phenomena should be dealt with in terms of operators in FG, van den Hauwe suggests that the auxiliary-like verbs and *bezig te* should be handled in terms of predicate formation rules rather than as operators.

The issue of extent of grammaticalisation is also pertinent to the work of Olbertz (1998) on periphrastic aspect in Spanish, which has a variety of structures expressing Phasal and Perspectival aspects. Olbertz takes the inability of a periphrastic form to combine with auxiliaries as an indication of weak grammaticalisation handled in terms of predicate formation, since the input to a predicate formation rule must be a lexical verb, not an auxiliary. Conversely, the ability to combine with auxiliaries indicates strong grammaticalisation, handled in terms of operators. Only six of the periphrases can be accounted for in terms of predicate formation, and these include expressions indicating ingressive, egressive, persistent and distributional meanings, as well as perfect aspect. Aspectual operators which can be realised periphrastically at Level 1 include various phasal types and what Olbertz calls qualificational aspect, indicating gradual or complete meanings.

9.2.2.2 Aspect operators at Level 2

9.2.2.2.1 Quantificational Aspect Quantificational aspect operators quantify over sets of SoAs in terms of frequency or habituality of occurrence. This type of aspectual distinction represents a perspective on the SoA, not a modification of the SoA itself, and is therefore at Level 2. Dik (1997a:236) distinguishes five types: Semelfactive (the SoA occurs only once), Iterative (the SoA occurs several times), Frequentative (many times), Distributive (several times, but with different participants) and Habitual (recurrence due to habit or propensity). Dik gives only one example here, and that is of Habitual aspect in English. We may illustrate this using the example in (22) (cf. Dik's (61), 1997a:236).

(22) *It was just a tune I used to annoy people with.* (BNC AT1 1501)

9.2.2.2.2 *Perspectival Aspect*. Perspectival aspect is concerned with “the way in which the SoA is viewed upon [*sic*] from an external point in time” (Dik 1997a:238). This external point in time can be either before the SoA occurs (Prospective aspects) or after (Perfect aspects), and in either case the time difference can be signalled as small (Immediate Prospective or Recent Perfect) or not. More precisely, such aspects are concerned with the question “What can be said on the basis of information available at some reference point t_i about the occurrence of some SoA at some interval t_j ?” (Dik 1997a:239). As these aspect operators are concerned only with the time point from which the SoA is viewed, they are at Level 2 rather than Level 1.

Examples from English are given in (23)–(26) (Cf. Dik’s example (68), 1997a:239).

- (23) *I’m going to check that the microphone works before I start.* (BNC FSN 240) [Prospective]
 (24) *I am about to fall asleep.* (BNC KPU 1778) [Immediate Prospective]
 (25) *... everyone else has gone home.* (BNC KPP 358) [Perfect]
 (26) *The sun has just gone down.* (BNC APC 1938) [Recent Perfect]

This analysis makes the familiar claims that English *going to* expresses future time as seen from the viewpoint of the present, while the perfect with *have* plus past participle expresses past time as seen from the present, often in terms of the ‘current relevance’ of the past situation.

In connection with the Perfect aspects, it is interesting to note the proposal of Goossens (1993), according to which the item *have* can be assigned a single basic meaning of ‘asymmetric attribution’ whatever the context in which it occurs. By this, Goossens means that *have* establishes a relationship between the first argument of the predication and something else. Where this second element in the relation is a past participle, this element expresses a state which is dependent on the first argument: in *Jack has gone* (Goossens’ (4), 1993:10), the state expressed by *gone* is attributed to *Jack*, but is also dependent on *Jack*’s own involvement, in this case agentive.

In his work on tense and aspect in French, Vet (1992) proposes a different analysis of the Perfect from that of Dik. According to Vet (1992:62), the choice of Perfect aspect causes a change in the meaning of the predicate: for instance, while the lexical entry for the verb *encager* (‘to cage (an animal, etc)’) would show it as referring to the causation of a transition, the Perfect *a encagé* is claimed to refer to the result of the transition. For this reason, Vet regards Perfect as a Level 1 operator, not Level 2. Furthermore, he replaces the Imperfective operator of Dik’s account by a ‘partitive quantifier’ acting on the space-time region represented as e_i , and so at Level 2. Part of the reasoning for this approach is that the presence of this partitive quantifier blocks other kinds of quantification: we cannot, for example, say **Pierre encageait le rat trois fois*, ‘*Pierre was caging the rat three times’ (Vet’s (9), 1992:61).

Olbertz (1998) shows that in Spanish certain periphrastic expressions realise various perspectival and quantificational aspect meanings at Level 2.

9.2.2.3 Aspect in relation to tense in FG

Although tense and aspect are in principle separate, they are also intimately connected, and this fact is evident from the FG literature.

Dik (1997a:239) recognises that the Perspectival aspects are to some extent concerned with location in time, though there are additional features of meaning which justify their treatment in terms of aspect: an SoA with Perfect aspect necessarily represents a situation occurring before a particular reference time, but additionally this situation is presented from the perspective of that reference time. It is not surprising, then, that as Dik (1997a:240) points out, Perspectival aspect distinctions can develop, in the history of a language, into simple Past tenses or into simple stative Present tenses, possibly with the development of new Perspectival aspects in turn.

In some languages, the form corresponding to Perfect aspect can also be used as a simple Past tense. For instance, Vet (1992:63–64) regards the French ‘*passé composé*’ as having a dual value: in *Pierre a encagé le rat (maintenant) (comme vous voyez)* (‘Pierre has caged the rat (now) (as you see)’), Vet’s (12), 1992:62), we have, in his terms, a level 1 operator PERFECT; on the other hand, in *Pierre a encagé le rat le 18 avril* (‘Pierre caged the rat on the 18th of April’, Vet’s (18), 1992:63), we have a Past tense, equivalent to the Simple Past *encagea* which would be used only in written French. In Vet (2001) the first of these meanings is labelled as Retrospective aspect, while the Near Future, realised by a form of *aller* plus the infinitive of the main verb, is treated as Prospective aspect in those cases where it projects a future situation from the moment of speech. Vet (2001:260–261) points out that in French the Retrospective operator can be in the scope of the Prospective, but not *vice versa*: we can have *va/allait avoir terminé* (‘is/was going to have finished’) but not **est/était allé terminer* (lit. ‘has/had gone finish’). This is seen as contradicting Dik’s claim that these two types of aspect are at the same level (level 2) in the clause hierarchy.

In Spanish, the Simple Past is normally used for Perfective situations in the past, as we saw earlier, but it is also possible to use the perfect form (*haber* + past participle) with adverbials referring to the past (see Olbertz 1989:14), so that again such forms could be taken to correspond to two underlying semantic representations, one with the aspectual operator Perfect and Present tense, the other with the tense operator Past. This causes Hengeveld (1986:409) to claim that the Spanish ‘Perfect’ is actually a Past tense used when the past event has current relevance, or occurred immediately before the moment of speaking, or within a stretch of time which is specified in the sentence and which includes the time of speaking.¹⁰

The close relationship between tense and aspect is also evident in the Athapaskan language Koyukon, where Perfective aspect, as defined within FG, is usually interpreted as Past tense, and Imperfective as Present tense (Fortescue 1992:109).

10. Nuyts (1994:171) comments that in Dutch also, the ‘Perfect’ has become a standard marker of pastness, alongside the Simple Past tense.

9.2.2.4 Aspect in relation to SoA typology in FG

As I remarked earlier, Aktionsart is sometimes regarded as falling under a very general conception of ‘aspect’. Certainly, there are important connections between aspect in the sense in which I have used the term above, and the SoA classification of FG. As pointed out by Hengeveld (1989: 134–135), the selection of a particular aspect can change the values of dynamicity or momentaneousness for an SoA. For instance, if we combine a basically momentaneous verb such as English *arrive* with Progressive aspect, the interpretation is necessarily non-momentaneous. It has even been claimed that the English Progressive, Perfect and Prospective aspects have the effect of turning a dynamic SoA into a non-dynamic one: *he is walking*, *he has walked* and *he is about to walk* can be interpreted as ‘he is in a state of being/having been/being about to be on the move’. Hengeveld (1989: 135) concludes that such aspectual categories operate within the SoA and “should be taken into account in a typology of SoAs”. It is, however, not clear just how these phenomena should be accounted for in FG. Indeed, the fact that Perfect and Prospective are located by Dik at Level 2 contradicts the claim that they operate SoA-internally.

9.2.2.5 Aspectual satellites

Although attention has been primarily focused on aspect as a grammatical category in FG, with some attention also to the role of predicate formation in this area, certain kinds of aspectual meaning can also be realised through satellites. Examples from English and Spanish are given below.

- (27) *I had occasionally seen his photograph as I skimmed the financial sections of the newspapers.* (BNC CS4 429)
- (28) *They told him repeatedly to leave his wife.* (BNC CAL 788)
- (29) ¿Lee *usted habitualmente novela española contemporánea?*
 read-PRES.2SG.POLITE you usually novel Spanish contemporary
 ‘Do you usually read contemporary Spanish novels?’
 (Referencia BENT027F.ASC)
- (30) *Lo vais a necesitar continuamente...*
 It go-PRES.2PL.FAMILIAR to need continually ...
 (Referencia BEDU037B.ASC)
 ‘You’re going to need it continually ...’
- (31) *Bueno, de vez en cuando, vienen las amigas a pasar*
 Well from-time-to-time come-PRES.3PL the friends to spend
la tarde, ...
 the afternoon ...
 ‘Well, from time to time friends come to spend the afternoon ...’
 (HCM 15, 121)

9.2.2.6 An alternative view of aspect in FG

Cuvalay (1995), working within the revised framework for the underlying structure of the clause which was outlined briefly in §3.3, proposes a rather different distribution of aspectual types across levels from that of Dik. Two types of aspect operate at Level 1, at which the nuclear predication becomes converted into a core predication. Aspect1 covers the Perfective/Imperfective distinction as in Dik's model. Aspect2 is concerned with the temporal relationship between the SoA and the 'event frame' (the point or interval of time on to which the SoA is projected: see Chung & Timberlake 1985), and includes not only Progressive (SoA during event frame), but also Perfect (SoA before event frame) and Prospective (SoA after event frame), which are Level 2 operators in Dik's scheme. There are also differences with respect to quantificational aspect (Level 2 for Dik), which Cuvalay sees as spread over no fewer than three levels: the predicate/argument complex may itself indicate semelfactive or repetitive meaning, and in this case Cuvalay suggests that the Aktionsart is involved; the SoA itself may be quantified on the level of the core predication; and the event frame may be quantified on the level of the extended predication, in that a set of such frames may be located before and after some reference point. The differences between Cuvalay's account and Dik's appear to hinge crucially on the concept of event frame, and it remains to be seen how useful this addition to FG will prove in further research.

9.2.3 Modality in FG

Dik (1997a:241) uses the term 'modality' for the underlying semantic area, and 'mood' for grammatically expressed distinctions in modality, handled in terms of operators in FG. This use of the term 'mood' is a potential source of confusion, however, since, as we saw earlier, the term is also used more traditionally to refer to oppositions such as those between indicative, subjunctive, imperative, optative, etc., in some languages. In what follows, I shall use the term only in the more traditional sense. As shown in Table 9.1, distinctions related to modality are spread over Levels 1, 2 and 3 in the underlying clause structure. Dik's brief account of modality distinctions is closely based on the more detailed work of Hengeveld (1987, 1988, 1989), which is summarised below.

9.2.3.1 Modality distinctions at Level 1: inherent modality

Distinctions in inherent modality are concerned with "[a]ll those linguistic means through which S can *characterize* the relation between a participant in a SoA and the potential actualization of that SoA" (Hengeveld 1988:233, emphasis in original). They are internal to the SoA, and so at Level 1, and can be expressed only lexically, through predicates. Four subtypes are postulated: ability (e.g. *can*,¹¹ *be able to* in English), volition (e.g. *be willing to*), obligation and permission (only where a particular participant in a SoA is said

11. Hengeveld (1987:57; 1988:234) gives only periphrastic realisations for inherent modalities in English; Dik (1997a:241), however, includes *can*, *must*, *may* as realisations, implying that he regards these modals as predicates in their own right. For further discussion of the status of the modals see §9.2.3.7.

to be under obligation or to have permission). Examples from English and Spanish are given below.

- (32) *Well most of the ten year olds in my class can speak reasonably.* (BNC KDO 13473)
- (33) *The family must be willing and able to carry the child's past into the present and sustain it into the future ...* (BNC CRW 876)
- (34) *... members of the group are free to sell at whatever prices they wish.*
(BNC A3S 54)
- (35) ¿Sabes cocinar? (HCM 20, 382)
know-PRES.2SG.FAMILIAR cook
'Can you cook?'
- (36) ... un... concepto que yo no soy capaz de explicar en
a concept which I NEG be-PRES.1SG capable of explain in
breves momentos (Referencia BNOT015C.ASC)
short moments
'... a concept which I'm not able to explain in just a few minutes'
- (37) ... nosotros hemos recibido más de quinientas
we have-PRES.1PL receive-PAST.PART more than five-hundred
solicitudes de familias dispuestas a adoptar un niño.
applications from families willing to adopt a child
'... we have received more than five hundred applications from families willing to adopt a child.' (Referencia AENT006C.ASC)

9.2.3.2 Modality distinctions at Level 2: objective modality

Objective modality is concerned with "[a]ll those linguistic means through which S can evaluate the actuality of a SoA in terms of his knowledge of possible SoA's" (Hengeveld 1988:233, emphasis in original). There are two types of knowledge which can be used as a basis for such evaluation: 'epistemic' objective modality is based on knowledge of possible situations in relation to reality or hypothesis, and 'deontic' objective modality on knowledge of possibility in relation to a system of moral, legal and social conventions. Within epistemic objective modality, Hengeveld (1988:236) distinguishes various degrees (certain, probable, possible, conceivable, impossible); within deontic modality, there is a similar range from obligatory, through customary, permissible, acceptable, to forbidden. 'Doubtful' is given as a label for the situation in which the speaker cannot provide an evaluation in terms of his knowledge. All of these can be subsumed under the label 'non-actual', and this can be opposed to 'actual', which is thus also an objective modal category. All objective modal elements must, by definition, take a predicational scope, so that they are at Level 2. They can be expressed though operators or embedding predicates, depending on whether they are realised grammatically or lexically. Some examples from English, Spanish and Gooniyandi follow.

- (38) *It is possible for social inequality to exist without social strata.* (BNC FB6 705)
- (39) *It is possible, then, that Eliot no longer knew what others really thought of his work.* (BNC EFX 1100)
- (40) *Law is obligatory because it is authoritative.* (BNC EAJ 194)
- (41) *¿Cómo es posible que yo haya llevado eso?* (HCM 4, 70)
 How be-PRES.3SG possible that I have-PRES.SUBJUNC.1SG
 wear-PAST.PART that
 ‘How is it possible that I wore that?’
- (42) *Pues es probable que de ahí te conozco yo, ...*
 Then be-PRES.3SG probable that from there you know-PRES.1SG I ...
 ‘Then it’s probable that I know you from there.’ (HCM 17, 310)
- (43) *jamoondoo wajiladdirni maa* (McGregor’s 6–256, 1990a:534)
 other-day I-might-have-thrown-it meat
 ‘I should have thrown the meat out the other day.’

As far as the last example is concerned, McGregor (1990a:530) claims that the three ‘modes’, of which the ‘potential’ illustrated in (43) is one, are deontic modalities, and this is reflected in the English translation. McGregor (1990a:556) further comments that “[u]se of the modes is based on the speaker’s evaluation of the actual circumstances surrounding the situation”, so confirming that these are, in FG terms, objective modalities. The Potential Mode of Gooniyandi would be a Level 2 operator, while the realisations of modality in (38)–(42) are lexical.

Olbertz (1998) gives a detailed account of the expression of Level 2 modalities by periphrases in Spanish.

9.2.3.3 Modality distinctions at Level 3: epistemological modality

Epistemological modality is concerned with “[a]ll those linguistic means through which S can express his commitment with regard to the truth of a proposition” (Hengeveld 1988:233, emphasis in original). Hengeveld (1987:59; 1988:240; 1989:139) divides epistemological modality into four main subtypes: subjective, inferential, quotative and experiential. Modal adverbs always express subjective epistemological modality, whereas modal adjectives express objective modality. The subjective/objective distinction is based on the work of Lyons (1977), though adapted to the FG layered structure of the clause.

Hengeveld (1987:58–63, 1988:236–237) presents evidence for the distinction between objective modalities and subjective epistemological modalities. He claims (see his examples (17)–(31), 1988:236–237) that objectively modalised predications can be questioned or hypothesised in a conditional sentence, while subjective ones cannot (e.g. in English *Is it possible that X? if it is possible that X*, but not **Possibly X?* or **If possibly X*); that subjective modality can be formulated only in positive terms, whereas objective modality can be formulated either positively or negatively (**Impossibly X*, **Uncertainly X*, but *It is impossible/not certain that X*); that subjective modality, but not objective, is necessarily linked

to the moment of speaking (e.g. *might* as a modality does not relate to the past, but expresses lower probability than *may* in relation to a present evaluation; but we can say *It was possible that*); and that the source of the information in an objectively modalised predication can be questioned, whereas that in a subjectively modalised predication cannot (Hengeveld claims that in answer to a statement modified by *possibly* it is inappropriate to ask **Who says so?*, but appropriate to ask *Do you think so?*, whereas the former question is perfectly acceptable in relation to a statement with *It is possible that*). Within the subjective category, Hengeveld distinguishes between epistemic (in turn divided into certainty, probability and possibility) and boulomaic or volitional (wishing, hoping, etc.).

All these properties indicate that subjective modality is to be located outside the predication itself, i.e. at Level 3, by proposition operators, or lexically by embedding predicates (e.g. *think/suppose* in *I think/suppose*), or adverbials. Additional evidence for the correctness of this position comes from differences between objective and epistemological modalities with regard to clitic promotion and negative raising in Spanish (Hengeveld 1987:61–62; 1988:245–246). Furthermore, the proposed scope of the operators concerned is reflected in the ordering of their realisations in languages such as Turkish (see the example given in Hengeveld (1987:63)).

The *Who says so?/Do you think so?* test indicates that in subjective modality the source of the evaluation is the speaker. Other possible sources of information for evaluative purposes are, however, possible, and these give rise to what Dik (1997a:242) subsumes under the label ‘Evidential’, covering Hengeveld’s inferential, quotative and experiential subtypes, which themselves derive from the classification of Chung & Timberlake (1985). In inferential modality, the source of information is evidence of some kind; in quotative modality the source is a third party; in experiential modality the evaluation comes from experience of the SoA.¹²

Some examples of epistemological modalities from English, Spanish and Gooniyandi are given below. Further details on Level 3 modalities in Spanish, as expressed by periphrastic means, can be found in Olbertz (1998).

- (44) *Perhaps he hadn’t understood her last night.* (BNC HH1 3298)
- (45) *You will surely remember the debate on the letters pages through September, ...* (BNC A6X 1420)
- (46) ... *a mí, el período medieval es quizá el que menos*
to me the period medieval be-PRES.3SG perhaps the which least
me seduce de toda la Literatura en general ... (HCM 20, 388)
me attract-PRES.3SG of all the Literature in general
‘As far as I’m concerned, the medieval period is perhaps the one that I find least attractive in the whole of Literature in general ...’

12. For further discussion of ‘evidential’ modalities, though not within the framework of FG, see Palmer (1986:66–76).

- (47) (McGregor's 6–159, 1990a: 502)
mangaddi woongooloo bagingiri minyjidda waddinngiri
 not for-fun I-lie true I-am-sick
 'I'm not pretending, I'm really sick.'

9.2.3.4 Modality in terms of domain and target of evaluation

In recent work, not specifically embedded in the framework of FG, Hengeveld (forthcoming c) has systematised the above distinctions in terms of two dimensions: the target of evaluation and the domain of evaluation. The target is that part of the utterance which is affected by the modality: this may be a participant in the SoA, an event represented by an SoA, or the proposition in which the speaker presents not only the content but also his or her own views and beliefs in relation to that content. The domain of evaluation corresponds to the different types of perspective reflected in a modality: facultative (concerned with inherent properties), deontic, volitive, epistemic and evidential, these latter terms being used in much the same way as in the discussion above. Hengeveld illustrates the various possible combinations, with examples of their morphological realisation in a number of languages. Table 9.2, based on information given in Hengeveld's account, shows these combinations and the equivalent categories in the earlier classification. A dash in any cell means that this combination is excluded.

Table 9.2. Modality distinctions according to Hengeveld (forthcoming c), compared with his earlier classification

Target → Domain ↓	Participant	Event	Proposition
Facultative	Inherent, ability	–	–
Deontic	Inherent, deontic	Objective, deontic	–
Volitive	Inherent, volition	<i>Not specified</i>	Epistemological, subjective, boulomaic
Epistemic:	–	Objective, epistemic	Epistemological, subjective, epistemic
Doxastic	–	–	<i>Not specified</i>
Dubitative	–	–	<i>Not specified</i>
Hypothetical	–	–	<i>Not specified</i>
Evidential:	–	–	Epistemological:
Sensory	–	–	Experiential
Non-sensory, reportative	–	–	Quotative
Non-sensory, inferential	–	–	Inferential

9.2.3.5 Generalising subjective orientation to deontic modality

Verstraete (2001, forthcoming) argues that deontic as well as epistemic modality can be subjective. He shows that, *pace* Hengeveld's demonstration (see §9.2.3.3) that adverbially-realised subjective epistemic modalities cannot appear in questions or be hypothesised in conditions, while adjectivally-realised objective modalities can, this criterion does not work as an absolute test if we consider modal verb realisations of the modalities: subjective modalities can occur in the *if*-clause of a conditional construction and can be questioned, though they behave differently from non-subjective modalities in these environments. Consider (48) and (49) below:

- (48) *In short, if life was always harder in the inner cities than elsewhere, and if conditions may temporarily have been alleviated by the impact of the welfare state and rising incomes, the last decade has been widely represented as a period of deterioration.* (BNC AS6 51)
- (49) *If Britain cannot meet our demands in two months, it shows a lack of goodwill, and we will definitely go to the courts.* (BNC AM4 171)

As Verstraete (2001: 1519–1520; forthcoming) observes, the subjective epistemic modality indicated by *may* in the conditional clause of (48) does not represent the writer's own degree of commitment to the content of the proposition, but is echoic, relating to an opinion expressed, or at least implied, earlier in the discourse. On the other hand, in (49), where FG would treat the modality indicated by *cannot* as inherent and not subjective, there is no such echoic effect.

Now consider (50) and (51):

- (50) A. *If I said twenty-seven add thirty-five add seventeen, would you add them up like that? Or might you put them one under another?*
 B. *Yeah I'd probably put the numbers* (BNC FM4 716–718)
- (51) *Can he see me?* (BNC CA3 2454)

Verstraete (2001: 1522, forthcoming) argues that in examples such as (50), with subjective epistemic modality, the effect of the question is to shift responsibility for commitment on the assessment of truth value from the speaker to the interlocutor in the next turn, whereas in examples such as (51), where the modality is inherent, and so non-subjective, there is no such shift, because there is no responsibility for assessment at issue, the modality being itself part of the content of what is being negotiated. Verstraete explains the behaviour of the two types in terms of the claim that subjective modals, which are characterised by an element of modal performativity (i.e. creating a commitment of the speaker in relation to the propositional content of the utterance) belong to the interpersonal organisation of the clause, while non-subjective modals are part of the representational organisation. In the case of conditional clauses, the position-taking function of a subjective modal clashes with the function of the conditional, which is to suspend commitment, so treating it as a supposition in relation to the apodosis. The echoic interpretation is then seen as an interpersonal compromise, shifting the commitment from the speaker to someone else. In

the case of interrogatives, the mood again allows the transfer of the commitment to the interlocutor.

Verstraete (2001: 1521; forthcoming) argues that some uses of deontic modals are subjective, not only because they encode the speaker's commitment, though now to a course of action rather than to the truth of a proposition, but also because they display the shifts of responsibility characteristic of subjective modalities, as outlined above. As an example, consider (52) and (53):

(52) *You may call me Elisa, she said.* (BNC ASN 2606)

(53) *May I come in?* (BNC AT7 2426)

In each case the modal is one of permission, and in (52) it is the speaker who commits herself to the granting of permission to the addressee: in this sense, the modal is subjective. Furthermore, in (53) the responsibility for commitment to the granting of permission is transferred to the addressee. In (54), on the other hand, although there is a deontic source for the obligation expressed by *must* and the permission expressed by *may*, this source is not identified with the writer, but is a legal system. Verstraete therefore treats this type of modality as objective.

(54) *The suspect must appear and may be legally represented at the various hearings before the magistrates ...* (BNC ASB 537)

Now contrast (55):

(55) *To lose weight the intake of calories from the diet must be less than required ...* (BNC FEX 1428)

In such clauses, as Verstraete points out, there is no deontic source at all, but rather a necessity which arises through the dictates of the situation itself. Such modalities are thus truly inherent.

The difference between subjective epistemic and subjective deontic modalities, according to Verstraete (forthcoming), is in the domain of their application. The epistemic modalities operate over a tensed domain, in that the perfect in examples such as (56) indicates that the epistemic judgment is being applied to a past situation ('it is a necessary conclusion that this is what Heymouth was like ...').

(56) *Just think, this is what Heymouth must have been like before electricity was discovered ...* (BNC AN7 658)

The deontic modalities, on the other hand, operate over a tenseless domain, in that the perfect does not locate the situation in a past domain; rather, with both present and perfect in Verstraete's examples *Jack must give me the money, or I'll kill him*/*Jack must have given me the money (by ten)* or *I'll kill him* the SoA is 'virtual', unrealised, though desired, and in this respect subjective deontic modalities are functionally akin to imperatives. It is noteworthy that Verstraete, who for the most part gives authentic, corpus-based examples, constructs an example of his own to illustrate this point. My own search of the British

National Corpus revealed no examples with *must have* where the speaker was clearly the deontic source, though we can perhaps consider (57) to be subjective in Verstraete's sense if we assume that the writer authoritatively represents the university.

- (57) *Students cannot be registered until fees are received in full and fees must have been paid before tutors begin teaching.* (BNC HTC 242)

Verstraete points out that in the classical FG model this difference in domain makes it difficult to account for the similarities between subjective types of epistemic and deontic modality, since the layering hypothesis leads to an analysis in which the former is handled in terms of a propositional operator, while deontic modalities operate at lower levels in the hierarchy. However, as Verstraete (forthcoming) observes, a solution is available in Hengeveld's latest Functional Discourse Grammar model, in which the subjective vs. objective distinction can be handled at the interpersonal level, while the difference in domain is a purely a matter for the representational level, and can be 'steered' from the interpersonal level.

A further problem signalled by Verstraete (2001: 1523) is that whereas in FG (and also in RRG) illocutionary force has scope over both epistemic and deontic modalities, as seen from the perspective of modal performativity, subjective modality interacts with, rather than has scope over, the declarative/interrogative distinction.

Verstraete (forthcoming) also claims that in order to reflect the fact that some SoAs are tensed, others tenseless, the propositional layer in representational structure must be optional. This proposal is based on the view that tensing is what motivates the distinction between propositions and predications: as Halliday (1994b) observes, in order to be able to argue about truth and falsity, location with respect to a reference time is needed. The absence of a propositional layer for some clauses is not a problem for the FG model: we shall see in §1.2.1 of Part 2 that Dik proposes that the Imp(erative) illocutionary operator takes the predication directly in its scope.

9.2.3.6 Modality and mood

Within FG, the interaction of modality and mood has been investigated mainly by Hengeveld (1988), with particular reference to the Spanish indicative and subjunctive moods. Hengeveld proposes that the mood distinctions serve to distinguish meanings concerned with both illocutionary force¹³ (at Level 4 in the hierarchy) and modality (objective at Level 2, subjective epistemological at Level 3). Objective modality in Spanish (Hengeveld 1988: 250–251) is taken to be expressed in either of two ways: by *es* (or occasionally *está*) ('it is') plus an adjective such as *cierto* (glossed by Hengeveld as 'certain', though it often means 'true'), *probable* ('probable'), *posible* ('possible'), *obligatorio* ('obligatory'), *dudoso* ('doubtful'), etc., or a NP as in *es el caso* ('it is the case'); or by a predicate such as *creer* ('believe') or *dudar* ('doubt') indicating what Hengeveld refers to as '*de re*' evaluations, where they may be paraphrased as 'I have the impression that ...', 'I doubt

13. Mood in relation to illocution is discussed in Chapter 1 of Part 2.

Hengeveld's third explanation for the alternation of indicative and subjunctive is concerned with the mitigation of the speech act force of the utterance,¹⁵ in a clause which has already been modalised lexically. Thus (67) is seen as having mitigated speech act force, while (68) is not.

- (67) ... *sí, quizá sea* *cuestión de costumbre, ...*
 yes perhaps be-PRES.SUBJUNC.3SG question of habit
 '...yes, perhaps it's a question of habit, ...' (HCM 23, 428)
- (68) ... *quizá es* *madrileña ¿no?*
 perhaps be-PRES.3SG from-Madrid no
 '... perhaps she's from Madrid, is she?' (HCM 11, 193)

Certain aspects of Hengeveld's account are somewhat problematic. Firstly, at least one of his claims is not borne out by the evidence of actual Spanish usage: consultation of a large set of written and spoken corpus materials shows that every one of the 56 examples of *es/parece dudoso que* takes the subjunctive, and not the indicative as Hengeveld claims to be possible.¹⁶ Secondly, the distinction between *de re* and *de dicto* readings seems not to be one which is important in actual Spanish usage, though it figures large in Hengeveld's account. Thirdly, there are problems with the crucial distinction between objective and subjective epistemic modalities, *pace* Verstraete's proposal to extend this distinction to deontic modalities. Vet (1998b: 157–158) claims that the distinction made by Lyons, and taken over by Hengeveld, does not correspond to any set of linguistic categories, and that the characterisation of 'objective' modality as 'e_i is a possible state of affairs such that ...' is counter-intuitive, in that what the speaker expresses by means of an epistemic modality is his/her attitude towards the propositional content of the utterance, not an eventuality as encoded in a SoA. I shall return to Vet's (1998b) treatment of epistemic modality in French in Chapter 1 of Part 2, since it is very much bound up with his account of illocution. Van der Auwera (2001: 241–242) also questions the validity of the subjective/objective distinction within epistemic modality, pointing out that in the Dik/Hengeveld scheme, the definitions of both types involve the speaker's evaluation, a point which is also made by Wakker (1992: 374–375).¹⁷ Serious doubt about the subjective/objective distinction is also expressed by Nuyts, to whose work I now turn.

15. For discussion of mitigation, see Chapter 1 of Part 2.

16. Except where expressions of doubt are used in the negative to indicate positive commitment, as in *no parece dudoso que*, all instances of which in the corpus took the indicative.

17. Van der Auwera also argues against the splitting of deontic modalities between Levels 1 and 2. He gives the example *A Belgian citizen has to vote*, which indicates an obligation on the citizen, but one which derives from the legal system. He regards this as evidence against the distinction of two types, citing Dik (1997a: 241–242) as saying that if a participant is under an obligation, then the deontic modality is at the predicate level. However, what Dik actually says is that the modality is at the predicate level if the relationship is between the participant and the realisation of the State of Affairs in which he is involved: that is, it is a participant-internal type of obligation which is involved. This is clearly not the case in van der Auwera's example, which therefore belongs clearly to the Level 2 type.

9.2.3.7 Modality in Functional Procedural Grammar

Nuyts (1992b, 1993b, 1993c, 1994, 1997, 1998, 1999, 2000, 2001a, 2001b; Nuyts & Vonk 1996, 1999) has made very detailed studies of modality, which have contributed to the formulation of his Functional Procedural Grammar framework (see §3.6). His work, which is based on the study of a corpus of almost a million words of written and spoken Dutch and a similar corpus of German, combined with observations about English, leads him to question a number of the key claims in Hengeveld's account of modality within FG. The following summary is based on the recent book-length treatment (Nuyts 2001a), to which all page numbers refer unless otherwise indicated. Nuyts' ideas are discussed here at some length, because they raise fundamental questions for the current mainstream theory of FG.

Nuyts takes a function-to-form approach which he describes as 'paradigmatic', starting from a definition of epistemic modality as an abstract functional category, and then looking at the ways in which this category is manifested in linguistic structure, and the cognitively relevant factors which might lead to the use of one form rather than another (p. 24). He presents a considerable quantity of evidence against the division of epistemic modalities into objective and subjective types, as proposed by Lyons (1977:798), and against Hengeveld's claim that adjectival realisations of modality are always objective, while adverbial realisations are subjective. Basing his arguments principally around the close study of the forms *waarschijnlijk* (Dutch) and *wahrscheinlich* (German), which are used both adjectivally (as an equivalent of English *probable*) and adverbially (*probably*), Nuyts (p. 63) shows that the adverbial use is much more frequent than the adjectival use, for both languages, in all text types. Since his corpus includes expository prose from the press and popular scientific writing, this would mean, under Hengeveld's claims, that writers were using primarily subjective rather than objective modalities even within these text types, a surprising conclusion in view of the supposed striving for objectivity in such texts. It is, however, the case that the proportions of the adjectival use are higher in expository prose than in literary and spoken language, and Nuyts therefore concedes that an element of subjectivity vs. objectivity may be involved, though clearly there are other factors to be taken into account as well. Nuyts (pp. 32–45) in fact proposes several largely independent factors which exist separately from the epistemic evaluation, but contribute to the properties of epistemic modal constructions.

One of these factors is concerned with the type and quality of the evidence the speaker has for the epistemic judgment made (pp. 33–39, 64–71; see also Nuyts 2001b). This evidence can vary from purely subjective, in cases where it is available only to the speaker, to highly intersubjective, in cases where the relevant facts are widely known. Nuyts suggests that this is one of the key elements which might explain the impression of subjectivity or objectivity of modal expressions; it is, however, quite different from the epistemic qualification itself, which is simply the speaker's evaluation of the probability of actualisation of the SoA. Nuyts gives corpus examples in which a modal adverb is used in a clearly intersubjective evidential situation, thus casting doubt on Hengeveld's assertion that modal adverbs always express a subjective evaluation. However, he also points out that we cannot assume either that modal adverbs themselves always express objectivity (or, in Nuyts' terms, intersubjectivity), since in most of the corpus examples any indication of subjectiv-

ity or intersubjectivity comes from the context (either the surrounding discourse or world knowledge) and not from the modal adverb itself. Modal adjectives, on the other hand, do usually express an evidential meaning, but this is not inherent to the adjective itself, but rather to the impersonal construction in which it occurs. Furthermore, the evidential meaning expressed is not always intersubjective, as Hengeveld's account would suggest, since constructions with double negation (e.g. the equivalent of *it is not improbable that*) tend to have a higher degree of subjectivity than the comparable clauses without negation.

A second factor is the distinction between 'performative' and 'descriptive' uses of modal qualifications, i.e. whether the speaker is reporting his or her own point of view, or describing/reporting someone else's (pp. 39–41, 72–78). Again, Nuyts sees this not in terms of two different kinds of epistemic modality, but rather as a separate factor, a difference in conceptual status. Performative uses are always 'subjective' in terms of the commitment of the speaker, and this probably contributes to their characterisation in the literature as 'subjective modalities', but in Nuyts' terms they can be either subjective or intersubjective. The corpus examples suggest that modal adverbs are always used performatively, while adjectives can be used either performatively or descriptively.

The third factor, and the most important in differentiating the use of modal adverbs from that of adjectives, is the information structuring of the linguistic expression in which the modal qualification appears (pp. 41–44, 79–100).¹⁸ A detailed analysis of Nuyts' corpora suggests that the adjective is normally used when the modal qualification is salient in the discourse, and so needs to be focused. Constructions of the type *it is probable that X act*, Nuyts suggests, as something rather like a cleft version of *probably X*, and if this is the case, then his explanation fits in with the focusing functionality of clefts. The adverbial construction, on the other hand, tends to occur where something other than the modality (e.g. negativity, aspect, quantification, some component of the SoA itself) is salient in the discourse.¹⁹

Nuyts' final factor in the differentiation of the various formal realisations of epistemic modality is the discourse strategy used by speakers, as a function of their interpersonal relationship with their hearers (pp. 44–45, 100–102): matters of politeness clearly come in here. Nuyts finds that this factor does not play any major role in differentiating between adverbs and adjectives, though it is, as we shall see, important in other areas.

Nuyts demonstrates that the factors he adduces can be used to explain the behavioural properties of epistemic modal qualifications which Hengeveld and others have attributed to the subjective/objective distinction. The observation that adjectives, but not adverbs, expressing modal qualifications occur in questions can be explained in terms of differences in information structure: if the modality is questioned, then it must be in focus, and this is only so in the case of modal adjectives (p. 96; see also 2000: 109–110). A second explanation is in terms of performativity: when speakers question a modality, they

18. In Nuyts (1994:24), this is termed the 'discourse functionality' of the modal expression.

19. For an interesting experimental study of information structure in relation to modal expressions, see Nuyts & Vonk (1999), Nuyts (2001a:Chapter 5). Discussion of information structuring in relation to the processing of epistemic modalities can be found in Nuyts (1999).

Table 9.3. Properties of various epistemic modal constructions, based on Nuyts (2001a:227)

Construction → Factor ↓	Adverbial	Adjectival	Mental state predicate	Modal auxiliary
Evidentiality: [inter]subjectivity	–	+	++	(–)
Performativity: descriptive use	–	(+)	+	(–)
Information structure: focalised use	–	++	(+)	–
Discourse strategy: mitigation	–	–	+	–
Discourse strategy: argument management	+	–	–	+

are clearly not expressing their own view, but bringing up a potential modal qualification for discussion (p. 76). Much the same kind of reasoning can be used to explain the occurrence of adjectives, but not adverbs, in the protasis of a condition, which expresses a hypothetical situation (p. 77).

The observation that the adjective construction, but not the adverb, can be used to negate a modal qualification is explained in terms of information structure: negation puts the modal qualification into focus (pp. 79–82; see also 2000: 107–108).

The concept of evidentiality explains the restrictions on the questioning of the source of evidence for a modal evaluation. Since a modal adverb is always used performatively, it indicates that the speaker takes responsibility for the evaluation, so that unless some other source of evidence is made clear, the evaluation cannot be questioned with *Who says so?* (p. 71).

Nuyts (2001a:Chapter 3) also discusses in detail the use of mental state predicates such as *think, believe, doubt, suppose* and their Dutch and German equivalents (see also Nuyts 1997, 2000: 110–117), and of modal verbs expressing epistemic modality in the three languages (2001a:Chapter 4, see also 2000: 117–122). Again, these uses are shown to be susceptible to analysis in terms of the factors of information structure, evidentiality and performativity, with the addition of the further concept of the discourse strategy of ‘mitigation’ for some uses of mental state predicates, and of ‘argument management’ to indicate the role of modality in the management of antithetical views. Table 9.3 summarises the claims made by Nuyts.

Nuyts considers in some detail the implications of his findings for the conceptual structures and processes which his FPG model postulates as underlying the production of utterances. As we shall see, his conclusions have important repercussions on the theory of FG as a whole.

A particularly important point is that in the area of modality similar meanings can be expressed by operators, satellites and predicates. We have already seen that the realisation of meanings in other areas such as temporality and aspectuality can also involve both operators and satellites, and we shall see in Chapter 1 of Part 2 that the expression of

illocutionary meanings also involves operators, satellites and predicates. Two problems arise here.

Firstly, the mental state predicates, even when they appear in main clauses with a clausal complement, rather than parenthetically, introduce qualifications on a par with those involving operators and satellites. In current FG, only operators and satellites appear as elements which modify the SoA.²⁰ Furthermore, there are implications for the FG claim that the predicate of the main clause is the element from which the building up of the underlying clause structure starts. If the mental state predicate in a main clause with clausal complement can express a modal qualification, as proposed, then as Nuyts (1994: 187; 1997: 16; 2001a: 330–331) points out, it is not this predicate but the one in the complement clause which should act as the nucleus for construction of the underlying semantics, in a cognitively plausible model.²¹

A second problem is that in standard FG, there is no clear way in which we can show the relationships between meanings realised grammatically by operators, and lexically by satellites and predicates. Nuyts (1994: 157; 2001a: 292–293) justifiably concludes that we need a level of representation at which the meanings underlying elements belonging to the different linguistic categories can be given a unified conceptual representation. It is obvious that such a proposal entails that the level of conceptual structure be different from, and more abstract than, that of underlying clause representation of FG. In the area of epistemic modality, such a conceptual level would allow epistemic qualification itself to be a unified concept, with other factors (discourse salience, evidentiality, performativity, etc.) interacting in complex ways to determine the final linguistic outcome. The option of taking one type of construction as basic, and deriving others from it, is not available, since FG does not allow transformational processes of this kind, and anyway the apparatus needed would, as Nuyts (1994: 158) observes, be so complex and extravagant as to be unacceptable. The area of modality, then, provides convincing evidence for the kind of arrangement postulated in FPG, with a pre-verbal level of conceptual structure which is converted into a linguistic turn through sentencing, predication and expression.

The level of conceptual structure, then, would contain representations not only of concepts such as epistemic evaluation, evidentiality, performativity and discourse salience, but also of concepts related to temporality, aspectuality and other qualifications of the SoA (in addition, of course, to concepts concerned with SoAs themselves). This proposal raises important questions about layering: do we need layering at the conceptual level as well as (or even instead of) at the linguistic level? Nuyts' view is that we do, since the conceptual categories themselves show scope relations which motivate a hierarchical, layered approach. As Nuyts (1994: 156) recognises, this would not be seen as a problem by many proponents of FG, since in the mainstream model, conceptual structure has the same rep-

20. A similar issue has been raised by Vet (1997) in relation to analysis of *je crois* ('I believe, think'), *je sais* ('I know') and epistemic uses of *devoir* ('must, have to') in French. As remarked earlier, Vet's work on modality is closely bound up with his treatment of illocution, so further discussion will be deferred until Chapter 1 of Part 2.

21. A very similar point is made by Halliday (see §9.4.1.3).

resentation as underlying clause structure. We have already seen, however, that such a view is regarded by Nuyts as being untenable. Furthermore, the underlying clause structure of FG, although semantically based, builds in syntactically relevant distinctions, in its strict division of operators (grammatical) from satellites (lexical), the iconic relationship postulated between the scoping of operators in underlying structure and their surface realisation, and so on (Nuyts 1994: 155). In this respect, it differs from proposals in RRG which, as we have seen, has a principled distinction between semantic and syntactic levels, and in which, although operators themselves are semantic in nature, the ordering in the operator projection is related to the syntactic structure of the clause. The RRG proposal, in its separation of the semantic and the syntactic, although not entirely indisputable, at least has the merit, in Nuyts' view, of not attempting to do too much within one hierarchical representation, and so fits better with the division, in FPG, between conceptual and linguistic structures, each with a layered hierarchical organisation.

There is a further respect in which the RRG layering scheme is seen by Nuyts as more realistic than the FG proposals. Nuyts (1994: 176ff.; 2001a: 334ff.) demonstrates that qualifications which belong to the same level in FG can themselves be ordered in scope: cases in point are the expression of time relations and epistemic modality, epistemic and deontic types of 'objective' modality, deontic modality and time, time and quantificational aspect. Nuyts (1994: 178) puts forward the following conceptual ordering of qualifications:

- (69) evidentiality > epistemic modality/polarity > deontic modality > time > quantificational aspect

In Nuyts (2001a: 347) quantificational aspect is added at the right hand end of the hierarchy, under the scope of the other types. Nuyts notes that this proposal, which implies a more gradual 'layering' than that in FG, is more in line with RRG proposals. Nevertheless, he does not entirely dismiss the FG concept of 'stacked' layering, noting that there is a tendency for the qualifications at higher levels in the hierarchy to be mutually exclusive, suggesting that groupings of qualifications in terms of their semantic properties may be superimposed on the more gradual hierarchy shown in (69).

Clearly, however, neither the FG nor the RRG proposals give an adequate account of modality as seen from a cognitive-pragmatic perspective. Nuyts (1998, 2001a: 304–319) offers a detailed discussion of the mismatching between conceptual qualifications and expression forms which leads him to the claim that the two represent quite different systems, even though the behaviour of the expression forms is certainly conditioned by that of the conceptual categories. He concludes:

If so, then one simply cannot grasp both dimensions in one layered structure in the grammar, as FG has tried, or in two structures at different places which do little more than duplicate each other, as RRG attempts. (Nuyts 2001a: 314–315)

In fact, Nuyts comes to the view that the notion of layering of modal qualifications is best confined to the conceptual level, and that

... the 'layered' behavior of linguistic forms is not to be explained by means of layered representation in syntax, but as an effect of layering in conceptual structure in combi-

nation with the procedures for mapping conceptual structures onto linguistic forms. (Nuyts 2001a:319)

It has not been possible to offer more than a very selective summary of Nuyts' arguments here, and readers are encouraged to refer to his book for further detail.

9.2.3.8 *Differentiating the modal verbs in English grammar*

Goossens (1985a, 1985b, 1985c/1987a, 1987b, 1996, 1999a, 1999b, 2000) has made a detailed study of the modal verbs of English, initially within a FG framework, but increasingly moving towards a Cognitive Grammar account. Goossens' work brings in aspects of grammaticalisation in the historical development of these verbs.

The proposals made in Goossens (1985a) and summarised in Goossens (1985b:53–56) relate to three possible ways of constructing modalised predications in English: the use of predicate operators, predicate formation rules, and independent modal predicates. It is proposed that the use of *will*, *shall*, *should*, *would* to form the future tense and conditionals, and also certain 'subjunctive' uses of *should*, be handled in terms of predicate operators. The basic types of modality, which Goossens takes to be facultative, deontic and epistemic, can be analysed in terms of either predicate formation or independent predicates. If predicate formation is involved, then the rules will be of the type shown in (70), where φ is some predicate, and 'mv' indicates a modal verb.

(70) (= Goossens' (1), 1985b:54)

Input: $\varphi(x_1) \dots (x_n)$

Output: $\left[\begin{array}{c} \left\{ \begin{array}{l} \text{may}_{mv} \\ \text{must}_{mv} \\ \text{etc} \end{array} \right\} \varphi \end{array} \right] (x_1) \dots (x_n)$

Different subclasses of modal combine with different kinds of State of Affairs: epistemic modals normally require a State, or some other type of SoA provided that it is prefixed by an operator which has the effect of converting the SoA into a stative one (Progressive, Perfect or Habitual are mentioned by Goossens);²² deontic and facultative modals combine with Events (i.e. Processes and Actions).

If we treat modals as independent predicates, we have structures such as the following, where mv_1 , mv_2 and mv_3 represent epistemic, deontic and facultative modality respectively:

22. Goossens (1985a:209) mentions that some Positions and Processes can also take epistemic modality.

(71) (= Goossens' (2), 1985b:55)

$$must_{mv1} (x_1: \left. \begin{array}{l} \text{situation} \\ \text{(position)} \\ \text{(process)} \end{array} \right\} (x_1))_o$$

(72) (= Goossens' (3), 1985b:56)

$$may_{mv2} (x_1: \text{event} (x_1))_o$$

(73) (= Goossens' (4), 1985b:56)

$$may_{mv2} (x_1)_o (x_2: \text{event} (x_2))_o$$

(74) (= Goossens' (5), 1985b:56)²³

$$will_{mv3} (x_1)_o (x_2: \text{event} (x_2))_o$$

Note that epistemic modals would be one-place predicates, and facultative modals two-place (corresponding to the person with the inclination or ability, and the predication indicating the SoA with respect to which this inclination or ability holds). Deontic modals can be one- or two-place, depending on whether they simply present the existence of obligation/permission with respect to some SoA, or putting under obligation/granting permission, respectively.

In discussing the evidence for and against the two solutions with regard to the three types of modality, Goossens (1985b) considers not only semantic factors, but also phonological and morphosyntactic properties, as well as grammaticalisation phenomena. Phonological criteria do not allow any systematic differentiation, while morphosyntactic properties (e.g. the lack of non-finite forms and the similarity of patterning between modals and other auxiliaries) tend to militate against treating the modals as independent predicates. As we saw in §9.2.2.1.2, Goossens postulates a scale of increasing grammaticalisation, as shown in (75):

(75) (= Goossens' (12), 1985b:62)

$$\text{full predicates} < \text{predicate formation} < \text{predicate operators}$$

Using the criteria for degree of grammaticalisation proposed by Lehmann (1982), he concludes that the English modals are partially, though not fully, grammaticalised, but that most of Lehmann's criteria are of little use in differentiating the central modals. It is, however, possible to relate the grammaticalisation scale in (75) to the degree of desemantisation of modal subtypes, i.e. the abstractness of their meanings, as shown in (76).

23. Goossens also indicates tentatively the possibility of assigning the function Experiencer to the x_1 argument.

directive speech act, and so presumably would have to be located at level 4. Goossens asks, then, whether we need to locate such modalities at both levels.

Goossens' arguments are taken up by Harder, who argues for a position according to which

... meanings serve a function in communication by pointing the addressee towards the intended interpretation; they do not hand over the finished interpretation wrapped up in the code (which he merely has to unpack). (Harder 1998:215)

Under this view, English modal verbs are precise in that they indicate clearly the degree of commitment attached to a statement (e.g. the 'weak modal force' signalled by *may* means that the circumstances do not rule out the situation being described), but they are flexible on other semantic dimensions, such as the source of the modal constraint (e.g. the subjectification of deontic *must* is something which is imposed on an objective constraint, and this is not an all-or-none phenomenon). This means that modal qualifications are not precisely locatable at any point(s) in the layered structure of fully interpreted meanings. The complex layering structure is needed, not to describe the modal operators needed for the description of English, but rather to account for the range of interpretations allowed by the modal verbs.

In recent work, Goossens (1999a, 1999b, 2000) has investigated in further detail, largely from a cognitive perspective, the shift from participant-external to epistemic modality in English, drawing at times on work by van der Auwera & Plungian (1998), who present a typologically-oriented model of the semantic space of modality and the major shifts which occur within this space in the world's languages.

Finally, we should note that Nuyts (2001a:290) raises the important issue of how to model the gradual process of grammaticalisation, without claiming radical, and so implausible, changes of status from one linguistic category to another (e.g. full verb to grammatical morpheme). He suggests that one partial solution is to store grammatical morphemes, as well as normal lexemes, in the lexicon.

9.2.4 Polarity in FG

In *TFG1*, Dik (1997a:384–386) treats polarity very simply in terms of Level 2 operators Pos and Neg, which are seen as the limiting values of the range of Epistemic objective modality (1997a:242). A much fuller picture is, however, given in *TFG2*, on which the following summary is based. Dik (1997b:169) claims that negation is relevant to all levels of clause structure: clause, proposition, predication, predicate and term. Although accepting that negation may possibly be expressed lexically in some languages, Dik concentrates on polarity operators, which have clear effects on the structure of the verbal complex. He also notes that the interpretation of negative clauses also depends crucially on the assignment of Focus (1997b:171–172).

Negation of the illocutionary force of an utterance can be achieved only by the negative use of a performative verb, as in (77) below, and Dik (1997b:174) treats this just like negation of any other SoA, the effect of illocutionary negation arising from the prag-

matic interpretation of performative statements as ways of actually carrying out the speech act named, so that negation in this context pragmatically implies refusal or inability to perform the act.

(77) *Now I'm not saying that two wrongs make a right, ...* (BNC KRL 1460)

Dik (1997b:174ff.) distinguishes between propositional and predicational negation along the lines suggested by Lyons (1997:768). Propositional negation expresses disagreement with the claim of another speaker, whereas predicational negation is intended simply as a statement of fact. Thus B's reply in (78) (predicational negation) would be analysed as in (79), and (80) (propositional negation) as in (81).

(78) A. *are prices going going down*
 B. *no they're not going down but they're not going up either they're sort of steady*
 (LLC 8 1d 356–360)

(79) Decl E: X: Pres Neg e: go [V] (prices)_{Proc} (down)_{Dir}

(80) A. *it's quite silly to try and blame ourselves for something that's quite beyond our control [...]*
 B. *it isn't beyond our control we're still there Germany is not an independent nation ...* (LLC 5 1 929–934)

(81) Decl E: Neg X: Pres e: {(our control)_{Loc/beyond}} (it)_Ø²⁴

Dik observes that in some languages, including English, polarity involving disagreement is signalled by the assignment of different types of Focus, realised prosodically, while in other languages, such as Dutch, emphatic particles can be used, possibly in combination with prosodic prominence. An example of the latter type from Spanish is given in (82).

(82) A. *A mí no me ... acabó de gustar.*
 to me NEG me ... finish-SIMPLE.PAST.3SG to like
 B. *A mí sí que me gustó, sí.*
 to me EMPH that to-me please-SIMPLE.PAST.3SG, yes
 'A. I wasn't too keen on it.
 B. I did like it, yes.' (Referencia ACON006C.ASC)

Dik (1997b:177) hypothesises that whereas positive predicational polarity is not formally realised in natural languages, positive propositional polarity is, at least prosodically.

Negation at the predicate level (Dik 1997b:178–180) is illustrated by pairs such as *kind/unkind*, *returnable/non-returnable* or *hinged/hingeless* in English, and is accounted for by means of predicate formation rules. The phenomenon of 'litotes' or 'negation of the contrary' (e.g. *not unkind*) can be handled by means of a Level 1 negation (predicate) operator acting on the negative lexical form.

24. The function 'Loc/beyond' is simply an *ad hoc* device intended to circumvent the problems of distinguishing between different kinds of locative requiring different prepositions, since this problem is irrelevant to the discussion here.

Negation can also apply to terms, through the application of a type of quantifying operator (see §7.2.1.3.3) indicating zero quantification. The clause in bold type in (83) would thus be given the skeleton analysis in (84):

(83) *It is rather peculiar that **no national parks exist in Scotland.*** (BNC FB2 1516)

(84) Pres e: exist [V] ($\emptyset x_i$: national park) $_{\emptyset}$ (Scotland) $_{Loc}$

Finally, note that the interpretation of negation can depend not only on the position of the Neg operator, but also on the assignment of the Focus pragmatic function. Consider (85):

- (85) A. *but in this there are two points one is we ought to go on lecturing and the other is that we leave it so late preparing it*
 B. *well he didn't say that he seemed to assume that people got all their lectures together like getting a bag of material* (LLC 1 4 671–678)

The Focus on *that* is interpreted as meaning that it was not that but something else that was said, and this is confirmed by the next part of B's utterance. On the other hand, B could have put the Focus on *say*, and gone on to add something like *but he did imply it*. Dik (1997b:172) handles this kind of phenomenon in terms of the interaction of negation and Focus. Vet (1992:67–68), on the other hand, proposes a separate illocution, REJECT, for cases of negation where the previous speaker's claim is rejected.

9.3 Temporality, aspectuality, modality and polarity in Role and Reference Grammar

So far, there has been little work, in RRG, on the detailed semantics of distinctions within the areas of temporality, aspectuality, modality and polarity. Rather, a number of fairly broad and quite traditional categories have been proposed, and the main focus has been on showing how these categories behave in relation to the operator projection of the clause, and to matters of clause linkage (see e.g. Watters 1993) which are beyond the concerns of the present volume. Examples of operator projections for specific clauses were given in Chapter 4. The general scheme proposed by Van Valin & LaPolla (1997:47) is given in Figure 9.2 below, which is an expanded version of their Figure 2.15. The braces on the right are intended to show pairs of operators which, cross-linguistically, can have scope in either direction: within the nucleus, directionals may have scope over lexical negation or *vice versa*, depending on the language; within the core, modality can have scope over directionals or *vice versa*; and at the clause level tense and status are in a similar relationship (Van Valin & LaPolla 1997:46).

The category of tense is interpreted in much the same way as in FG:

... tense expresses a relationship between the time of the described event and some reference time. This reference time is normally the speech time, though it is not necessarily so. (Van Valin & LaPolla 1997:40)

Van Valin & LaPolla (1997:171) comment that the tense operator, like other operators, has a set of possible values which depend on the language concerned: for instance,

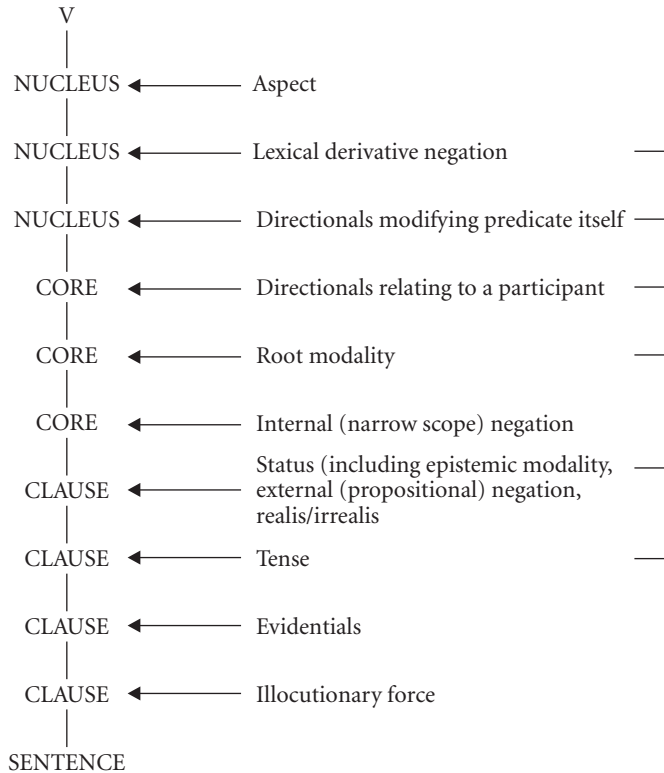


Figure 9.2. The operator projection in the Layered Structure of the Clause (adapted from Van Valin & LaPolla (1997:47, Figure 2.15))

some languages may have a past/non-past opposition, others an opposition between past/present/future, and so on.

Aspect is treated as a category concerned with the internal temporal structure of events, and so operating at the nuclear level. According to Van Valin & LaPolla (1997:40) the perfective/imperfective (indicating completion or non-completion), progressive (indicating an ongoing process) and perfect (involving the extra concept of current relevance) are the main types found across languages. In English, there are two aspects, progressive and perfect, which cross-cut three tense distinctions, past, present and future. Aspectual adverbials such as *completely* or *continuously* modify the predicate in the nucleus (Van Valin & LaPolla 1997:164).

Modality is divided along traditional lines into root (deontic) and epistemic types. Root modalities are concerned with the relationship between the process and one of the participants, and so involve core operators, with values, in English, for strong and weak obligation, permission and ability (Van Valin & LaPolla 1997:41). Epistemic modalities, on the other hand, refer to possibility and necessity, and relate to the state of affairs as a whole, so are represented by clausal operators. Although adverbials realising epistemic

modality are not specifically discussed by Van Valin & LaPolla, they too would clearly be at the clausal level in terms of their scope. The realis/irrealis distinction, concerned with whether a process is described as real or hypothetical, is closely connected with the area of modality.

Negation operates at three different levels: nuclear (e.g. the lexical derivation of *un-kind* from *kind* in English); core, with narrow scope or internal negation (see e.g. example (83) above); and clausal, where external negation affects the propositional content of the whole clause (Van Valin & LaPolla 1997:45–46).

Note that epistemic modality, the realis/irrealis distinction and external negation are all regarded as belonging to just one set of operators, those for ‘status’. Van Valin & LaPolla (1997:41) comment that this supercategory covers the semantic range from necessity and realis, at one end of the spectrum, to possibility and irrealis at the other.

The justification for the scoping relations postulated is the cross-linguistic morphosyntactic behaviour of the various categories: as shown in Chapter 4 for the whole range of operator types, the expression of operators, either synthetically as affixes on the verb, or analytically as in the example of the English auxiliaries, shows strong cross-linguistic correlations which motivate the ordering proposed.

9.4 Temporality, aspectuality, modality and polarity in Systemic Functional Grammar

As in many other areas of the grammar, the SFG account of temporality, aspectuality, modality and polarity differs markedly from that of FG and RRG in a number of ways, though there are also some similarities. I shall first look at Halliday’s own accounts (1994b), together with expansions and formalisations of these in Matthiessen (1995), and their latest joint work (Halliday & Matthiessen 1999), before considering how the relevant areas are handled in the Cardiff version of SFG.

As is so often the case, Halliday’s accounts tend not to justify his approach *vis-à-vis* others; Matthiessen (1996), however has attempted to do this. Although Matthiessen’s arguments are centred on tense, they also bring in the other areas discussed in this chapter. I shall discuss these arguments in §9.5, where a critical comparison of approaches is presented.

9.4.1 Halliday’s account

Halliday’s accounts of this area are limited almost exclusively to English, and are closely bound up with the postulation of the verbal group as a constituent of clause structure which consists of those words which are of the primary class ‘verb’, and which functions as (Finite +) Predicator in the clause (see §7.5).

As we saw in §7.5.1, Halliday (1994b:196) proposes that the verbal group in English, like the nominal group, has both an experiential and a logical structure. In experiential terms, the verbal group has the structure Finite operator + (Auxiliary)ⁿ + Event. Finite

can be fused with Event in the case of simple verbal groups such as *went*. The Finite element carries **either** (primary) tense or modality, both of which are seen as relating the Event deictically to the here-and-now of the speaker or writer (Halliday 1994b:197). The logical structure of the verbal group consists of elements α , β , γ , δ , ϵ , etc. in hypotactic relationship: α represents the Head of the verbal group, and the other elements successively act as modifiers.

9.4.1.1 *Time-related concepts and their expression in Hallidayan SFG*

Halliday & Matthiessen (1999:214) recognise four basic parameters in what they refer to as “transforming experience of time into meaning”: temporal staging of a process (beginning, taking place, ending); temporal perspective on the process (in/out of focus, which for English is interpreted as actualised vs. potential); temporal profile (boundedness); and temporal location (relation to ‘now’ as present, past or future).

In discussing the grammatical patterns related to time in English, Halliday’s contention is that it is temporal location which is foregrounded (Halliday & Matthiessen 1999:215) and that the system of tense is realised by the logical structure of the verbal group (Halliday 1994b:198; Halliday & Matthiessen 1999:215). The primary tense is that which functions as the Head, the α element of the verbal group; this element expresses past, present or future tense in relation to the speech event. By recursion, a secondary tense can then be chosen, and again expresses past, present or future, but now in relation to the time selected by the primary tense. By further recursion, tertiary, quaternary and even more complex tense forms can be built up, each new choice modifying the previous one. Consider the verbal group in bold type in example (86) below:

- (86) *Herr Hamnett **had been going to teach his wife Dutch and German.***
 α β γ
 (BNC B20 823)

The primary tense choice is Past (*had* rather than *has*), signalling pastness in relation to the moment of speaking; the secondary tense is also past (realised as *have* (in its appropriate primary tense form) + past participle (in this case *been*)), signalling pastness of the event in relation to the time established by the primary tense; and the tertiary tense future (*be going to*), signalling that the event is future in relation to the ‘past in the past’ already established. The tense is thus ‘future in past in past’.

Potentially, then, we have an infinite serial application of tense, with three possible choices at each recursion. Clearly, the English tense system is not as profligate as this, and Halliday puts forward three ‘stop rules’ which limit the possibilities:

- i. Apart from α , future occurs only once.
- ii. Apart from α , present occurs only once, and always at the deepest level.
- iii. Apart from α , the same tense does not occur twice consecutively.
 (Halliday 1994b:200)

The number of possible forms for finite verbal groups is thus reduced to 36.

As will be clear from the analysis of (86) above, the ‘perfect’ in English is seen as resulting from the choice of [past] as a secondary tense, rather than as an aspect. Furthermore, the English progressive is also analysed in terms of tense rather than aspect. Consider (87):

(87) *He was crying because he was hurt, ...* (BNC HH9 1035)

According to Halliday’s analysis, what we have here is ‘present in past’: past as primary tense, and present as secondary tense, realised by *be + -ing*. This is, of course, a very striking difference from other models of this area, and I shall return to it in §9.5.

Parallel to the grammatical tense system, there is a set of types of temporal Adjunct, each of which realises temporal relationships similar to those of the tense forms. (88), in which the adjuncts are in bold and the verbal groups underlined, will serve to illustrate this:

(88) “*I have been saving for a while now*,” Yanto began, “*and by tonight I shall have a hundred and fifty*”. (BNC B3J 720)

In the first clause, *now* corresponds to the primary present tense of *have*, while *for a while* corresponds to the secondary past tense signalled by *have + been*; in the conjoined clause in the quoted speech, *by tonight* corresponds to the primary future tense indicated by *shall*. Halliday (1994b:200) notes that there is ‘mirror concord’ between the ordering of tense components and that of Adjuncts: in *have been saving* the order is ‘present + past’ (plus present as a tertiary choice, not relevant in this connection), while the Adjuncts are in the order ‘past + present’. In Halliday’s view, both orderings are obligatory, apart from the possibility of giving thematic status, and so clause-initial position, to the Adjunct corresponding to the primary tense. Rearrangements of examples such as (88), however, suggest that this is not entirely accurate: *I have been saving now for a while* seems perfectly acceptable, while *?now I have been saving for a while* is dubious (though Halliday’s example with *by now* is fine: *by now she’s known for some time*). The corpus example in (89), which also has the opposite ordering from that regarded by Halliday as obligatory, can likewise be contrasted with the much less acceptable version in (90), with *now* thematised, as well as with the acceptable ordering in (91) which conforms to Halliday’s pattern.

(89) ... *The speculation has been going on now for a couple of years.* (BNC K3A 1162)

(90) *?Now the speculation has been going on for a couple of years.*

(91) *The speculation has been going on for a couple of years now.*

In addition to the 36 finite verbal groups which can be generated by serial tense choice, Halliday (1994b:200–201) recognises ‘sequent’ tense combinations, used in past reporting contexts such as *they said ...* There are only 24 of these, because in the context of the past feature attached to the reporting clause, the past element in three tenses in the sequent clause is neutralised: ‘past’, ‘past in present’, and ‘past in past’ are all reduced to ‘past in past’, as illustrated in (92)–(95).

(92) a. *On Oct. 18, Djohar announced the formation of a new government.*
(BNC HL4 4014)

- b. *The newspaper reported that on Oct. 18, Djohar **had announced** the formation of a new government.*
- (93) a. *The Department of Trade and Industry **has announced** a review of Companies House which could lead to partial or full privatisation. (BNC CBV 3237)*
- b. *The newspaper reported that the Department of Trade and Industry **had announced** a review ...*
- (94) a. *The Ministry of the Interior **had announced** on June 11 that it **had discovered** a plot to assassinate Chamorro, Lacayo and the Army C.-in-C., Gen. Humberto Ortega Saavedra. (BNC HL8 663)*
- b. *The newspaper reported that the Ministry of the Interior **had announced** on June 11 that it **had discovered** a plot ...*

There are also 12 tenses available in non-finite and modalised verbal groups. Here, the primary tense choices of the finite verbal groups are removed, since non-finite groups have no deictic element at all, not being related to the here-and-now, and modalised groups have a modal as their deictic element rather than tense (see §9.4.1.3). In order to show the parallel with finite structures, Halliday labels the first element in a non-finite or modalised verbal group as β rather than α as it strictly should be. Examples are given in (95) and (96).

(95) *He didn't seem angry with Philip for **having hit** him. (BNC ABX 284)*

(96) *... I thought he **must be taking** Lorraine home. (BNC KBE 6332)*

In (95), we have past realised by (secondary) *have* (in a non-finite form) + past participle (*hit*). In (96), we have a modal (*must*) followed by (secondary) present, realised as *be* + present participle.

The systemic distinctions in the area of tense for verbal groups have been formalised as a network by Matthiessen (1995:733, 1996:438). The initial, simultaneous systems are those for finiteness ([non-finite] vs. [finite]) and tense recursion ([no secondary] vs. [secondary]). Finite verbal groups can be [modal] or [temporal]. If either [temporal] or [secondary] is chosen, there is a further choice of tense type ([past] vs. [present] vs. [future]). The feature [secondary] is realised by the insertion of an Auxiliary as the next element in the verbal group. [Past] is realised as 'V-*ed*' if primary, and as *have* + the past participle form of the next verb if secondary; [present] has zero realisation if primary, *be* + the present participle of the next verb if secondary; [future] as *will*²⁵ + the infinitive of the next verb if primary, *be going to* + the infinitive of the next verb if secondary. The network itself does not build in the stop rules stated above, partly because, as Matthiessen (1996:439) points out, it is possible, though very rare, to exploit the systemic potential beyond the limits set by these stop rules.

25. Or, in certain dialects, *shall* in the 1st person.

9.4.1.2 Aspectuality in Hallidayan SFG

Although, as we have seen, Halliday does not regard the perfect or progressive in English as types of aspect, he does discuss perfective and imperfective aspects. His interpretation of these terms is, however, rather different from that which I discussed earlier in relation to FG and RRG.

... we have a system of aspect: imperfective/perfective. The imperfective represents the real, or actual, mode of non-finiteness ('realis'), while the perfective represents the potential, or virtual ('irrealis'). (Halliday 1994b:241)

The imperfective forms of non-finite verbal groups are those starting with a present participle, while perfective groups have an infinitive with or without *to*. (95) above is thus imperfective, while (97) below is perfective:

(97) ... *it merely postponed the inevitable and could serve only to irritate my guards*
(BNC H9N 1914)

The verbal group *having hit* in (95) refers to an actual event of hitting, whereas *to irritate* in (97) refers to a potential act of irritation. The connection with more traditional uses of the aspectual labels can be seen in the following quotation:

The meaning of the two aspects is very fluid and indeterminate; in the most general terms, the imperfective means act in progress, actual, present, ongoing, steady state or (dependent) proposition, while the perfective means goal to be attained, potential, future, starting and stopping, change of state or (dependent) proposal.
(Halliday 1994b:241)²⁶

It is, of course, no coincidence that the present participle form is also used in finite verbal groups in the expression of events which are 'in progress', and it would thus seem consistent with the above statement to regard such finite verbal groups as also being imperfective in aspect. As we have seen, however, this is not how Halliday analyses the *be* + *-ing* construction in English. On the other hand, the equation of perfective with the unfulfilled, the potential, the future, goes very much against the more traditional use of this term for an aspect which signals completion of a state of affairs.

Some other distinctions treated by most models as aspectual are handled by Halliday in terms of verbal group complexing. We saw in §7.6 that Halliday postulates a wide range of relationships between the elements of what he analyses as verbal group complexes, these relationships being parallel to those which can occur between clauses. Two or more verbal groups can be related paratactically (through coordination or apposition) or hypotactically (in a dependency relationship), and it is the latter type which is claimed to carry meanings which we have been discussing here in terms of aspectuality, as well as other kinds of meanings (Halliday 1994b:278–291).

26. The terms 'proposition' and 'proposal' are being used here to mean an information-giving or -seeking utterance, and a directive utterance or offer, respectively. See also §9.4.1.3.

The expansion of the verbal group by means of elaboration (further specification or description) represents a semantic relation which Halliday (1994b:279) calls ‘phase’, and this can be based on either time or reality.²⁷ Time-phase elaboration is concerned with starting, continuing and ending a process, which are clearly aspectual categories in most models of this area. Examples are given in (98)–(100).

(98) *He started to walk slowly backwards, ...* (BNC C8U 841)

(99) *It keeps on letting him down.* (BNC G07 173)

(100) *The soldier eventually stopped talking.* (BNC BMN 955)

Reality-phase is concerned with the apparent and the real, in contexts such as those in (101) and (102).

(101) *... she seems to like him the way he is.* (BNC FSN 713)

(102) *Chimpanzee society turns out to be a loosely organized system of overlapping male and female strategies.* (BNC AMG 1382)

Halliday (1994b:280) points out that “[a]t the deepest level time-phase and reality-phase are the same thing: both are concerned with the stages of becoming”. If this is accepted, then reality-phase as well as time-phase could be seen as concerned with aspectuality in the sense of our previous discussions.

Expansion of the verbal group by means of extension (adding new information) represents meanings concerned with conation (trying and succeeding: Halliday 1994b:280), examples being *try to* and *manage to*. Expansion by means of enhancement, involving time, place, manner or other circumstantial meanings, represents what Halliday (1994b:281) calls modulation (rather confusingly, since there would seem to be only a rather tenuous connection between this and the category of modal meaning which he refers to by the same term (see §9.4.1.3)), an example being *helped to*, interpreted in terms of the addition of a meaning of accompaniment. Verbal group complexing by means of projection is concerned with projection of a meaning by a mental or verbal process, as in *want to* or *promise to*. The meanings expressed by extension, enhancement and projection are thus not concerned with aspectuality as such, and I shall not consider them further here.

Matthiessen (1995:718) presents a network for the basic systems of verbal group complexing, which simply distinguishes, within [complex] verbal groups, between [expansion] and [projection], and simultaneously between [parataxis] and [hypotaxis]. Matthiessen does, however, give a quite detailed account of the various subtypes which were discussed very briefly above.

Finally, we should note that Halliday & Matthiessen (1999:215, 304) recognise that languages differ in the kinds of time construal they foreground: we have seen that they consider English to foreground location in time, as represented in tense selection; Chinese, on the other hand, is shown to foreground perspective, as realised by aspectual markers.

27. In Halliday & Matthiessen’s terms (1999:216) we are dealing here with a combination of ‘staging’ and ‘perspective’.

9.4.1.3 Modality and polarity in Hallidayan SFG

In Halliday's account, modality is intimately bound up with both polarity and mood, this latter term being used in the sense of those grammatical distinctions, such as declarative vs. interrogative vs. imperative, which are involved in the coding of speech function. I shall therefore deal with modality and polarity together, and shall need to anticipate certain ideas relating to mood and speech function which will be discussed in much greater detail in Chapter 1 of Part 2.

Like Dik (see §9.2.4), Halliday (1994b:88ff.) sees positive and negative polarity as being at the end-points of a scale, the intermediate area of which is constituted by distinctions in modality. Unlike Dik, however, Halliday recognises that there is more than one path from positive to negative, covering not just distinctions in epistemic modality, but also those in deontic modality. To understand this point, we need to recall the distinction, introduced very briefly in §8.3.1.7 and also mentioned in §9.4.1.2, which Halliday makes between two basic types of speech acts, which he calls 'propositions' and 'proposals'. Propositions are clauses which are used to exchange information (i.e. to make statements or ask questions), while proposals are used to negotiate goods and services (i.e. to make offers and issue directives). In a proposition, polarity is concerned with whether the speaker is affirming or denying the content, and the intermediate stages between 'yes, it is so' and 'no, it is not so' can be of two distinct though related types. If the meaning is that the speaker is unsure whether something is so or not ('either yes or no'), then we have the various assessments of probability of occurrence of the event, state, etc. If, on the other hand, the meaning is 'sometimes it is so, but at other times it isn't' (i.e. 'both yes and no, at different times'), then we have degrees of what Halliday (1994b:89) terms 'usuality'. Probability and usuality are types of what Halliday now calls 'modalisation', as opposed to 'modulation', which is concerned with the modification of the meaning of proposals rather than propositions.²⁸ In a proposal, the meaning of the positive is 'do it', and of the negative 'don't do it', and there are again two kinds of intermediate position, depending on whether the proposal is a command type or an offer type. In the former case, we have the areas of obligation and permission, in the latter case degrees of inclination. Note that in all these cases, choices relating to modality are at clause rank.

Examples (103)–(106) below illustrate the four basic kinds of modality proposed by Halliday.

- (103) *That **may** be over-optimistic.* (BNC BN7 1399) [modalisation, probability]
- (104) ***Occasionally**, for some obscure reason of her own, Elinor was pleasant.*
(BNC ASS 1371) [modalisation, usuality]
- (105) *But to believe it, you really **must** go there and see for yourself.* (BNC AS7 1585)
[modulation, obligation]
- (106) *And we're **willing** to fight for it, if necessary.* (BNC FR8 903) [modulation, inclination]

28. In earlier work (e.g. Halliday 1970b), the term opposed to 'modulation' was simply 'modality'.

Both modalisation and modulation, of each of the subtypes, can be realised in English in more than one way, the different versions encoding differences in the ‘orientation’ of the modality, whether subjective or objective, explicit or implicit (Halliday 1994b:357–358). In the subjective type, the assessment is presented as that of the speaker, while in the objective type the connection with the speaker is minimised. This distinction is clearest in the case of explicit modalities: explicit subjective assessments of probability are realised by expressions with first person pronouns, such as *I think* or *I’m sure*, whereas explicit objective probability assessment involve impersonal *it* plus an adjective (e.g. *it’s possible*). Similarly, explicit subjective modulations involve overtly speaker-based expressions such as *I want*, while explicit objective modulations are coded as *it* plus (often participial) adjective, as in *it’s required*. The subjective/objective distinction is understandably less obvious in the implicit types: the claim is that subjective implicit modalities of all types are realised by modal verbs,²⁹ whereas the objective type is coded as a modal Adjunct³⁰ (e.g. *possibly*) in the case of modalisation, or as an adjective (sometimes participial) in the configuration ‘Subject + *be* + adjective’ (e.g. *X is required to ...*) in the case of modulation. We can now analyse (103)–(106) in more detail: (103) and (105) are subjective and implicit, while (104) and (106) are objective and implicit. Some further examples follow.

- (107) *I think he will become a very good administrator.* (BNC K25 1781) [modalisation, probability, subjective, explicit]
- (108) *It is possible that a slow economic recovery and lower beef prices will coincide to increase consumption in the next few years ...* (BNC K59 5043) [modalisation, probability, objective, explicit]
- (109) *Perhaps the time has come for another name to be engraved on the trophies.* (BNC H7W 1026) [modalisation, probability, objective, implicit]
- (110) *We want companies and workforces to come to their own arrangements.* (BNC A59 334) [modulation, obligation, subjective, explicit]

In the case of modalisation, but not modulation, double realisation is possible, both a modal verb and a modal Adjunct appearing in the clause, as in (111) below:

- (111) *The Cobra’s skin is considered to be highly magnetic, and friction with the earth could perhaps create an electro-magnetic effect.* (BNC CB9 290)

29. The claim that the central modals of English are always subjective and implicit has been challenged by Goossens (1996:57–61), who argues that *can* is, with very few exceptions, not subjective and implicit, and that although *must* often does express subjectified, ‘grounding’ modality, this is not always the case. See also §9.2.3.4.

30. It should be noted that in the term ‘modal Adjunct’, as used by Halliday, ‘modal’ is related to ‘mood’ rather than specifically to polarity. Two categories of modal Adjunct are recognised: ‘mood Adjuncts’, which include those of probability, polarity and usuality, but also certain temporal Adjuncts such as *yet*, *still*, *already*; and ‘comment Adjuncts’, such as *unfortunately* (for further details, see Halliday 1994b:81–83).

In considering the alternative realisations, Halliday makes use of the concept of grammatical metaphor, according to which many meanings can be expressed either ‘congruently’ or ‘metaphorically’, the latter involving meaning transfer. While the grammatical metaphors discussed in relation to nominalisation in §7.2.3.6 are basically ideational in nature, those involved in modality are interpersonal. As an example of grammatical metaphor in modality, consider (107) above.³¹ Syntactically, this is non-congruent: the main clause is the one expressing the modality, and it is the subordinate clause that carries the proposition in such cases, as Halliday (1994b:354) demonstrates through the addition of a tag. In the case of (107), we have the following situation:³²

(112) *I think he will become a very good administrator, won't he/*don't I?*

The final set of distinctions proposed by Halliday (1994b:358) is the ‘value’ of the modality on the relevant scale: high, median or low. (103), (104), (106), (108), (109) have the value ‘low’, (107) and (110) ‘median’, (105) ‘high’. The median type differs from the high and low types in its interaction with negation: transfer of the negative from the clause encoding the proposition/proposal to that encoding the modality does not alter the degree (‘value’) if this is median, but does alter it if high or low. With (107), we have:

(113) *I think he won't become a very good administrator.*

(114) *I don't think he will become a very good administrator.*

Contrast this with negation in relation to (108), where the two positions give very different readings:

(115) *It is possible that a slow economic recovery and lower beef prices will not coincide to increase consumption in the next few years ...*

(116) *It is not possible that a slow economic recovery and lower beef prices will coincide to increase consumption in the next few years ...*

Halliday (1994b:360) presents his proposed distinctions in the form of a system network in which modality type (modalisation vs. modulation, with the two subtypes of each), orientation (subjective vs. objective and implicit vs. explicit), value (median or outer, and if outer, then high or low) are treated as simultaneous systems, the whole also being simultaneous with the choice of positive or negative polarity, and if negative, then direct or (as in (114) and (116)) transferred. In fact, this network overgenerates, since, as Halliday (1994b:357–358) points out, there are some gaps in the pattern of 144 types predicted: the usuality type of modalisation and the inclination type of modulation have no subjective explicit subtype (i.e. of the type ‘I+ verb’), because the speaker cannot easily be seen as

31. For a systemically-based discussion of how the negative version *I don't think* is used in texts, see Simon-Vandenberg (1998).

32. Note, however, that although (108) is also, in Halliday's terms, non-congruent, the situation with the tag addition test is less clear, since *isn't it?* is perfectly possible, as well as, perhaps, *won't they?*. Indeed, one might expect this, given the objective presentation of the claim.

authoritative in relation to these two combinations. Furthermore, the network does not cater for combinations of modal verb and Adjunct (see (111)), which presumably encode both subjective and objective implicit assessments of probability.

There is one final type which does not fit readily into the neat pattern proposed: that of ability/potentiality, with subjective implicit realised by *can/can't*, objective implicit by *be able to*, and objective explicit by *it is possible for... to*, but no subjective explicit variant. These distinctions are regarded by Halliday as marginal to the modality system as a whole: for instance, he claims (1994b:359) that *could* is the only oblique modal form which acts as a simple past.³³ The subjective ability type is regarded (for reasons which are not made explicit) as close in meaning to the inclination type, so that Halliday (1994b:359) suggests that we could postulate a single scale of 'readiness', with ability at the lower end and willingness at the higher end.

Halliday (1994b:362) recognises that, complex as the possibilities allowed for in his network are, they by no means represent the full potential of modality in English, since there are various modal verbs (and, we might add, adverbs and adjectives) within each of the values high, median and low. Some of these are 'oblique' forms, such as *could* or *might*, discussed in earlier work by Halliday (e.g. 1970b).

Finally, in this brief summary of Halliday's account, let us return to polarity, which, as we have seen, is seen in terms of the end-points of the scales of probability, usuality, obligation and inclination (or possibly 'readiness'). Halliday (1994b:90) distinguishes between two types of negative polarity: one is realised as *n't* or unstressed *not* as part of the Finite element of the clause; the other, realised by phonologically salient *not*, is analysed as a separate modal Adjunct.

The account of polarity and modality given by Matthiessen (1995:476–510) is closely based on that of Halliday, though with some extra detail in parts. Matthiessen (1995:480) distinguishes, within polarity, not only between the phonologically salient and non-salient forms of *not*, but also between pure and combined negatives, the latter being negative Adjuncts such as *scarcely*, *seldom*, *no longer*, and negative determiners such as *few* or pronouns such as *nobody*. He discusses the interaction of polarity with mood distinctions, and provides a very brief typological comment on polarity. In the network for modalised clauses, he adds a system to deal with [neutral] vs. [oblique] forms of [subjective, implicit] modality, realised by modal verbs. He also stresses the relationship between the interpersonal assessments coded in modal Adjuncts and those in other areas, including: intonationally-realised 'key' choices concerned with such meanings as assurance and doubt (see Halliday 1994b:305–306, Matthiessen 1995:450–462, also Chapter 1 of Part 2 of the present work); choices in forms of address ('vocation') (see Matthiessen 1995:510–511); and interpersonal Epithets in the nominal group (see §7.2.3.4.1.2).

33. Goossens (1996:62) claims that although his empirical evidence supports Halliday's position on the 'marginality' of *can*, the nature of this marginality deserves closer attention; furthermore, *could* is claimed to be much less marginal, so meriting consideration in its own right.

Finally, it should be mentioned that work has also been done, within a systemic framework, on mood and modality in Tagalog (Martin 1990), and on modality in Chinese, including comparison with English (Zhu 1996).

9.4.2 The Cardiff grammar account

Although the semantics and syntax of temporality, aspectuality, polarity and modality have naturally been incorporated into the GENESYS system which is at the heart of the COMMUNAL project, there is as yet rather little published information on the detail of these areas.

As we saw in §5.7, the current Cardiff grammar postulates no fewer than eight major strands of meaning (experiential, interpersonal, thematic, logical relations, polarity, validity, affective and informational), rather than the four (experiential, logical, interpersonal, textual) proposed by Halliday. As we shall see below, the phenomena under consideration in this chapter are spread across several of these components.

9.4.2.1 *Temporality*

Fawcett (1980) proposes two separate systems for temporality in English, both seen as belonging to the experiential strand of meaning in the clause, and both simultaneous with networks for transitivity, circumstance and modulation (for this last, see below). The TIME network “includes options in ‘finiteness’, ‘tense’ and ‘aspect’” (Fawcett 1980: 156), and is realised in auxiliary or main verbs, while the TIME SPECIFICATION network specifies temporal adverbials. Fawcett justifies the separation of these adverbials from other circumstantial elements on the grounds of their close connection with the meanings specified in the TIME network. Since Fawcett’s intention is to present a picture of his model as a whole, rather than a comprehensive grammar of English, no further details are given in his book.

In Fawcett, Tucker & Lin (1993), where the operation of the GENESYS generator is illustrated by a detailed exploration of the paths through networks, and the relevant realisation rules, involved in the generation of a single clause, the TIME SPECIFICATION network remains as in the earlier work, but the distinctions formerly in the TIME network, now recast as TIME REFERENCE POSITION, are made dependent on the (interpersonal) MOOD network, since the selection of a ‘real’ rather than an ‘unreal’ time reference position, and within the ‘real’ type, the choice of ‘past’ or ‘present’ reference positions, is available only for informational, rather than directive, situation types (Fawcett, Tucker & Lin 1993: 145).

9.4.2.2 *Aspectuality*

In Fawcett, Tucker & Lin (1993: 148–149), progressive aspect in English is dealt with in terms of a system [no period denoted] vs. [period denoted], the latter realised as *be... ing*. This system applies only to those situations which are informational rather than directive. The perfect in English is introduced through a system labelled RETROSPECTIVE, of which no details are given, since the system is irrelevant to the example being generated.

Fawcett (1980:156) also deals briefly with ingressive aspectual meaning, realised as *start to/-ing*, by means of a STAGE OF PROCESS network within the experiential component of meaning. Again, no detail is available. The prospective is dealt with in Fawcett, Tucker & Lin (1993:148) by a system network labelled EXPECTATION specifying simply [no expectation] vs. [expectation], the latter being realised as *be going/about to*.

9.4.2.3 Modality

In Fawcett (1980), two separate system networks are involved in the specification of the epistemic type of modal assessment in English. As with temporal meanings, these two networks specify meanings encoded in verbs (in this case modal auxiliaries) and in adverbials respectively. The former, MODAL, network is dependent on the prior choice, from the TIME network, of a time reference point located in the speaker or writer's present, since, as Halliday's account also demonstrates, modal assessments are always in the here-and-now of the speaker, even if they relate to a past or future event. The MODAL network offers the choice of [not modalised] or [modalised], and if the latter, then further, unspecified options in modal meaning. The PROBABILITY network, within the validity assessment strand of meaning, generates modal adverbs such as *possibly* or *certainly*, and is dependent on the choice of an informational rather than a directive situation type, as is also the MODAL network. The reason for the postulation of two separate networks here is that, as demonstrated by Halliday (1970b:331), it is possible not only to combine a modal adverb and modal verb indicating the same degree of probability (e.g. *might + possibly*), but also items indicating different degrees of probability, as in (117) below:

- (117) *It certainly might have helped Diana to listen and learn from counselling sessions, ...* (BNC A7H 1569)

Not all combinations are possible: for instance *must* would not easily combine with *possibly*.³⁴ The question then arises as to how such limitations can be dealt with. Fawcett's (1980:185) answer is that this is left to 'knowledge of the universe', that is the language user's knowledge of what combinations of properties are possible in the universe of discourse, aspects of which are encoded in language. Presumably he would wish to invoke a similar mechanism for the blocking of incompatible combinations of tense and time adverbial, such as 'present tense + *yesterday*'.

Like Halliday (1970b), Fawcett (1980:95, 156) distinguishes probability assessment and the MODULATION networks involved in the specification of experiential meanings through modal verbs in English.³⁵

The systemic distinctions presented in Fawcett, Tucker & Lin (1993) are rather more detailed than in the earlier account. The presence of a modal verb depends on the choice

34. No instances of *must* and *possibly* modifying the same predicate could be found in the British National Corpus.

35. Fawcett (personal communication) does not adopt Halliday's treatment of 'usuality' as a kind of modality, but rather regards such meanings as temporal.

of a [real] time reference position, and then the selection of [modalised] or [modulated] rather than [non-modalised]. Where [modalised] is selected, the MODALITY TYPE network distinguishes between [necessity], [prediction] and [possibility], while the simultaneously entered MODALITY CONDITIONALITY network offers the choice of [conditional modality] vs. [non-conditional modality], to deal with oppositions such as *can/could*. As is often the case in the Cardiff grammar, features in these two networks interact through the specification of conditions in the realisation rules: for example, one rule (Fawcett, Tucker & Lin 1993:157) specifies that [necessity] is realised by *must* as the Operator element of the clause, provided that [non-conditional modality] has also been selected. When [modulated] is selected, (unspecified) options in obligation, permission, etc., are made available.

9.4.2.4 Polarity

In Fawcett (1980), polarity is allocated to a separate ‘negativity’ strand of meaning in the clause. The polarity network (1980:174) applies to the ‘referent situation’ viewed as an ‘assumption’. The initial choice is between [affirmative] and [negative]. Clauses which are [negative] can be [straight negative] or [transferred negative], the latter referring to situations in which negativity is combined with something other than the verb, such as an Adjunct (e.g. *never*) or a pronoun (e.g. *nobody*). Straight negatives can be [full negative] or [near negative], the latter involving realisations such as *scarcely* (*even*). Full negatives, in the case of informational rather than directive situations, can be [simple] (realised as *n’t* placed in the appropriate position) or [strong] (realised as separate *not*). Negative directives are always [full], and the precise realisation of negativity in such cases depends on choices from the illocutionary force area. The picture of polarity presented in Fawcett, Tucker & Lin (1993) is simplified to just [positive] vs. [negative], for the purposes of generating the single clause discussed in that paper.

9.4.3 Other systemically-oriented approaches to modality

Davies (1988, 2001) gives an account of modality in English which, although presented in relation to Halliday’s model, takes a very much more formal approach to the specification of modal meaning. In the earlier paper, which in turn develops proposals made in outline in Davies (1979) and is concerned with “probability judgements in relation to the occurrence of events” (Davies 1988:155), realised by *may, might, should, will* and their negative forms, it is claimed that two types of meaning are involved: a probability meaning which Davies relates to the ideational component of Halliday’s grammar, and a discourse meaning which she links to the textual component. In terms of probabilities, she proposes a scale which can be represented as in Figure 9.3 below,³⁶ based on Davies’ Schema III (1988:173).

36. An arrow which does not touch the vertical line to the left should be read as ‘greater than’ and one which does not touch the vertical to the right as ‘less than’: *shouldn’t*, for example, is ‘less than 0.5 and greater than 0’. Arrows which touch a vertical are to be interpreted as ‘less than/greater than, or equal to’.

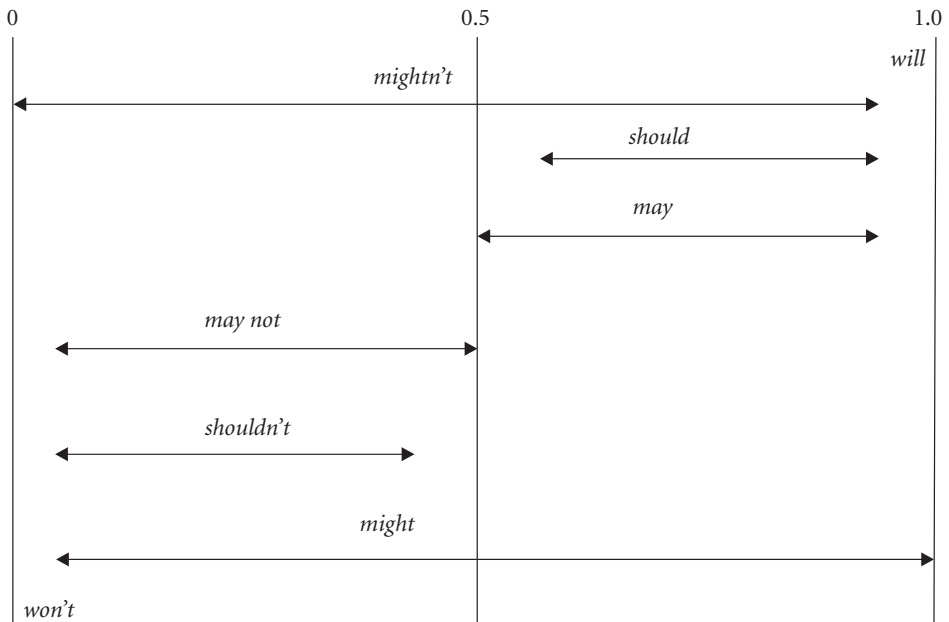


Figure 9.3. Probabilities corresponding to particular modals in Davies' account

These probabilities are represented by Davies as a system network, with initial choices concerned with whether the limiting values 0 and 1 are excluded or included, and whether equiprobability is excluded or included, giving a four-way choice; combinations of choices from the two systems then give rise to individual modals, in positive/negative pairings.

The discourse meanings of these modals are seen as concerned with the changing of the Common Ground (CG), defined as “the set of propositions of common knowledge at any given point in a text/linguistic interaction” (1988: 157). The modals *may (not)* and *might(n't)* are claimed to delete the opposite of their own ideational meaning from the CG, whereas *will/won't* and *should(n't)* add their own ideational meaning to the CG. Let us take one of Davies' own examples to show how this works. She points out that in a context in which it rains most days (e.g. a tropical rainforest) it is odd to say *It may rain today*, while this would be quite normal in, say, the Sahara desert. The CG in the former situation contains the proposition “‘It's raining today’ is highly probable”, and *may* acts to delete the opposite of its own ideational meaning, that is, to delete ‘improbable’, the left hand half of the scale in Figure 9.3. This is clearly a bizarre thing to do when ‘highly probable’ for this event is in the CG. Conversely, in the desert situation, the CG contains “‘It's raining today’ is highly improbable”, so that the deletion of the background assessment of improbability is no longer felt as odd. Similar arguments apply to the other modals discussed.

It is noteworthy that Davies invokes the ideational and textual metafunctions in her discussion of these modals, but not the interpersonal, which is, as we have seen, the component to which Halliday allocates meanings concerned with probability. This divergence

is concerned with the fact that Davies regards the modalities she analyses as not falling under epistemic modality, since they are seen as acting on events rather than propositions. She comments that in relation to the analysis presented by Halliday (1970b) “[t]he area concerned would fall principally under ‘modulation’ [...] on syntactic grounds” (1988:181), and if this is indeed so, then it explains the emphasis on ideational rather than interpersonal meaning. This claim is, however, made in a footnote, with no further justification.

In Davies (2001) English modals of knowledge and belief are analysed in terms of propositional attitudes, expressed in terms of an epistemic logic enriched with probabilities. In this article, the meanings of these modals are linked to those of the indicative and subjunctive moods of the English verb. The modals concerned belong to Halliday’s ‘modalisation’ category, and so are interpersonal (or, as Davies puts it, interactional) in nature. The ‘discourse meaning’ of the modals addressed in the earlier paper is not taken up here.

Davies develops a formal framework in which propositional attitudes are expressed as operators on propositions, and are related to one another in implicational terms. The epistemic operators K(nown) and B(elieved) are used, together with a third operator, P(robable), which is concerned with existentiality and quantification. These are combined with a two-valued truth logic of T(rue)/F(alse), and the modal operators L (necessary) and M (possible). Subsets of propositions are formed according to the operator, or combination of operators, by which they are defined, and the resulting partitions presented in terms of set theory. Davies sets out the various possible combinations and their implicational relations, and then proceeds to analyse the various modals, in their epistemic uses, in terms of these combinations. Some examples are given below:

<i>might</i> :	not known to be false
<i>could</i> :	not necessarily believed to be false
<i>will</i> :	not necessarily believed to be true AND believed to be true with a probability of 1
<i>must</i> :	not known to be true BUT/AND necessarily believed to be true

Davies supports her analyses with, for example, predictions for the possibility of coordination with other modals, as derived from the implicational relations of the operator combinations.

The indicative and subjunctive moods of the English verb are analysed according to the same set of propositional attitude operators:

indicative:	known to be true
past subjunctive:	believed to be probably false
present subjunctive:	not believed to be probably false

Davies discusses these analyses in relation to the various remaining uses of the subjunctive in English, and also in relation to modal meanings: for instance, while *must* does not imply the meaning of the indicative, they share the meaning ‘necessarily believed to be

true', since this is part of the definition of *must* and is also implied by the definition of indicative meaning, 'known to be true'.

Davies relates her account to Halliday's work on mood and modality at various points, and explicitly identifies herself with the metafunctional approach. We have seen, however, that Halliday's distances himself from accounts based on categories derived from philosophical logic, so that Davies' work in fact represents an approach which is fundamentally different from Halliday's. I shall return to Davies' work on propositional attitudes in connection with the semantics and pragmatics of illocution in Chapter 1 of Part 2.

Whereas Davies' work concentrates on non-deontic meanings of the English modals, Butler (1982, 1988) investigates the deontic meanings, with particular reference to their use in directive speech acts. Butler (1982) develops a model of the various types of linguistic property relevant to the directive uses of the modals, presented in terms of the apparatus of the Daughter Dependency Grammar of Hudson (1976), which uses system networks to classify linguistic units in terms of their syntactic properties, and then generates syntactic structures by means of various types of structure-building rule. Hudson's scheme is generalised to apply not just to the syntax of the modals, but also to their semantics and the discourse acts in which they are involved. System networks and explicit structure-building rules are specified at each level. The semantic analysis is then used to explain why only certain modals are used directly and why some show ambiguity of discourse function, and also to predict the effects of modal choice on the perceived politeness of modalised directives in particular social contexts. This last aspect of the work is clearly concerned with matters of illocution, and will be taken up again in Chapter 1 of Part 2.

9.5 Comparison of approaches

We have seen that temporality and aspectuality are clearly related in that both deal with time relations; similarly, modality and polarity can be seen as related in that polarity can be seen as providing the end-points in one or more scales of modal meaning. In presenting a comparative treatment of the various approaches, I shall first discuss temporality and aspectuality together, followed by modality and polarity, and then draw some general conclusions.

9.5.1 Temporality and aspectuality

In their treatment of temporality and aspectuality, as in most areas, FG and RRG are much closer than either is to SFG. In both FG and RRG, temporality and aspectuality are handled by means of operators, where the distinction is grammatically realised, or by satellites/Adjuncts, where lexical. The relevant distinctions are worked out in more detail in FG than in RRG.

Although, as we saw in §6.2.1.1.1, the levels in the layered structure of FG are not in a one-to-one relationship with the units of RRG, we may nevertheless draw some con-

clusions, on the basis of Table 9.1 and Figure 9.2 presented earlier, about similarities and differences with regard to the layering of temporal and aspectual operators in the two theories. The two accounts agree that tense operators work at a level/layer higher than that of the predicate itself: in FG, they are at Level 2, and in RRG they apply to the clause. There are, however, some differences in relation to aspectual categories. RRG postulates that aspect is a nuclear operator, and this would correspond to Level 1 in the FG hierarchy. Dik's account agrees in that perfectivity and imperfectivity, also phasal aspects (ingressive, progressive, continuous, egressive) are located at Level 1; we have seen, however, that there are two additional kinds of aspect which are at Level 2: perspectival types (prospective, perfect) and quantificational types (semelfactive, iterative, frequentative, distributive, habitual). For parallelism in the two theories, these types of aspect would have to be non-nuclear operators in RRG. It may be that the difference here arises from the fact that RRG has not yet developed a detailed picture of aspectual categories in general. It may also be the case that the FG assignments will need to be reconsidered if it turns out that there are scoping relations within, as well as between, the levels so far proposed.

FG provides some discussion of the relationships between tense and aspect, including historical processes in which the former may be derived from the latter.

Neither Dik's account of FG nor RRG gives any consideration to the integration of temporal and aspectual meanings realised by operators and those realised by satellites, though these are at least at the same level in the layered representation.

There are, as we have seen, very striking differences between SFG and the other two theories with respect to their treatment of temporality and aspectuality. These stem from the basic claim that for English as least, tense, and also some phenomena which would be regarded in other approaches as aspectual, is best analysed as a serial (recursive) set of choices of the same type, rather than a set of different types of choice. Consider the portion in bold in the clause in (118):

(118) *He **had been walking** on the riverbank observing a high tide.* (BNC B3J 1794)

In FG, the relevant clause would be analysed as having Progressive phasal aspect (at Level 1), Past tense and Perfect perspectival aspect (both at Level 2). Similarly, in RRG, the value of the TENSE clausal operator would be Past, and within the overall ASPECT category of nuclear operator, values of Perfect and Progressive would be assigned. In Halliday's version of SFG, however, the analysis would be as in (119):

(119) *had been walking*
 α β γ
 Past Past Present [present in past in past]

The primary tense choice is Past (realised in the form of *had*), the secondary choice also Past (realised as the appropriate form of *have* + *-en*), and the tertiary choice Present (realised by the appropriate form of *be* + *-ing*). For the primary and the two secondary tenses, a selection is made from the same system, [Past] vs. [Present] vs. [Future]. In terms of primary tense, the verbal group under discussion contrasts with *has been walking* ('present in past in present') and *will have been walking* ('present in past in future'); in terms of sec-

ondary tense it contrasts with *was going to be walking* ('present in future in past': note that the combination 'present in present in past' is excluded by the rule that apart from α , the same tense does not occur twice consecutively); in terms of tertiary tense, the contrast is with *had been going to walk* ('future in past in past': the combination 'past in past in past' is excluded by the rule stated above).

An effect of such analyses is, as we noted in §9.4.1.1, to treat 'progressive' and 'perfect' in terms of tense, the former as a non-primary 'present in ...', the latter as a non-primary 'past in ...'. Although Halliday himself does not provide justification of this unusual analysis *vis-à-vis* the more usual one, Matthiessen (1996) gives a very detailed account of why, in his view, Halliday's analysis is to be preferred. He begins by pointing out that systemic theory provides a number of basic dimensions within which any phenomenon can be located. These are:

... the fundamental dimensions that make up the overall semiotic space of language in context according to systemic-functional theory – in particular rank, metafunctional diversification, and stratification. The theory enables us to locate any interpretation within a particular metafunction and at a particular rank; and it allows us to look at [*sic*] grammatically as well as semantically, and also paradigmatically as well as syntagmatically. That is: we locate TENSE within the overall system by shunting along its dimensions to find that intersection which provides the most powerful generalizations about the tense system. (Matthiessen 1996: 431)

Matthiessen goes on to observe that the theory also allows us to locate alternative accounts of a phenomenon in terms of the fundamental dimensions, and so to argue for and/or against particular interpretations. At this point, it should perhaps be pointed out that some systemicists, including Matthiessen himself, have objected to the approach of linguists who, operating from other perspectives, have criticised SFG in terms, and with assumptions, more appropriate to their own ways of thinking and arguing about language.³⁷ It is rather surprising, then, to find Matthiessen doing the same in reverse. This said, some of the dimensions invoked by Matthiessen (for instance, that between paradigmatic and syntagmatic patterning) are clearly widespread enough in linguistic theories for valid comparisons to be made.

Matthiessen proceeds to locate the tense system in terms of the various dimensions, within the Hallidayan framework: it is a lexicogrammatical (rather than a discourse semantic) system; metafunctionally it is ideational, and within this, logical; in terms of rank it is a (verbal) group system; and in terms of delicacy (in accordance with the concept of 'lexis as most delicate grammar') it is grammatical rather than lexical (Matthiessen 1996: 440–441). Focussing on the dimensions of metafunction and rank, he shows how the lexicogrammar of temporality is distributed, and how it is situated with respect to neighbouring systems in the matrix. For instance, if we move from the ideational to the

37. See, for example, the debate (Matthiessen & Martin 1991; Martin & Matthiessen 1992; Martin 1992b; Huddleston 1991, 1992) around the topic of Huddleston's (1988) review of the first edition of Halliday's *An Introduction to Functional Grammar*.

interpersonal, but stay within the verbal group, we meet the systems of modality; a shift to the rank of clause and the experiential sub-component of the ideational gives the area of temporal circumstances of location, extent and frequency; moving to the textual meta-function, still at clause rank, presents us with the resources for temporal conjunction, indicating sequence and simultaneity; and so on. This way of looking at any particular set of systemic choices is certainly very helpful in allowing us to map the relationships between phenomena which are alike in some respects, but different in others.

Matthiessen then discusses the implications of proposals which would, when 'translated' into systemic terms, locate tense in metafunctions other than that proposed by Halliday. He reminds us that the essence of Halliday's account is that tense is a recursive system, in which successive choices are made from the same set of features, [past]/[present]/[future]. It is the putatively recursive nature of tense which demands its location within the logical sub-component of the ideational function. Matthiessen (pp. 445–461) first considers the possibility of relocating tense to the experiential sub-component. He discusses this in terms of three pairs of predictions which, he claims, follow from location in either the logical or the experiential sub-component.

Paradigmatically, location in the logical sub-component predicts that tense will be recursive, while location in the experiential sub-component predicts that we are dealing with a set of different kinds of phenomena rather than a single kind. Here, Matthiessen contrasts Halliday's logical interpretation of tense with more traditional accounts which postulate analyses in terms of the categories of tense, phase and aspect, or (more narrowly), tense, perfect and progressive. His arguments are firstly, that such analyses are unable to account for the quite complicated verbal groups found in spoken language, where sequences such as *will have been going to have been working* are, it claimed, attested; and secondly, that tense, phase and aspect would be unordered systems in the experiential interpretation, so not accounting for the ordering both of systemic choices and of their realisations within the verbal group.

Syntagmatically, the logical interpretation of tense predicts that it will be realised as a sequence of elements of the same type, the form of each being dependent on that of its predecessor. On the other hand, according to Matthiessen, the experiential view predicts a configuration in which the elements are of different kinds, corresponding to tense, phase and aspect respectively.

From the point of view of the semantic interpretation of the lexicogrammar, Halliday's view predicts that tense represents serial time, while the experiential interpretation predicts (wrongly, in Matthiessen's view) that time is seen componentially, as a configuration of time, duration and frequency.

A number of objections may be raised at this point. Firstly, it is not at all self-evident that Halliday and Matthiessen are correct in claiming that the tense system of English is totally recursive, with the same choices being available at each pass through the main system, so realising serial time. The point here is that the meanings of the categories traditionally labelled as perfect (aspect or phase, depending on the particular account) and progressive (aspect) are not of the same kind as the meanings of past, present and future (tense). As we have seen, the primary (though not the only) function of past, present and (where recog-

nised) future tenses is to relate the time of the situation under description to the time of utterance. On the other hand, although the meaning of the progressive is by no means easy to define precisely, it is at least clear that it has to do with Comrie's notion of 'internal temporal constituency' of the situation, and not with relative time of situation and moment of utterance, as is suggested by the characterisation 'present in past/present/future' offered by Halliday. Matthiessen himself comments as follows on the meaning of the 'secondary present':

The secondary present typically construes a relation of simultaneity between the current reference time and the time of the occurrence of the event, usually involving time inclusion. [...] This usually has the effect of narrowing the temporal focus from the unbounded one of the simple present ... (Matthiessen 1996:453)

But simultaneity of the current reference time and time of occurrence of the event can also be realised by the simple present, for instance in commentary or demonstration contexts. Furthermore there is no explanation of how the analysis of *be* + *-ing* as a secondary tense realisation rather than a realisation of aspect helps us to account for the 'narrowing of the temporal focus'.

The situation with regard to the perfect is more complicated, in that the perfect normally indicates the current relevance of a past situation, so that it is like tense in involving a relationship between the situation time and utterance time; however, this relationship is not a merely temporal one, but one of viewpoint, the past situation being seen from the perspective of the time of utterance. It is, of course, this dual nature which has caused some linguists to posit a separate category of 'phase' to cover the perfect. Again, the characterisation of the perfect in terms of 'past in past/present/future' fails to recognise the difference in meaning.

We may conclude, then, that tense is not a fully serial system as Halliday & Matthiessen claim, neither does it simply realise serial time. The kinds of meaning represented by past/present/future, by progressive and by perfect in English are recognisably different, rather than basically similar in kind.

Secondly, it is not true that an analysis in terms of separate categories of tense, aspect and possibly phase is unable to deal with the kinds of verbal group reportedly found in spoken language.³⁸ Matthiessen is right to point out that most accounts of tense and aspect limit themselves to the rather simpler sequences found in written English, but he is also correct in saying (p. 448) that a mechanism for dealing with the more complicated cases could indeed be added to such accounts. For Matthiessen, however, this is not enough, because it fails to recognise the essentially recursive nature of tense. The argument thus

38. A minor point here is that although I have no doubt that lengthy sequences of the kind cited by Halliday & Matthiessen can occasionally be attested, corpus studies suggest they are very uncommon: the 10-million word spoken component of the British National Corpus, for example, does not contain a single instance of the sequences '*will have been going to have* + past participle' or '*will be going to* + infinitive'. They are thus certainly not central, though it could be argued that if they were to be found as rare, but systematic, forms in a large corpus of conversational English, then they should be accounted for.

rests crucially on the acceptance of the claim that tense is a fully recursive system, a claim which I have argued against above.

Matthiessen is also incorrect in claiming that what he dubs an ‘experiential’ interpretation, involving separate categories of tense, aspect and possibly phase, is unable to account for the sequencing of both paradigmatic selections and syntagmatic realisations. In FG and RRG such sequencing is accounted for in terms of the concept of scope. For instance, in FG, as we have seen, tense is a Level 2 operator, and so has scope over progressive aspect, which is at Level 1. Likewise, in RRG; tense is a clausal operator, and so has scope over the nuclear aspectual operator. It is a central claim of both theories that scoping of operators is reflected in the sequencing of their realisations: for example, realisation of the progressive is predicted to come closer to the verb than that of tense. The dependency of the form of one verb on that of the previous one can also be handled in terms of scope in interaction with the rules for realisation of the operator values (see, for example, Dik 1997a: 382–384).

Furthermore, the FG and RRG proposals are not built just on the properties of English, but are intended to be cross-linguistically valid; on the other hand, it is unclear to what extent Halliday’s proposals for tense are generalisable to languages other than English, and indeed to what extent they might be intended as generalisable. Undeniably, the FG and especially the RRG accounts of tense and aspect require much more work on the detail of the proposals, but it is clear that in principle they can account for sequencing, and indeed that their proposals have the advantage of checking out across a wide range of languages and language types.

Lack of space precludes a more extensive account of other aspects of Matthiessen’s account of tense which are much less relevant to a comparison with FG and RRG: for instance, he provides stimulating discussion of, and argument against, the view that tense may be regarded as a kind of modality (i.e., in systemic terms, as an interpersonal system); he also discusses at length the debate between those who see English as having a two-term tense opposition (past/present) and those, including himself and Halliday, who favour a three term system (past/present/future).

Finally, it should be remembered that the Cardiff grammar approach to temporality does not adopt the position that tense is a logical system. Rather, like time specification, it belongs to the experiential strand of meaning, and the accounts given in published work, though very sketchy, suggest that the approach taken is fundamentally a quite traditional one.

9.5.2 Modality and polarity

FG, RRG and SFG all recognise a number of distinctions within the overall area of modality. FG and the Sydney version of SFG have proposed far more detailed descriptions of modality than RRG or the Cardiff grammar. Detailed cross-theory comparisons in this area are thus very difficult. In what follows, I shall comment only on the clearest similarities and differences.

Firstly, we may note similarities and differences in the ways in which the various approaches handle the distinction between grammatically and lexically expressed modality. The Sydney version of SFG deals with these in terms of combinations of features from the integrated modality network, while in the Cardiff grammar they arise from different system networks. In Dik's account of FG and in RRG, grammatical and lexical realisations are handled in terms of operators and satellites/Adjuncts respectively. We have seen, however, that Nuyts' Functional Procedural Grammar does address the issue of the underlying similarities, albeit in a somewhat programmatic fashion.

Secondly, all approaches make some kind of distinction between what are often called epistemic and root types of modality.

Thirdly, both FG and SFG make a distinction between subjective and objective types of modality, but differently in the two theories. In FG, the Hengeveld/Dik model of modality (though not Nuyts' Functional Procedural Grammar) makes a sharp distinction between objective modalities, both epistemic and deontic, at Level 2, expressed either grammatically or lexically, and subjective modalities at Level 3, again realised grammatically or lexically. In Halliday's version of SFG, both modalisation and modulation can be either subjective or objective, and also explicit or implicit. In both theories, it is at times easy to see whether a given expression of modality reflects a subjective or an objective orientation: for example, expressions such as *I think (that)...* or *I want (X to) ...* are clearly subjective, while impersonal expressions such as *it is certain that ...* or *it is obligatory to ...* are equally clearly objective. In other cases, however, such as those of the English modal verbs and adverbs, the situation is far from obvious. Indeed, differences of classification into subjective and objective can be found for the same category, across theories. For instance, there is a difference in the interpretation of epistemic modal adverbs, which are regarded as subjective in FG but objective in SFG. The changes in the distribution of FG modality categories proposed by Verstraete (2001, forthcoming) and summarised in §9.2.3.4 have the effect of bringing his account more into line with that of SFG in terms of the free combination of the subjective/objective distinction with that between epistemic and deontic types of modality as expressed by modal verbs in English: indeed, Verstraete cites the work of both Halliday (1994b) and McGregor (1997)³⁹ as important influences on his own views. Verstraete does not, however, appear to question the FG account of the subjective or objective status of modal adverbs and adjectives. Furthermore, although he cites Halliday (1970b) as the only account in which subjective deontic modality is recognised in parallel with subjective epistemic modality, there is a slight but significant difference between Halliday's account and Verstraete's in that the former still regards such deontic modalities as basically representational (in Halliday's terms, ideational), though 'oriented towards' the interpersonal (Halliday 1970b: 349), while Verstraete's proposal for the treat-

39. We saw in §5.8.2 that McGregor's Semiotic Grammar, though in many ways very different from SFG, has been strongly influenced by Halliday's work.

ment of modality within Hengeveld's FDG rests crucially on the claim that they belong to the interpersonal level of the grammar.⁴⁰

Fourthly, only the Sydney version of SFG brings 'usuality' into the area of modality. The other approaches, including the Cardiff version of SFG, assimilate such meanings to the area of temporality.

Some categories are simply not represented in either version of SFG because they are not grammaticalised in English. Examples include obligation/permission and evidentiality, as expressed through verbal inflection rather than by lexical means.

Let us now compare the analyses of three modalised clauses of English, across the four approaches. First, let us consider (120):

(120) *Teachers might find their loyalties divided ...* (BNC B23 837)

In FG, the modality realised as *might* here would be analysed as Level 3, epistemological modality (possibility) if it expresses the speaker's commitment to the truth value of the proposition, though it could conceivably also be seen as a Level 2 objective epistemic modality if based on the speaker's knowledge of states of affairs in general. In RRG, we have an instance of a value of 'possible' for the Status clausal operator. In the Sydney version of SFG, the clause in (120) would select the features [modalisation, probability] from the modality type systems, [outer, low] from the value systems, [subjective] from the orientation system, [implicit] from the manifestation system, and [oblique] rather than [neutral] modality. In the Cardiff grammar, *might* would be a realisation of a the features [real time reference position, modalised, possibility, conditional modality].

Now let us look at example (121):

(121) *Students are required to keep a record of the planning and implementation of the investigation.* (BNC HPD 690)

In FG, *required* would be regarded as an embedding predicate expressing inherent modality at Level 1. It is not entirely clear how RRG would analyse such examples: Van Valin & LaPolla (1997:41) see *be able to* as a possible realisation of a root modality operator, so it is possible that *be required to* might also qualify. In the Sydney grammar, the clause selects the features [modulation, obligation, outer, high, objective, implicit]. It is not yet clear how this kind of clause would be handled in the Cardiff grammar.

Finally, consider (122):

(122) *He was probably willing to sell anything, the glass jars in the window included.* (BNC ASS 687)

Here, we have two expressions of modality: *probably* (epistemic) and *willing* (root). In FG, the former is a subjective epistemological modality at Level 3, while the latter is an inherent modality at Level 1. In RRG, *probably* is an Adjunct with clausal scope, but the analysis of *willing* is unclear. In Sydney SFG, *probably* represents the choice, for the clause, of the

40. Verstraete (2001:1509) himself takes Halliday's claim that some deontic modalities are 'oriented towards' the interpersonal as tantamount to treating them as effectively interpersonal rather than ideational.

Table 9.4. Types of negativity in FG, RRG and SFG

FG	RRG	Sydney SFG
Propositional negation (disagreement) (Level 3)	Status (clausal)?	[Discourse semantics]
Predicational negation (negative statement of fact) (Level 2)	Status (clausal)	Pure negative
Predicate negation (Level 1)	Negation (nuclear)	Incorporation of negativity into lexical items
Term negation (zero quantification)	Internal (narrow scope) negation (core)	Combined negative

features [modalisation, probability, median, objective, implicit], while *willing* realises the selection, in the same clause, of [modulation, inclination, low, objective, implicit]. In the Cardiff grammar, the adverb realises an appropriate feature from the probability network, while it is unclear how *willing* would be handled.

Finally, we turn to polarity. FG and the Sydney version of SFG see positive and negative as end-points on one or more scales, the intermediate values on which constitute the area of modality. In RRG and the Cardiff grammar, on the other hand, this connection is not explicitly made. FG, RRG and Sydney SFG all recognise several distinctions within the overall area of negation, which are compared in Table 9.4.⁴¹ Propositional negation would be handled in SFG in terms of the discourse semantics rather than the lexicogrammar. It is unclear whether this type of negation would come under the Status operator in RRG. All three approaches have some way of distinguishing the negation of the whole predication and that of just part of the predication. All also recognise the possibility of negativity within individual predicates/ lexical items.

41. Illocutionary negation in FG is excluded from the table since, as stated in §9.2.4, it is analysed as a special case of predicational negation involving a predication with a performative verb.

References

- Anstey, M. (2002). Layers and operators revisited. *Working Papers in Functional Grammar* 77. Amsterdam: University of Amsterdam.
- Anstey, M. (forthcoming). Functional Grammar from its inception. In Mackenzie & Gómez-González (Eds.).
- Archangeli, D. & T. Langendoen (Eds.). (1997). *Optimality Theory: An Overview*. Maldon, Mass. & Oxford: Blackwell.
- Asher, R. E. & J. M. Y. Simpson (Eds.). (1994). *The Encyclopedia of Language and Linguistics*. Oxford: Pergamon Press.
- Asp, E. (1992). On some natural and unnatural grammatical relations: a critique of a current trend in systemic-functional linguistics. *Network*, 18, 54–60.
- Bakker, D. (1994). *Formal and Computational Aspects of Functional Grammar and Language Typology*. Amsterdam: IFOTT.
- Bakker, D. (1999). FG expression rules: from templates to constituent structure. *Working Papers in Functional Grammar* 67. Amsterdam: University of Amsterdam.
- Bakker, D. (2001). The FG expression rules: a dynamic model. In Pérez Quintero (Ed.), 15–53.
- Bakker, D. & A. Siewierska (1993). A contribution to the problem of constituent order explanation. Working Paper 5, Theme Group 2: Constituent Order, ESF Eurotype Project.
- Bakker, D. & A. Siewierska (2002). Adpositions, the lexicon and expression rules. In Mairal Usón & Pérez Quintero (Eds.), 125–177.
- Bakker, D. & A. Siewierska (forthcoming). Towards a speaker model of Functional Grammar. In Mackenzie & Gómez-González (Eds.).
- Bates, E. & B. MacWhinney (1982). Functionalist approaches to grammar. In E. Wanner & L. Gleitman (Eds.) *Language Acquisition: The State of the Art*. New York: Cambridge University Press, 173–218.
- Benson, J. D., M. J. Cummings & W. S. Greaves (Eds.). (1988) *Linguistics in a Systemic Perspective*. (Current Issues in Linguistic Theory 39.) Amsterdam & Philadelphia: John Benjamins.
- Benson, J. D. & W. S. Greaves (Eds.). (1985). *Systemic Perspectives on Discourse, Volume 1: Selected Theoretical Papers from the 9th International Systemic Workshop*. (Advances in Discourse Processes Vol. XV.) Norwood, NJ: Ablex Publishing Corporation.
- Bernstein, B. (1971). *Class, Codes and Control 1: Theoretical Studies towards a Sociology of Language*. (Primary Socialization, Language and Education.) London: Routledge & Kegan Paul.
- Berry, M. (1975). *Introduction to Systemic Linguistics. 1: Structures and Systems*. London & Sydney: Batsford.
- Berry, M. (1980/1989). They're all out of step except our Johnny: a discussion of motivation (or the lack of it) in systemic linguistics. Mimeo, University of Nottingham, UK. Reprinted in *Occasional Papers in Systemic Linguistics*, 3 (1989), 5–67.

- Berry, M. (1982). Review of Halliday 1978. *Nottingham Linguistic Circular*, 11, 64–94.
- Berry, M., C. S. Butler, R. P. Fawcett & G. Huang (Eds.). (1996). *Meaning and Form: Systemic Functional Interpretations. Meaning and Choice in Language: Studies for Michael Halliday*. (Advances in Discourse Processes Vol. LVII.) Norwood, NJ: Ablex Publishing Corporation.
- Boland, A. (1999). *Functional Grammar and First Language Acquisition*. MA thesis, Department of General Linguistics, University of Amsterdam.
- Bolkestein, A. M. (1990). Sentential complements in Functional Grammar: embedded predications, propositions, utterances in Latin. In Nuyts, Bolkestein & Vet (Eds.), 71–100.
- Bolkestein, A. M. (1992). Limits to layering: locatability and other problems. In Fortescue, Harder & Kristoffersen (Eds.), 387–407.
- Bolkestein, A. M., C. de Groot & J. L. Mackenzie (Eds.). (1985). *Predicates and Terms in Functional Grammar*. (Functional Grammar Series 2.) Dordrecht & Cinnaminson, NJ: Foris.
- Bramley, M. J. (1997). Towards a non-classical approach to SoAs. Mimeo. York: College of Ripon and York St. John.
- Brdar, M. (1994). Object assignment in a Functional Grammar of Croatian revisited. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 109–126.
- Brdar, M. & R. Brdar-Szabó (1997). Towards a functional approach to infinitival complements: control obviation strategies between syntax, semantics, pragmatics and discourse. In Butler et al. (Eds., 1997), 157–170.
- Brown, K. & J. Miller (Eds.). (1996). *The Concise Encyclopedia of Syntactic Theories*. Oxford: Pergamon.
- Bunt, H. (1985). *Mass Terms and Model-Theoretic Semantics*. Cambridge: Cambridge University Press.
- Butler, C. S. (1982). *The Directive Function of the English Modals*. PhD thesis, University of Nottingham.
- Butler, C. S. (1985). *Systemic Linguistics: Theory and Applications*. London: Batsford Academic and Educational.
- Butler, C. S. (1988). Politeness and the semantics of modalised directives. In Benson, Cummings & Greaves (Eds.), 119–153.
- Butler, C. S. (1989). Systemic models: unity, diversity and change. *Word*, 40(1/2), 1–35.
- Butler, C. S. (1990). Functional Grammar and Systemic Functional Grammar: a preliminary comparison. *Working Papers in Functional Grammar* 39. Amsterdam: University of Amsterdam.
- Butler, C. S. (1991a). Standards of adequacy in Functional Grammar. (Review article on Dik 1989a.) *Journal of Linguistics*, 27, 499–515.
- Butler, C. S. (1991b). Criteria of adequacy in functional grammars, with particular reference to Systemic Functional Grammar. *Network*, 17, 61–69.
- Butler, C. S. (1994). Systemic Grammar in applied language studies. In Asher & Simpson (Eds.), 4500–4504.
- Butler, C. S. (1995). Systemic Functional Grammar. In Verschueren, Östman & Blommaert (Eds.), 527–533.
- Butler, C. S. (1996a). Layering in functional grammars: a comparative survey. In Devriendt, Goossens & van der Auwera (Eds.), 1–27.
- Butler, C. S. (1996b). On the concept of an interpersonal metafunction in English. In Berry et al. (Eds.), 151–181.
- Butler, C. S. (1998). Enriching the Functional Grammar lexicon. In Olbertz, Hengeveld & Sánchez García (Eds.), 171–194.

- Butler, C. S. (1999a). Nuevas perspectivas de la Gramática Funcional: Los estándares de adecuación de la teoría. (New perspectives in Functional Grammar: The standards of adequacy of the theory.) In Butler et al. (Eds., 1999), 219–256.
- Butler, C. S. (1999b). Some possible contributions of corpus linguistics to the functional lexematic model. In M.-J. Feu Guijarro & S. Molina Plaza (Eds.), *Estudios funcionales sobre léxico, sintaxis y traducción. Un homenaje a Leocadio Martín Mingorance*. (Functional studies on lexis, syntax and translation. A tribute to Leocadio Martín Mingorance.) Cuenca: Universidad de Castilla La Mancha, 19–37.
- Butler, C. S. (2001). A matter of GIVE and TAKE: corpus linguistics and the predicate frame. In Pérez Quintero (Ed.), 55–78.
- Butler, C. S. (2002a). On being true to form: models of syntax in Systemic Functional Grammar. (Review article on Fawcett 2000a.) *Functions of Language*, 9(1), 61–86.
- Butler, C. S. (2002b). Catching a glimpse of linguistic reality: modelling the complexity of CATCH in the Functional Lexematic Model. In Mairal Usón & Pérez Quintero (Eds.), 247–279.
- Butler, C. S., J. H. Connolly, R. A. Gatward & R. M. Vismans (Eds.). (1997). *A Fund of Ideas: Recent Developments in Functional Grammar*. (Studies in Language and Language Use 31.) Amsterdam: IFOTT.
- Butler, C. S., R. Mairal, J. Martín Arista & F. J. Ruiz de Mendoza (Eds.). (1999). *Nuevas perspectivas en Gramática Funcional*. (New Perspectives in Functional Grammar.) Barcelona: Ariel.
- Caffarel, A. (1997). Models of transitivity in French: a systemic-functional interpretation. In Simon-Vandenberg, Davidse & Noël (Eds.), 249–296.
- Caffarel, A., J. R. Martin & C. M. I. M. Matthiessen (Eds.). (forthcoming). *Language Typology: A Functional Perspective*. Amsterdam & Philadelphia: John Benjamins.
- Carlson, G., & M. K. Tanenhaus (1988). Thematic roles and language comprehension. In W. Wilkins (Ed.), *Syntax and Semantics. Thematic Relations*. New York: Academic Press, 263–288.
- Chafe, W. L. (1987). Cognitive constraints on information flow. In Tomlin (Ed.), 21–51.
- Chomsky, N. (1957). *Syntactic Structures*. The Hague: Mouton.
- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, Mass.: MIT Press.
- Chomsky, N. (1976). *Reflections on Language*. London: Temple Smith.
- Chomsky, N. (1977). *Essays on Form and Interpretation*. New York: North Holland.
- Chomsky, N. (1980). *Rules and Representations*. New York: Columbia University Press.
- Chomsky, N. (1981). On the representation of form and function. *The Linguistic Review*, 1, 3–40.
- Chomsky, N. (1986). *Knowledge of Language: Its Nature, Origin and Use*. New York: Praeger.
- Chung, S. & A. Timberlake (1985). Tense, aspect, and mood. In T. Shopen (Ed.), *Language Typology and Syntactic Description. Part III: Grammatical Categories and the Lexicon*. Cambridge: Cambridge University Press, 202–258.
- Cloran, C. (1994). *Rhetorical Units and Decontextualization: An Enquiry into some Relations of Context, Meaning and Grammar*. (Monographs in Systemic Linguistics 6.) Nottingham: School of English Studies, University of Nottingham.
- Cloran, C., D. Butt & G. Williams (Eds.). (1996a). *Ways of Saying: Ways of Meaning. Selected Papers of Ruqaiya Hasan*. London & New York: Cassell.
- Cloran, C., D. Butt & G. Williams (1996b). Introduction. In Cloran, Butt & Williams (Eds.), 1–12.
- Coates, J. (1983). *The Semantics of the Modal Auxiliaries*. London & Canberra: Croom Helm.
- Comrie, B. (1985). *Tense*. Cambridge: Cambridge University Press.
- Connolly, J. H. (1991). *Constituent Order in Functional Grammar: Synchronic and Diachronic Perspectives*. (Functional Grammar Series 14.) Dordrecht & Providence, RI: Foris.
- Connolly, J. H. (1994). On the generation of English temporal satellite terms. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 303–315.

- Connolly, J. H. (1995). On the generation of internally complex English temporal satellite terms. *Working Papers in Functional Grammar* 57. Amsterdam: University of Amsterdam.
- Connolly, J. H. & S. C. Dik (Eds.). (1989). *Functional Grammar and the Computer*. (Functional Grammar Series 10.) Dordrecht & Providence, RI: Foris.
- Cook, V. J. & M. Newson (1996). *Chomsky's Universal Grammar*. Oxford & Cambridge, Mass.: Blackwell.
- Cornish, F. (1994). Integrating argument structure, clause semantics, grammatical functions and micro-discourse: the Functional Grammar perspective. (Review article on Siewierska 1991.) *Lingua*, 94, 245–264.
- Cornish, F. (2002). 'Downstream' effects on the predicate in a Functional Grammar clause derivation. *Journal of Linguistics*, 38(2), 247–278.
- Cornish, F. (forthcoming). Focus of attention in discourse. In Mackenzie & Gómez-González (Eds.).
- Cortés Rodríguez, F. J. (1994). *Lexicón onomasiológico de afijos nominalizadores españoles e ingleses*. (An onomasiological lexicon of nominalising affixes in Spanish and English.) PhD dissertation, Universidad de La Laguna, Tenerife.
- Cortés Rodríguez, F. J. (1997a). *La creación léxica. Una aproximación funcional*. (Word formation. A functional approach.) La Laguna, Tenerife: Servicio de Publicaciones, Universidad de La Laguna.
- Cortés Rodríguez, F. J. (1997b). The Functional Lexematic Model of word formation. *Atlantis*, XIX(1), 79–98.
- Cortés Rodríguez, F. J. (1997c). La morfología derivativa en la Gramática Funcional de Dik: ¿formación de palabras o formación de predicados? (Derivational morphology in the Functional Grammar of Dik: word formation or predicate formation? *Alfinge*, 9, 117–134.
- Cortés Rodríguez, F. J. (1997d). Sobre la relación entre léxico-génesis, diacronía y categorización. (On the relationship between lexicogenesis, diachrony and categorisation.) In Wotjak (Ed.), 227–243.
- Cortés Rodríguez, F. J. & M. J. Pérez Quintero (2001). Finding relief for FG lexical representations: a syntactic-semantic description of Old English verbs of 'healing'. In Pérez Quintero (Ed.), 79–101.
- Cortés Rodríguez, F. J. & M. J. Pérez Quintero (2002). On the syntax-semantics interface in word formation: the case of English *-er* nominalizations. In Mairal Usón & Pérez Quintero (Eds.), 213–245.
- Coseriu, E. (1981). *Lecciones de lingüística general*. (Readings in general linguistics.) Madrid: Gredos.
- Croft, W. (1990). *Typology and Universals*. Cambridge: Cambridge University Press.
- Croft, W. (1995). Autonomy and functionalist linguistics. *Language*, 71, 490–532.
- Croft, W. (1999). What (some) functionalists can learn from (some) formalists. In Darnell et al. (Eds.), 87–110.
- Cross, M. (1991). *Choice in Text: A Systemic Functional Approach to Computer Modelling of Variant Text Production*. PhD dissertation, Macquarie University.
- Cross, M. (1992). Choice in lexis: computer generation of lexis as most delicate grammar. In M. A. K. Halliday & F. C. C. Peng (Eds.), *Current Research in Functional Grammar, Discourse and Computational Linguistics with a Foundation in Systemic Theory*. Special Issue, *Language Sciences*, 14(4), 579–605.
- Cross, M. (1993). Collocation in computer modelling of lexis as most delicate grammar. In Ghadessy, M. (Ed.), *Register Analysis: Theory and Practice*. London: Pinter, 196–220.
- Cuvalay, M. (1995). The E-structure in Functional Grammar: towards a consistent treatment of tense, mood, aspect and illocutionary force. *Working Papers in Functional Grammar* 59. Amsterdam: University of Amsterdam.

- Cuvalay-Haak, M. (1996). *The Arabic Verb: A Functional Grammar Approach to Verbal Expressions In Classical and Modern Arabic*. PhD dissertation, University of Amsterdam.
- Darnell, M., E. Moravcsik, F. Newmeyer, M. Noonan & K. Wheatley (Eds.). (1999). *Functionalism and Formalism in Linguistics. Volume 1: General Papers*. (Studies in Language Companion Series 41.) Amsterdam & Philadelphia: John Benjamins.
- Davide, K. (1992). Transitivity/ergativity. The Janus-headed grammar of actions and events. In Davies & Ravelli (Eds.), 105–135.
- Davide, K. (1996a). Turning grammar on itself: identifying clauses in linguistic discourse. In Berry et al. (Eds.), 367–393.
- Davide, K. (1996b). Ditransitivity and possession. In Hasan, Cloran & Butt (Eds.), 85–144.
- Davide, K. (1998). On transitivity and ergativity in English, or on the need for dialogue between schools. In van der Auwera, Durieux & Lejeune (Eds.), 95–108.
- Davide, K. (2000). Semiotic and possessive models in relational clauses: thinking with grammar about grammar. In Hernández Hernández (Ed.), 13–35.
- Davies, E. C. (1979). *On the Semantics of Syntax*. London: Croom Helm.
- Davies, E. C. (1988). On different possibilities in the syntax of English. In Benson, Cummings & Greaves (Eds.), 155–184.
- Davies, E. C. (2001). Propositional attitudes: a semantic model of mood and modality in English. *Functions of Language*, 8(2), 217–251.
- Davies, M. & L. Ravelli (Eds.). (1992). *Advances in Systemic Linguistics: Recent Theory and Practice*. London: Pinter.
- Degand, L. (1996). Causation in Dutch and French: interpersonal aspects. In Hasan, Cloran & Butt (Eds.), 207–235.
- de Groot, C. (1985). Predicates and features. In Bolkestein, de Groot & Mackenzie (Eds.), 71–84.
- de Groot, C. & H. Olbertz (1999). Functional Grammar Publications 1978–1998. *Working Papers in Functional Grammar 72*. Amsterdam: University of Amsterdam.
- Devriendt, B., L. Goossens & J. van der Auwera (Eds.). (1996). *Complex Structures: A Functionalist Perspective*. (Functional Grammar Series 17.) Berlin & New York: Mouton de Gruyter.
- Dik, S. C. (1978a). *Functional Grammar*. (North Holland Linguistic Series 37.) Amsterdam, New York, Oxford: North Holland Publishing Company.
- Dik, S. C. (1978b). *Stepwise Lexical Decomposition*. Lisse: Peter de Ridder Press.
- Dik, S. C. (Ed.). (1983). *Advances in Functional Grammar*. (Publications in Language Sciences 11.) Dordrecht & Cinnaminson, NJ: Foris.
- Dik, S. C. (1986). On the notion “functional explanation”. *Belgian Journal of Linguistics*, 1, 11–52. Also published as *Working Papers in Functional Grammar 11*. Amsterdam: University of Amsterdam.
- Dik, S. C. (1987). Linguistically motivated knowledge representation. In M. Nagao (Ed.), *Language and Artificial Intelligence*. Amsterdam: North Holland, 145–170.
- Dik, S. C. (1988). Concerning the logical component of a natural language generator. In M. Zock & G. Sabah (Eds.), *Advances in Natural Language Generation: An Interdisciplinary Perspective, Vol. 1*. London: Pinter, 73–91.
- Dik, S. C. (1989a). *The Theory of Functional Grammar, Part I: The Structure of the Clause*. (Functional Grammar Series 9.) Dordrecht & Providence, RI: Foris.
- Dik, S. C. (1989b). FG*C*M*NLU: Functional Grammar Computational Model of the Natural Language User. In Connolly & Dik (Eds.), 1–28.
- Dik, S. C. (1989c). Relational reasoning in Functional Logic. In Connolly & Dik (Eds.), 273–288.
- Dik, S. C. (1990a). How to build a natural language user. In Hannay & Vester (Eds.), 203–215.
- Dik, S. C. (1990b). On the semantics of conditionals. In Nuyts, Bolkestein & Vet (Eds.), 233–261.

- Dik, S. C. (1992). *Functional Grammar in Prolog: An Integrated Implementation for English, French, and Dutch*. Berlin & New York: Mouton de Gruyter.
- Dik, S. C. (1994). Functional Grammar. In Asher & Simpson (Eds.), 1318–1323.
- Dik, S. C. (1996). Functional Grammar. (Updated by J. L. Mackenzie.) In Brown & Miller (Eds.), 84–92.
- Dik, S. C. (1997a). *The Theory of Functional Grammar, Part 1: The Structure of the Clause*, 2nd edn. Ed. K. Hengeveld. (Functional Grammar Series 20.) Berlin & New York: Mouton de Gruyter.
- Dik, S. C. (1997b). *The Theory of Functional Grammar, Part 2: Complex and Derived Constructions*. Ed. K. Hengeveld. (Functional Grammar Series 21.) Berlin & New York: Mouton de Gruyter.
- Dik, S. C. & K. Hengeveld (1991). The hierarchical structure of the clause and the typology of perception-verb complements. *Linguistics*, 29, 231–259.
- Dik, S. C., K. Hengeveld, E. Vester & C. Vet (1990). The hierarchical structure of the clause and the typology of adverbial satellites. In Nuyts, Bolkestein & Vet (Eds.), 25–70.
- Downing, A. (1989). Translating grammatical metaphor. *Actas del XI Congreso AEDEAN: Translation across Cultures, Universidad de León, 1989*, 87–95.
- Downing, A. (1991). La «metáfora gramatical» de M. A. K. Halliday y su motivación funcional en el texto. (The “grammatical metaphor” of M. A. K. Halliday and its functional motivation in the text.) *Revista española de lingüística*, 21(1), 109–123.
- Downing, A. (2000). Nominalization and topic management in leads and headlines. In E. Ventola (Ed.), *Discourse and Community: Doing Functional Linguistics*. (Language in Performance, 21.) Tübingen: Gunter Narr Verlag, 355–378.
- Downing, A. & P. Locke (1992 [2002]). *A University Course in English Grammar*. Hemel Hempstead: Prentice Hall. (2nd edn. London: Routledge, 2002.)
- Dowty, D. R. (1979). *Word Meaning and Montague Grammar: The Semantics of Verbs and Times in Generative Grammar and Montague’s PDQ*. Dordrecht: Reidel.
- Dowty, D. R. (1991). Thematic proto-roles and argument selection. *Language*, 67, 547–619.
- Dryer, M. S. (1992). The Greenbergian word order correlations. *Language*, 68(1), 81–138.
- Eggins, S. (1994). *An Introduction to Systemic Functional Linguistics*. London: Pinter.
- Engberg-Pedersen, E., L. Falster Jakobsen & L. Schack Rasmussen (Eds.). (1994). *Function and Expression in Functional Grammar*. (Functional Grammar Series 16.) Berlin & New York: Mouton de Gruyter.
- Esgueva, M. & M. Cantarero (Eds.). (1981). *El habla de la ciudad de Madrid: materiales para su estudio*. (The speech of the city of Madrid: materials for study.) Madrid: Consejo Superior de Investigaciones Científicas, Instituto ‘Miguel de Cervantes’.
- Faber, P. & R. Mairal Usón (1994). Methodological underpinnings for the construction of a functional lexicological model. *Miscelánea*, 15, 193–217.
- Faber, P. & R. Mairal Usón (1998a). Methodological criteria for the elaboration of a functional lexicon-based grammar of the semantic domain of cognitive verbs. In Olbertz, Hengeveld & Sánchez García (Eds.), 3–24.
- Faber, P. & R. Mairal Usón (1998b). Towards a semantic syntax. In F. J. Cortés Rodríguez (Ed.), *Lexical Studies towards the Year 2000*. (Monographic section of *Revista Canaria de Estudios Ingleses* 36.) La Laguna, Tenerife: Universidad de La Laguna, 37–64.
- Faber, P. & R. Mairal Usón (1999). *Constructing a Lexicon of English Verbs*. (Functional Grammar Series 23.) Berlin & New York: Mouton de Gruyter.
- Fairclough, N. (1995). *Critical Discourse Analysis*. London: Longman.
- Falster Jakobsen, L. (1994). Perspective, markedness, and paradigmatic relations between predicates. A case study of Danish. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 126–151.

- Fawcett, R. P. (1974). Some proposals for systemic syntax: Part 1. *MALS Journal*, 1(2), 1–15.
- Fawcett, R. P. (1975). Some proposals for systemic syntax: Part 2. *MALS Journal*, 2(1), 43–68.
- Fawcett, R. P. (1980). *Cognitive Linguistics and Social Interaction: Towards an Integrated Model of a Systemic Functional Grammar and the other Components of a Communicating Mind*. Heidelberg: Julius Groos Verlag & Exeter: University of Exeter.
- Fawcett, R. P. (1987). The semantics of clause and verb for relational processes in English. In Halliday & Fawcett (Eds.), 130–183.
- Fawcett, R. P. (1994). A generationist approach to grammar reversibility in Natural Language Processing. In T. Strzalkowski (Ed.), *Reversible Grammar in Natural Language Processing*. Boston, Dordrecht & London: Kluwer, 365–413.
- Fawcett, R. P. (1996). A Systemic Functional approach to complementation in English. In Berry et al. (Eds.), 297–366.
- Fawcett, R. P. (1997). Invitation to Systemic Functional Linguistics: the Cardiff Grammar as an extension and simplification of Halliday's Systemic Functional Grammar. *Helicon* (Nara, Japan), 22, 55–136.
- Fawcett, R. P. (1999). On the subject of the Subject in English: two positions on its meaning (and on how to test for it). *Functions of Language*, 6(2), 243–273.
- Fawcett, R. P. (2000a). *A Theory of Syntax for Systemic Functional Linguistics*. (Current Issues in Linguistic Theory 206.) Amsterdam & Philadelphia: John Benjamins.
- Fawcett, R. P. (2000b). In place of Halliday's 'verbal group'. Part 1: Evidence from the problems of Halliday's representations and the relative simplicity of the proposed alternative. *Word*, 51(2), 157–203.
- Fawcett, R. P. (2000c). In place of Halliday's 'verbal group'. Part 2: Evidence from generation, semantics, and interruptability. *Word*, 51(3), 327–375.
- Fawcett, R. P. (in press). *The Functional Syntax Handbook: Analyzing English at the Level of Form*. London: Continuum.
- Fawcett, R. P. (forthcoming). Halliday's two types of 'verbal group complex': problems and solutions. To appear in *Functions of Language*.
- Fawcett, R. P., G. H. Tucker & Y. Q. Lin (1993). How a systemic functional grammar works: the role of realization in realization. In H. Horacek & M. Zock (Eds.), *New Concepts in Natural Language Generation: Planning, Realization and Systems*. London: Pinter, 114–186.
- Fillmore, C. J. (1988). The mechanisms of 'Construction Grammar'. *Proceedings of the Fourteenth Annual Meeting of the Berkeley Linguistics Society*, 35–55.
- Firth, J. R. (1957). *Papers in Linguistics 1934–1951*. London: Oxford University Press.
- Foley, W. A. & R. D. Van Valin Jr. (1984). *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.
- Fortescue, M. (1992). Aspect and superaspect in Koyukon: an application of the Functional Grammar model to a polysynthetic language. In Fortescue, Harder & Kristoffersen (Eds.), 99–141.
- Fortescue, M., P. Harder & L. Kristoffersen (Eds.). (1992). *Layered Structure and Reference in a Functional Perspective: Papers from the Functional Grammar Conference in Copenhagen 1990*. (Pragmatics and Beyond New Series 23.) Amsterdam & Philadelphia: John Benjamins.
- Francis, G. (1993). A corpus-driven approach to grammar – principles, methods and examples. In M. Baker, G. Francis & E. Tognini-Bonelli (Eds.), *Text and Technology: In Honour of John Sinclair*. Amsterdam & Philadelphia: John Benjamins, 137–156.
- François, J. (1997). States of Affairs and predicate frames: how can we link them together in Functional Grammar? In Wotjak (Ed.), 37–56.

- Fries, P. H. (1999). Post nominal modifiers in the English noun phrase. In P. Collins & D. Lee (Eds.) *The Clause in English: In Honour of Rodney Huddleston*. (Studies in Language Companion Series 45.) Amsterdam & Philadelphia: John Benjamins, 93–110.
- Fries, P. H., M. Cummings, D. Lockwood & W. Spruiell (Eds.). (2002). *Relations and Functions within and around Language*. London & New York: Continuum.
- Fries, P. H. & M. Gregory (Eds.). (1995). *Discourse in Society: Systemic Functional Perspectives. Meaning and Choice in Language: Studies for Michael Halliday*. (Advances in Discourse Processes Vol. L.) Norwood, NJ: Ablex Publishing Corporation.
- García Velasco, D. (1996). English manner satellites in Functional Grammar. *Atlantis*, XVIII, 149–164.
- García Velasco, D. (1998). *La predicación nuclear en la GF de S. C. Dik: una perspectiva conceptual*. (The nuclear predication in the FG of S. C. Dik : a conceptual perspective.) PhD thesis, University of Oviedo.
- García Velasco, D. & K. Hengeveld (2002). Do we need predicate frames? In Mairal Usón & Pérez Quintero (Eds.), 95–123.
- García Velasco, D. & C. Portero Muñoz (2002). Understood objects in Functional Grammar. *Working Papers in Functional Grammar* 76. Amsterdam: University of Amsterdam.
- Gebruers, R. (1994). Anna Siewierska on Functional Grammar. *Functions of Language*, 1(1), 129–144.
- Geeraerts, D. (1989). Introduction: prospects and problems of prototype theory. *Linguistics*, 27, 587–612.
- Ghadessy, M. (Ed.). (1998). *Text and Context in Functional Linguistics*. (Current Issues in Linguistic Theory 169.) Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1979). *On Understanding Grammar*. New York: Academic Press.
- Givón, T. (Ed.). (1983). *Topic Continuity in Discourse: A Quantitative Cross-Language Study*. (Typological Studies in Language, Vol. 3.) Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1984a). *Syntax: A Functional-Typological Introduction, Vol. I*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1984b). *Syntax: A Functional-Typological Introduction, Vol. II*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1988). The pragmatics of word order: predictability, importance, and attention. In M. Hammond, E. Moravcsik & J. Wirth (Eds.), *Studies in Syntactic Typology*. (Typological Studies in Language 17.) Amsterdam & Philadelphia: John Benjamins, 243–284.
- Givón, T. (1989). *Mind, Code and Context: Essays in Pragmatics*. Hillsdale, NJ & London: Lawrence Erlbaum.
- Givón, T. (1993a). *English Grammar: A Function-Based Introduction. Vol. 1*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1993b). *English Grammar: A Function-Based Introduction. Vol. 2*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (1995). *Functionalism and Grammar*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (2001a). *Syntax: An Introduction, Vol. I*. Amsterdam & Philadelphia: John Benjamins.
- Givón, T. (2001b). *Syntax: An Introduction, Vol. II*. Amsterdam & Philadelphia: John Benjamins.
- Goded Rambaud, M. & R. Jiménez Briones (2002). Lexical-semantic explorations in English verbs of physical contact: iconicity and linguistic representations. In Mairal Usón & Pérez Quintero (Eds.), 303–330.
- Goldberg, A. E. (1995). *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: Chicago University Press.

- González Orta, M. (2002). Lexical templates and syntactic variation: the syntax-semantics interface of the Old English verb *secgan*. In Mairal Usón & Pérez Quintero (Eds.), 281–302.
- Goossens, L. (1985a). Modality and the modals: a problem for Functional Grammar. In Bolkestein, de Groot & Mackenzie (Eds.), 203–217.
- Goossens, L. (1985b). Differentiating the English modals in Functional Grammar. In J. Nuyts (Ed.), *Antwerp Studies in Functional Grammar. Antwerp Papers in Linguistics*, 39, 49–71.
- Goossens, L. (1985c/1987a). The auxiliarisation of the English modals. *Working Papers in Functional Grammar 7*. Amsterdam: University of Amsterdam. Slightly revised version in: The auxiliarisation of the English modals: a Functional Grammar view. In M. Harris & P. Ramat (Eds., 1987), *Historical Development of Auxiliaries*. Berlin & New York: Mouton de Gruyter, 111–143.
- Goossens, L. (1987b). Modal shifts and predication types. In van der Auwera & Goossens (Eds.), 21–37.
- Goossens, L. (1990). Mental processes and relational verbs and the typology of states of affairs in FG. In Hannay & Vester (Eds.), 167–186.
- Goossens, L. (1991a). FG reflections on “Tobacco is said to be harmful”. In S. Granger (Ed.), *Perspectives on the Lexicon: A Tribute to Jacques van Roey. Cahiers de l’Institut de Linguistique de Louvain*, 17(1–3), 65–74.
- Goossens, L. (1991b). The English progressive tenses and the layered representation of Functional Grammar. *Working Papers in Functional Grammar 41*. Amsterdam: University of Amsterdam.
- Goossens, L. (1992). Graded predicationality, semanticization and *be* in a Functional Grammar of English. In J. de Caluwe, A. Hantson & W. Vandeweghe (Eds.), *Predication. Belgian Journal of Linguistics*, 7, 53–80.
- Goossens, L. (1993). “Have” in a Functional Grammar of English. *Working Papers in Functional Grammar 54*. Amsterdam: University of Amsterdam.
- Goossens, L. (1994). Transitivity and the treatment of (non)prototypicality in Functional Grammar. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 65–80.
- Goossens, L. (1996). English modals and functional models: a confrontation. *Antwerp Papers in Linguistics* 86. Antwerp: University of Antwerp.
- Goossens, L. (1999a). Metonymic bridges in modal shifts. In K.-U. Panther & G. Radden (Eds.), *Metonymy in Language and Thought*. (Human Cognitive Processing 4.) Amsterdam & Philadelphia: John Benjamins, 193–210.
- Goossens, L. (1999b). Passivization as a turning point. In G. A. J. Tops, B. Devriendt & S. Geukens (Eds.), *Thinking English Grammar: To Honour Xavier Dekeyser, Professor Emeritus. Orbis/Supplementa* 12. Leuven & Paris: Peeters, 253–261.
- Goossens, L. (2000). Patterns of meaning extension, “parallel chaining”, subjectification, and modal shifts. In A. Barcelona (Ed.), *Metaphor and Metonymy at the Crossroads: A Cognitive Perspective*. Berlin & New York: Mouton de Gruyter, 149–169.
- Greenberg, J. (1958). *Essays in Linguistics*. Chicago: University of Chicago Press.
- Gregory, M. (1985). Towards ‘Communication’ Linguistics: a framework. In Benson & Greaves (Eds.), 119–134.
- Gregory, M. (1988). Generic situation and register: a functional view of communication. In Benson, Cummings & Greaves (Eds.), 301–329.
- Gregory, M. (1995). Generic expectancies and discursal surprises. John Donne’s *The Good Morrow*. In Fries & Gregory (Eds.), 67–84.
- Gregory, M. (2002a). Phasal analysis within Communication Linguistics: two contrastive discourses. In Fries et al. (Eds.), 316–345.

- Gregory, M. (2002b). Relations and functions within and around language: the Systemic Functional tradition. In Fries et al. (Eds.), 13–31.
- Guerrero Medina, P. (1998). A prototype approach to transitivity: its implications for the FG typology of SoAs. In Olbertz, Hengeveld & Sánchez García (Eds.), 215–232.
- Guerrero Medina, P. (2001). Reconsidering aspectuality: interrelations between grammatical and lexical aspect. *Working Papers in Functional Grammar 75*. Amsterdam: University of Amsterdam.
- Haberland, H. & O. Nedergaard Thomsen (1994). Syntactic functions, topics, and grammatical relations. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 153–181.
- Haiman, J. (1980). The iconicity of grammar: isomorphism and motivation. *Language*, 56, 515–540.
- Haiman, J. (1983). Iconic and economic motivation. *Language*, 59, 781–819.
- Haiman, J. (Ed.). (1985). *Iconicity in Syntax*. (Typological Studies in Language 6.) Amsterdam & Philadelphia: John Benjamins.
- Halliday, M. A. K. (1956). Grammatical categories in Modern Chinese. *Transactions of the Philological Society*, 180–202. Reprinted in part in Kress (Ed.), 36–51.
- Halliday, M. A. K. (1959). *The Language of the Chinese “Secret History of the Mongols”*. (Publications of the Philological Society 17.) Oxford: Blackwell.
- Halliday, M. A. K. (1961). Categories of the theory of grammar. *Word*, 17(3), 241–292. Reprinted in part in Kress (Ed.), 52–72.
- Halliday, M. A. K. (1966a). Some notes on “deep” grammar. *Journal of Linguistics*, 2(1), 57–67. Reprinted in part in Kress (Ed.), 88–98.
- Halliday, M. A. K. (1966b). Lexis as a linguistic level. In C. E. Bazell, J. C. Catford & M. A. K. Halliday (Eds.), *In Memory of J. R. Firth*. London: Longman, 148–162. Reprinted in part in Kress (Ed.), 73–83.
- Halliday, M. A. K. (1968). Notes on transitivity and theme in English, Part 3. *Journal of Linguistics*, 4(2), 179–215.
- Halliday, M. A. K. (1970a). Language structure and language function. In J. Lyons (Ed.), *New Horizons in Linguistics*. Harmondsworth: Penguin, 140–165.
- Halliday, M. A. K. (1970b). Functional diversity in language, as seen from a consideration of modality and mood in English. *Foundations of Language*, 6(3), 322–361. Reprinted in part in Kress (Ed.), 189–213.
- Halliday, M. A. K. (1973). *Explorations in the Functions of Language*. London: Edward Arnold.
- Halliday, M. A. K. (1975). *Learning How to Mean*. London: Edward Arnold.
- Halliday, M. A. K. (1978). *Language as Social Semiotic: The Social Interpretation of Language and Meaning*. London: Edward Arnold.
- Halliday, M. A. K. (1979). Modes of meaning and modes of expression: types of grammatical structure, and their determination by different semantic functions. In D. J. Allerton, E. Carney & D. Holdcroft (Eds.), *Function and Context in Linguistic Analysis: Essays Offered to William Haas*. Cambridge: Cambridge University Press, 57–79.
- Halliday, M. A. K. (1984). Language as code and language as behaviour: a systemic-functional interpretation of the nature and ontogenesis of dialogue. In R. P. Fawcett, M. A. K. Halliday, S. M. Lamb & A. Makkai (Eds.), *The Semiotics of Culture and Language. Vol. 1: Language as Social Semiotic*. London: Pinter, 3–35.
- Halliday, M. A. K. (1985a). *An Introduction to Functional Grammar*. London: Edward Arnold.
- Halliday, M. A. K. (1985b). Systemic background. In Benson & Greaves (Eds.), 1–15.
- Halliday, M. A. K. (1991a). Corpus studies and probabilistic grammar. In K. Aijmer & B. Altenberg (Eds.), *English Corpus Linguistics: Studies in Honour of Jan Svartvik*. London & New York: Longman, 30–43.

- Halliday, M. A. K. (1991b). Towards probabilistic interpretations. In Ventola (Ed.), 39–61.
- Halliday, M. A. K. (1992a). Language in a changing world. (Occasional Papers 13.) Canberra: Applied Linguistics Association of Australia.
- Halliday, M. A. K. (1992b). How do you mean? In Davies & Ravelli (Eds.), 20–35.
- Halliday, M. A. K. (1993). Quantitative studies and probabilities in grammar. In M. Hoey (Ed.), *Data, Description, Discourse: Papers on the English Language in Honour of John McH Sinclair on his Sixtieth Birthday*. London: Harper Collins, 1–25.
- Halliday, M. A. K. (1994a). Systemic Theory. In Asher & Simpson (Eds.), 4505–4508.
- Halliday, M. A. K. (1994b). *An Introduction to Functional Grammar*, 2nd edn. London: Edward Arnold.
- Halliday, M. A. K. (1996). On grammar and grammatics. In Hasan, Cloran & Butt (Eds.), 1–38.
- Halliday, M. A. K. (1997). Linguistics as metaphor. In Simon-Vandenberg, Davidse & Noël (Eds.), 3–27.
- Halliday, M. A. K. & R. P. Fawcett (Eds.). (1987a). *New Developments in Systemic Linguistics, Vol. 1: Theory and Description*. London & New York: Frances Pinter.
- Halliday, M. A. K. & R. P. Fawcett (1987b). Introduction. In Halliday & Fawcett (Eds.), 1–13.
- Halliday, M. A. K. & R. Hasan (1976). *Cohesion in English*. London: Longman.
- Halliday, M. A. K. & Z. James (1993). A quantitative study of polarity and primary tense in the English finite clause. In J. M. Sinclair, G. Fox & M. Hoey (Eds.), *Techniques of Description: Spoken and Written Discourse*. London: Routledge, 32–66.
- Halliday, M. A. K. & C. M. I. M. Matthiessen (1999). *Construing Experience through Meaning: A Language-Based Approach to Cognition*. London & New York: Cassell.
- Halliday, M. A. K., A. McIntosh & P. Stevens (1964). *The Linguistic Sciences and Language Teaching*. London: Longman.
- Han, J. (1999). *Grammatical Coding of Information Structure in Korean: A Role and Reference Grammar (RRG) Account*. PhD dissertation, SUNY, Buffalo.
- Hannay, M. (1985). *English Existentials in Functional Grammar*. (Functional Grammar Series 3.) Dordrecht & Providence, RI: Foris.
- Hannay, M. (1993). Message modes, P1, and first position in the English declarative clause. Paper given at the Symposium on Discourse and Grammar, University of Copenhagen, May 1993.
- Hannay, M. & A. M. Bolkestein (Eds.). (1998). *Functional Grammar and Verbal Interaction*. (Studies in Language Companion Series 44.) Amsterdam & Philadelphia: John Benjamins.
- Hannay, M. & E. Vester (Eds.). (1990). *Working with Functional Grammar: Descriptive and Computational Applications*. (Functional Grammar Series 13.) Dordrecht & Providence, RI: Foris.
- Harder, P. (1990). Tense, semantics and layered syntax. In Nuyts, Bolkestein & Vet (Eds.), 139–163.
- Harder, P. (1997). *Functional Semantics*. Berlin & New York: Mouton de Gruyter.
- Harder, P. (1998). Modality in English: polysemy and content-syntactic layering. In van der Auwera, Durieux & Lejeune (Eds.), 212–220.
- Hasan, R. (1984). What kind of resource is language? *Australian Review of Applied Linguistics*, 7(1), 57–85. Reprinted in Cloran, Butt & Williams (Eds.), 13–36.
- Hasan, R. (1987). The grammarian's dream: lexis as most delicate grammar. In Halliday & Fawcett (Eds.), 184–211. Reprinted in Cloran, Butt & Williams (Eds.), 73–103.
- Hasan, R. (1995). The concept of context in text. In Fries & Gregory (Eds.), 183–283.
- Hasan, R. (1996). Semantic networks: a tool for the analysis of meaning. In Cloran, Butt & Williams (Eds.), 104–131.
- Hasan, R. (1998). Speaking with reference to context. In Ghadessy (Ed.), 219–328.

- Hasan, R., C. Cloran & D. Butt (Eds.). (1996). *Functional Descriptions: Theory in Practice*. (Current Issues in Linguistic Theory 121.) Amsterdam & Philadelphia: John Benjamins.
- Hasan, R. & P. H. Fries (Eds.). (1995a). *On Subject and Theme: A Discourse Functional Perspective*. (Current Issues in Linguistic Theory 118.) Amsterdam & Philadelphia: John Benjamins.
- Hasan, R. & P. H. Fries (1995b). Reflections on Subject and Theme: An introduction. In Hasan & Fries (Eds.), xiii–xlv.
- Hawkins, J. A. (1994). *A Performance Theory of Order and Constituency*. (Cambridge Studies in Linguistics 73.) Cambridge: Cambridge University Press.
- Hengeveld, K. (1986). Copular verbs in a Functional Grammar of Spanish. *Linguistics*, 24(2), 393–420.
- Hengeveld, K. (1987). Clause structure and modality in Functional Grammar. In van der Auwera & Goossens (Eds.), 53–66.
- Hengeveld, K. (1988). Illocution, mood and modality in a Functional Grammar of Spanish. *Journal of Semantics*, 6, 227–269.
- Hengeveld, K. (1989). Layers and operators in Functional Grammar. *Journal of Linguistics*, 25(1), 127–157.
- Hengeveld, K. (1990a). The hierarchical structure of utterances. In Nuyts, Bolkestein & Vet (Eds.), 1–23.
- Hengeveld, K. (1990b). Semantic relations in non-verbal predication. In Nuyts, Bolkestein & Vet (Eds.), 101–122.
- Hengeveld, K. (1992a). *Non-verbal Predication: Theory, Typology, Diachrony*. (Functional Grammar Series 15.) Berlin & New York: Mouton de Gruyter.
- Hengeveld, K. (1992b). Parts of speech. In Fortescue, Harder & Kristoffersen (Eds.), 29–55.
- Hengeveld, K. (1997a). Cohesion in Functional Grammar. In J. H. Connolly, R. M. Vismans, C. S. Butler & R. A. Gatward (Eds.), *Discourse and Pragmatics in Functional Grammar*. (Functional Grammar Series Vol. 18.) Berlin & New York: Mouton de Gruyter, 1–16.
- Hengeveld, K. (1997b). Adverbs in Functional Grammar. In Wotjak (Ed.), 121–136.
- Hengeveld, K. (forthcoming a). The architecture of a Functional Discourse Grammar. In Mackenzie & Gómez-González (Eds.).
- Hengeveld, K. (forthcoming b). Epilogue. In Mackenzie & Gómez-González (Eds.).
- Hengeveld, K. (forthcoming c). Mood and modality. To appear in G. Booij, C. Lehmann & J. Mugdan (Eds.) *Morphology: A Handbook on Inflection and Word Formation*. Berlin & New York: Mouton de Gruyter.
- Hengeveld, K. & M. J. Pérez Quintero (2001). Descriptive adequacy in Functional Grammar. In Pérez Quintero (Ed.), 103–117.
- Hernández Hernández, M. A. (Ed.). (2000a). *Systemic Functional Linguistics across Genres: Present and Future Perspectives*. (Monographic section of *Revista Canaria de Estudios Ingleses* 40). La Laguna, Tenerife: Servicio de Publicaciones, Universidad de La Laguna.
- Hernández Hernández, M. A. (2000b). An interview with Michael Halliday: the man and the linguist. In Hernández Hernández (Ed.), 233–243.
- Hernández Hernández, M. A. (2000c). Talking with Jim Martin: from systemic functional linguistics to systemic functional semiotics. In Hernández Hernández (Ed.), 245–249.
- Hernández Hernández, M. A. (2000d). Organising principles and expansion of the systemic functional model: a conversation with Christian Matthiessen. In Hernández Hernández (Ed.), 251–256.
- Herslund, M. & F. Sørensen (1994). A valence based theory of grammatical relations. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 81–95.

- Hesp, C. (1990a). The Functional Grammar Computational Natural Language User and psychological adequacy. In Nuyts, Bolkestein & Vet (Eds.), 295–312.
- Hesp, C. (1990b). A critique of FG-CNLU. *Working Papers in Functional Grammar* 35. Amsterdam: University of Amsterdam.
- Hjelmslev, L. (1943). *Omkring sprogteoriens grundlaeggelse*. Copenhagen: Akademisk Forlag. (English version 1961: *Prolegomena to a Theory of Language*. Madison, Wisconsin: University of Wisconsin Press.)
- Holisky, D. A. (1987). The case of the intransitive subject in Taova-Tush (Batsbi). *Lingua*, 71, 103–132.
- Hopper, P. J. (1987). Emergent grammar. *Proceedings of the Berkeley Linguistics Society*, 13, 139–157.
- Hopper, P. J. (1992). Emergence of grammar. In W. Bright (Ed.), *International Encyclopedia of Linguistics*. New York & Oxford: Oxford University Press, 364–367.
- Hopper, P. J. & S. A. Thompson (1980). Transitivity in grammar and discourse. *Language*, 56(2), 251–299.
- Hopper, P. J. & S. A. Thompson (1984). The discourse basis for lexical categories in universal grammar. *Language*, 60(4), 703–752.
- Hopper, P. J. & E. C. Traugott (1993). *Grammaticalization*. Cambridge: Cambridge University Press.
- Hori, M. (1997). Mental process clauses in Japanese. In Simon-Vandenberg, Davidse & Noël (Eds.), 297–327.
- Huddleston, R. D. (1984). *Introduction to the Grammar of English*. Cambridge: Cambridge University Press.
- Huddleston, R. D. (1988). Constituency, multi-functionality and grammaticalization in Halliday's Functional Grammar. *Journal of Linguistics*, 24, 137–174.
- Huddleston, R. D. (1991). Further remarks on Halliday's Functional Grammar: a reply to Matthiessen and Martin. *Occasional Papers in Systemic Linguistics*, 5, 75–129.
- Huddleston, R. D. (1992). On Halliday's Functional Grammar: a reply to Martin and to Martin & Matthiessen. *Occasional Papers in Systemic Linguistics*, 6, 197–211.
- Hudson, R. A. (1976). *Arguments for a Non-Transformational Grammar*. Chicago & London: University of Chicago Press.
- Hunston, S. & G. Francis (2000). *Pattern Grammar: A Corpus-Driven Approach to the Lexical Grammar of English*. (Studies in Corpus Linguistics 4.) Amsterdam & Philadelphia: John Benjamins.
- Hymes, D. (1971/1972). *On Communicative Competence*. Philadelphia: University of Pennsylvania Press (1971). Reprinted in abridged form in J. B. Pride & J. Holmes (Eds., 1972), *Sociolinguistics*. Harmondsworth: Penguin, 269–293.
- Junger, J. (1987). Psychological or communicative reality: on the speaker's point of view. In J. Verschueren & M. Bertucelli-Papi (Eds.), *The Pragmatic Perspective*. (Pragmatics and Beyond Companion Series 5.) Amsterdam & Philadelphia: John Benjamins, 656–664.
- Kager, R. (1999). *Optimality Theory*. Cambridge: Cambridge University Press.
- Kahr, J. C. (1975). Adpositions and locationals: typology and diachronic development. *Working Papers in Language Universals*, 19, 21–54.
- Keijsper, C. E. (1990). Waar gaat de FG heen? (Where is FG going?) Mimeo. Amsterdam: University of Amsterdam.
- Keizer, M. E. (1990). Referentiality and the representation of predicate nominals. In Hannay & Vester (Eds.), 145–166.
- Keizer, M. E. (1991). Referring in Functional Grammar: how to define reference and referring expressions. *Working Papers in Functional Grammar* 43. Amsterdam: University of Amsterdam.

- Keizer, M. E. (1992a). Predicates as referring expressions. In Fortescue, Harder & Kristoffersen (Eds.), 1–27.
- Keizer, M. E. (1992b). *Reference, Predication and (In)definiteness in Functional Grammar: A Functional Approach to English Copular Sentences*. PhD dissertation, Free University of Amsterdam.
- Kress, G. (Ed.). (1976). *Halliday: System and Function in Language*. Oxford: Oxford University Press.
- Kuno, S. (1980). Functional syntax. In Moravcsik & Wirth (Eds.), 117–135.
- Kwee, T. L. (1996). Comments on some aspects of ProfGlot (explanatory notes and critical assessment). *Working Papers in Functional Grammar* 61. Amsterdam: University of Amsterdam.
- Kwee, T. L. (1997). On generation in FG: towards an alternative, more discourse oriented approach. In Butler et al. (Eds., 1997), 190–203.
- Lakoff, G. (1991). Cognitive versus generative linguistics: How commitments influence results. *Language and Communication*, 11(1/2), 53–62.
- Lakoff, G. & M. Johnson (1980). *Metaphors We Live By*. Chicago: University of Chicago Press.
- Lamb, S. M. (1966). *Outline of Stratificational Grammar*. Washington, D.C.: Georgetown University Press.
- Lamb, S. M. (1971). The crooked path of progress in cognitive linguistics. *Georgetown University Monograph Series on Languages and Linguistics*, 24, 99–123. Reprinted in A. Makkai & D. Lockwood (Eds., 1973). *Readings in Stratificational Linguistics*. University, Alabama: University of Alabama Press, 12–33.
- Lamb, S. M. (1999). *Pathways of the Brain: The Neurocognitive Basis of Language*. (Current Issues in Linguistic Theory 170.) Amsterdam & Philadelphia: John Benjamins.
- Lambrecht, K. (1994). *Information Structure and Sentence Form: Topic, Focus and the Mental Representations of Discourse Referents*. (Cambridge Studies in Linguistics 71.) Cambridge: Cambridge University Press.
- Langacker, R. W. (1987). *Foundations of Cognitive Grammar, Vol. I: Theoretical Prerequisites*. Stanford, CA: Stanford University Press.
- Langacker, R. W. (1990[2002]). *Concept, Image and Symbol: The Cognitive Basis of Grammar*. Berlin & New York: Mouton de Gruyter. (2nd edn. 2002.)
- Langacker, R. W. (1991). *Foundations of Cognitive Grammar, Vol. II: Descriptive Application*. Stanford, CA: Stanford University Press.
- Langacker, R. W. (1999). *Grammar and Conceptualization*. Berlin & New York: Mouton de Gruyter.
- Lehmann, C. (1982). *Thoughts on Grammaticalization: A Programmatic Sketch, Vol. 1*. Arbeiten des Kölner Universalien-Projekts 48.
- Lemke, J. L. (1985). Ideology, intertextuality, and the notion of register. In Benson & Greaves (Eds.), 275–294.
- Lemke, J. L. (1991). Text production and dynamic text semantics. In Ventola (Ed.), 23–38.
- Lemmens, M. (1998). *Lexical Perspectives on Transitivity and Ergativity. Causative Constructions in English*. (Current Issues in Linguistic Theory 166.) Amsterdam & Philadelphia: John Benjamins.
- Levelt, W. J. M. (1989). *Speaking: From Intention to Articulation*. Cambridge, MA: MIT Press.
- Levin, B. (1993). *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago: University of Chicago Press.
- Levin, B. (1995). Approaches to lexical semantic representation. In D. Walker, A. Zampolli & N. Calzolari (Eds.), *Automating the Lexicon I: Research and Practice in a Multilingual Environment*. Oxford: Oxford University Press, 53–91.
- Lindblom, B. (1986). Phonetic universals in vowel systems. In J. J. Ohala & J. Jaeger (Eds.), *Experimental Phonology*. Dordrecht: Foris, 13–44.

- Lindblom, B. & I. Maddieson (1988). Phonetic universals in consonant systems. In L. Hyman & C. Li (Eds.), *Language, Speech and Mind*. London: Routledge, 62–80.
- Lock, G. (1996). *Functional English Grammar: An Introduction for Second Language Teachers*. Cambridge: Cambridge University Press.
- Lockwood, D. G. (1972). *Introduction to Stratificational Linguistics*. New York: Harcourt Brace Jovanovich.
- Long, R. (1981). *Transitivity in Chinese*. Unpublished MA thesis, Department of Linguistics, University of Sydney.
- Lyons, J. (1977). *Semantics*. 2 vols. Cambridge: Cambridge University Press.
- Lyons, J. (1989). Semantic ascent: a neglected aspect of syntactic typology. In D. Arnold, M. Atkinson, J. Durand, C. Grover & L. Sadler (Eds.), *Essays on Grammatical Theory and Universal Grammar*. Oxford: Clarendon Press, 153–186.
- Mackenzie, J. L. (1981). Functions and cases. In T. Hoekstra, H. van der Hulst & M. Moortgat (Eds.), *Perspectives on Functional Grammar*. Dordrecht: Foris, 299–318.
- Mackenzie, J. L. (1983). Nominal predicates in a functional grammar of English. In Dik (Ed.), 31–51.
- Mackenzie, J. L. (1985). Nominalization and valency reduction. In Bolkestein, de Groot & Mackenzie (Eds.), 29–47.
- Mackenzie, J. L. (1986). Aspects of nominalization in English and Dutch. *Working Papers in Functional Grammar 15*. Amsterdam: University of Amsterdam.
- Mackenzie, J. L. (1987a). Nominalization and basic constituent ordering. In van der Auwera & Goossens (Eds.), 93–105.
- Mackenzie, J. L. (1987b). The representation of nominal predicates in the fund. *Working Papers in Functional Grammar 25*. Amsterdam: University of Amsterdam.
- Mackenzie, J. L. (1990a). Let's get our heads together: a reply to van der Auwera. In Hannay & Vester (Eds.), 133–44.
- Mackenzie, J. L. (1990b). First argument nominalization in a Functional Grammar of English. *Linguistica Antverpiensia, XXIV*, 119–147.
- Mackenzie, J. L. (1992a). Places and things. In Fortescue, Harder & Kristoffersen (Eds.), 253–276.
- Mackenzie, J. L. (1992b). English spatial prepositions in Functional Grammar. *Working Papers in Functional Grammar 46*. Amsterdam: University of Amsterdam.
- Mackenzie, J. L. (1996). English nominalizations in the layered model of the sentence. In Devriendt, Goossens & van der Auwera (Eds.), 325–355.
- Mackenzie, J. L. (1998a). The basis of syntax in the holophrase. In Hannay & Bolkestein (Eds.), 267–295.
- Mackenzie, J. L. (1998b). On referring to manners. In van der Auwera, Durieux & Lejeune (Eds.), 241–251.
- Mackenzie, J. L. (2000). First things first: towards an Incremental Functional Grammar. *Acta Linguistica Hafniensia, 32*, 23–44.
- Mackenzie, J. L. (2001). Adverbs and adpositions: the Cinderella categories of Functional Grammar. In Pérez Quintero (Ed.), 119–135.
- Mackenzie, J. L. (2002). The predicate in Functional Grammar. In Mairal Usón & Pérez Quintero (Eds.), 1–38.
- Mackenzie, J. L. (forthcoming). Functional Discourse Grammar and language production. In Mackenzie & Gómez-González (Eds.).
- Mackenzie, J. L. & M. L. A. Gómez-González (Eds.). (forthcoming). *A New Architecture for Functional Grammar*. Berlin & New York: Mouton de Gruyter.
- Mackenzie, J. L. & M. Hannay (1982). Prepositional predicates and Focus constructions in a Functional Grammar of English. *Lingua, 56*, 43–57.

- MacWhinney, B. (1998). Models of the emergence of language. *Annual Review of Psychology*, 49, 199–227.
- MacWhinney, B. (1999). Emergent language. In Darnell et al. (Eds.), 361–386.
- Mairal Usón, R. (1994). Parámetros para la organización de una syntaxis léxica funcional. (Parameters for the organisation of a functional lexical syntax.) In Martín Arista, J. (Ed.), *Estudios de Gramática Funcional*. (Studies in Functional Grammar.) Zaragoza: Mira, 23–73.
- Mairal Usón, R. (1999). El componente lexicón en la Gramática Funcional. (The lexicon component in Functional Grammar.) In Butler et al. (Eds., 1999), 41–98.
- Mairal Usón, R. & F. Cortés Rodríguez (2000–2001). Semantic packaging and syntactic projections in word formation processes: the case of agent nominalizations. *Revista Española de Lingüística Aplicada*, 14, 271–294.
- Mairal Usón, R. & P. Faber (2002). Functional Grammar and lexical templates. In Mairal Usón & Pérez Quintero (Eds.), 39–94.
- Mairal Usón, R. & M. J. Pérez Quintero (Eds.). (2002). *New Perspectives on Argument Structure in Functional Grammar*. (Functional Grammar Series 25.) Berlin & New York: Mouton de Gruyter.
- Mairal Usón, R. & R. D. Van Valin, Jr. (2001). What Role and Reference Grammar can do for Functional Grammar. In Pérez Quintero (Ed.), 137–166.
- Malcolm, K. (1985a). Communication linguistics: a sample analysis. In J. D. Benson & W. S. Greaves (Eds.), *Systemic Perspectives on Discourse. Vol. 2: Selected Applied Papers from the 9th International Systemic Workshop*. Norwood, NJ: Ablex Publishing Corporation, 136–151.
- Malcolm, K. (1985b). *The Dynamics of Casual Conversation from the Perspective of Communication Linguistics*. PhD Dissertation, York University, Toronto.
- Malinowski, B. (1923). The problem of meaning in primitive languages. Supplement to C. K. Ogden and I. A. Richards *The Meaning of Meaning*. London: Routledge & Kegan Paul.
- Malinowski, B. (1935). *Coral Gardens and their Magic, Vol. 2*. London: George, Allen & Unwin.
- Marín Rubiales, A. & R. Mairal Usón (1991). States or processes: a preliminary discussion. *STVDIVM Filología*. Teruel, Spain: Colegio Universitario de Teruel, 99–126.
- Martin, J. R. (1983). Participant identification in English, Tagalog and Kâte. *Australian Journal of Linguistics*, 3(1), 45–74.
- Martin, J. R. (1987). The meaning of features in systemic linguistics. In Halliday & Fawcett (Eds.), 14–40.
- Martin, J. R. (1988). Hypotactic recursive systems in English: towards a functional interpretation. In J. D. Benson & W. S. Greaves (Eds.), *Systemic Functional Approaches to Discourse: Selected Papers from the 12th International Systemic Workshop*. Norwood, NJ: Ablex Publishing Corporation, 240–270.
- Martin, J. R. (1990). Interpersonal grammaticalization: mood and modality in Tagalog. *Philippine Journal of Linguistics*, 21(1), 2–50.
- Martin, J. R. (1992a). *English Text: System and Structure*. Amsterdam & Philadelphia: John Benjamins.
- Martin, J. R. (1992b). Theme, method of development and existentiality: the price of reply. *Occasional Papers in Systemic Linguistics*, 6, 147–183.
- Martin, J. R. (1995). Logical meaning, interdependency and the linking particle {na/-ng} in Tagalog. *Functions of Language*, 2(2), 189–228.
- Martin, J. R. (1996a). Metalinguistic diversity: the case from case. In Hasan, Cloran & Butt (Eds.), 325–374.
- Martin, J. R. (1996b). Transitivity in Tagalog: a functional interpretation of case. In Berry et al. (Eds.), 229–296.

- Martin, J. R. (1997). Analysing genre: functional parameters. In F. Christie & J. R. Martin (Eds.), *Genre and Institutions: Social Processes in the Workplace and School*. London: Cassell, 3–39.
- Martin, J. R. (2000). Beyond exchange: appraisal systems in English. In S. Hunston & G. Thompson (Eds.), *Evaluation in Text: Authorial Stance and the Construction of Discourse*. Oxford: Oxford University Press, 142–175.
- Martin, J. R. & C. M. I. M. Matthiessen (1991). Systemic typology and topology. In F. Christie (Ed.), *Literacy in Social Processes: Papers from the Inaugural Systemic Functional Linguistics Conference, Deakin University, January 1990*. Darwin: Centre for Studies of Language in Education, Northern Territory University, 345–383.
- Martin, J. R. & C. M. I. M. Matthiessen (1992). A brief note on Huddleston's reply to Matthiessen & Martin's response to Huddleston's review of Halliday's *Introduction to Functional Grammar*. *Occasional Papers in Systemic Linguistics*, 6, 185–195.
- Martín Arista, J. (1994). Indirect Object in Functional Grammar? In C. Inchaurrealde (Ed.), *Perspectives on Semantics and Specialised Languages*. Zaragoza: Departamento de Filología Inglesa y Alemana, Universidad de Zaragoza, 87–106.
- Martín Arista, J. (1999). Expresión y motivación en Gramática Funcional. (Expression and motivation in Functional Grammar.) In Butler et al. (Eds., 1999), 173–217.
- Martín Arista, J. (2001). Las funciones como primitivos de la descripción lingüística. (Functions as primitives of linguistic description.) *Atlantis*, XXIII(1), 115–134.
- Martín Arista, J. (2002). Another look at second and third arguments. In Mairal Usón & Pérez Quintero (Eds.), 331–347.
- Martín Arista, J. (forthcoming). Terms, clauses and constructions in Functional Grammar. To appear in *Language Sciences*.
- Martín Mingorance, L. (1985). Bases metodológicas para un estudio contrastivo del léxico derivado. (Methodological bases for a contrastive study of the derived lexicon.) *Revista Española de Lingüística Aplicada*, 1, 37–54. Reprinted in Martín Mingorance (1998), 61–81.
- Martín Mingorance, L. (1990). Functional Grammar and lexematics in lexicography. In J. Tomaszczyk & B. Lewandowska-Tomaszcyk (Eds.), *Meaning and Lexicography*. (Linguistic and Literary Studies in Eastern Europe 28.) Amsterdam & Philadelphia: John Benjamins, 227–253. Reprinted in Martín Mingorance (1998), 101–131.
- Martín Mingorance, L. (1998). *El modelo lexemático-funcional: el legado lingüístico de Leocadio Martín Mingorance*. (The Functional Lexematic Model: The linguistic legacy of Leocadio Martín Mingorance.) Ed. A. Marín Rubiales. Granada: University of Granada.
- Martín Morillas, J. M. (1984). *La causatividad en el léxico derivado del inglés y español: un modelo contrastivo funcional analítico-sintético*. (Causativity in the derived lexicon in English and Spanish: a contrastive functional analytic-synthetic model.) PhD dissertation, University of Granada.
- Matthiessen, C. M. I. M. (1991a). Lexico(grammaral) choice in text generation. In C. L. Paris, W. R. Swartout & W. C. Mann (Eds.), *Natural Language Generation in Artificial Intelligence and Computational Linguistics*. Dordrecht: Kluwer, 249–292.
- Matthiessen, C. M. I. M. (1991b). Metafunctional complementarity and resonance in syntagmatic organization. Paper presented at ALS 90. Mimeo. Sydney: Department of Linguistics, University of Sydney.
- Matthiessen, C. M. I. M. (1992). Interpreting the textual metafunction. In Davies & Ravelli (Eds.), 37–81.
- Matthiessen, C. M. I. M. (1995). *Lexicogrammatical Cartography*. Tokyo: International Language Sciences Publishers.

- Matthiessen, C. M. I. M. (1996). Tense in English seen through Systemic-Functional theory. In Berry et al. (Eds.), 431–498.
- Matthiessen, C. M. I. M. (1999). The system of TRANSITIVITY: an exploratory study of text-based profiles. *Functions of Language*, 6(1), 1–51.
- Matthiessen, C. M. I. M. & J. A. Bateman (1991). *Text Generation and Systemic-Functional Linguistics: Experiences from English and Japanese*. London: Pinter.
- Matthiessen, C. M. I. M. & J. R. Martin (1991). A response to Huddleston's review of Halliday's *Introduction to Functional Grammar*. *Occasional Papers in Systemic Linguistics*, 5, 5–74.
- Matthiessen, C. M. I. M. & C. Nesbitt (1996). On the idea of theory-neutral descriptions. In Hasan, Cloran & Butt (Eds.), 39–83.
- McDonald, Edward (1996). The 'complement' in Chinese grammar: a functional reinterpretation. In Hasan, Cloran & Butt (Eds.), 265–286.
- McGregor, W. B. (1990a). *A Functional Grammar of Gooniyandi*. (Studies in Language Companion Series 22.) Amsterdam & Philadelphia: John Benjamins.
- McGregor, W. B. (1990b). The metafunctional hypothesis and syntagmatic relations. *Occasional Papers in Systemic Linguistics*, 4, 5–50.
- McGregor, W. B. (1991). The concept of rank in systemic linguistics. In Ventola (Ed.), 121–138.
- McGregor, W. B. (1996a). Arguments for the category of verb phrase. *Functions of Language*, 3(1), 1–30.
- McGregor, W. B. (1996b). Attribution and identification in Gooniyandi. In Berry et al. (Eds.), 395–430.
- McGregor, W. B. (1997). *Semiotic Grammar*. Oxford: Clarendon Press.
- Mithun, M. (1999). *The Languages of Native North America*. Cambridge: Cambridge University Press.
- Morley, G. D. (2000). *Syntax in Functional Grammar: An Introduction to Lexicogrammar in Systemic Linguistics*. London & New York: Continuum.
- Moravcsik, E. & J. R. Wirth (Eds.). (1980). *Current Approaches to Syntax*. (Syntax and Semantics 13.) New York: Academic Press.
- Moutaouakil, A. (1994). Term-to-phrase mapping rules: a case study from Arabic. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 285–302.
- Moutaouakil, A. (1996). On the layering of the underlying clause structure in Functional Grammar. In Devriendt, Goossens & van der Auwera (Eds.), 201–227.
- Mühlhäusler, P. (1991). Comments on Newmeyer's 'Functional explanation in linguistics and the origins of language'. *Language and Communication*, 11(1/2), 75–78.
- Nesbitt, C. & G. Plum (1988). Probabilities in a systemic-functional grammar: the clause complex in English. In R. P. Fawcett & D. J. Young (Eds.), *New Developments in Systemic Linguistics. Volume 2: Theory and Applications*. London & New York: Pinter, 6–38.
- Nettle, D. (1999). Functionalism and its difficulties in biology and linguistics. In Darnell et al. (Eds.), 445–467.
- Newmeyer, F. J. (1991a). Functional explanation in linguistics and the origins of language. *Language and Communication*, 11(1/2), 3–28.
- Newmeyer, F. J. (1991b). Author's response: O, what a tangoed web they weave... *Language and Communication*, 11(1/2), 97–107.
- Newmeyer, F. J. (1992). Iconicity and generative grammar. *Language*, 68, 756–796.
- Newmeyer, F. J. (1994). Competing motivations and synchronic analysis. *Sprachtypologie und Universalienforschung*, 47, 67–77.
- Newmeyer, F. J. (1998). *Language Form and Language Function*. Cambridge, Mass. & London: MIT Press.

- Nichols, J. (1984). Functional theories of grammar. *Annual Review of Anthropology*, 13, 97–117.
- Noonan, M. (1999). Non-structuralist syntax [Functionalist syntax position paper]. In Darnell et al. (Eds.), 11–31.
- Nunes, M. (1993). Argument linking in English derived nominals. In Van Valin (Ed.), 375–432.
- Nuyts, J. (1983). On the methodology of a functional language theory. In Dik (Ed.), 369–386.
- Nuyts, J. (1989). Functional Procedural Grammar: an overview. *Working Papers in Functional Grammar* 31. Amsterdam: University of Amsterdam.
- Nuyts, J. (1990). Linguistic representation and conceptual knowledge representation. In Nuyts, Bolkestein & Vet (Eds.), 263–293.
- Nuyts, J. (1992a). *Aspects of a Cognitive-Pragmatic Theory of Language*. (Pragmatics and Beyond New Series 20.) Amsterdam & Philadelphia: John Benjamins.
- Nuyts, J. (1992b). Subjective vs. objective modality: what is the difference? In Fortescue, Harder & Kristoffersen (Eds.), 73–97.
- Nuyts, J. (1993a). On determining the functions of language. *Semiotica*, 94(3/4), 201–232.
- Nuyts, J. (1993b). Epistemic modal adverbs and adjectives and the layered representation of conceptual and linguistic structure. *Linguistics*, 31, 933–969.
- Nuyts, J. (1993c). From language to conceptualization: the case of epistemic modality. In *Papers from the 29th Regional Meeting of the Chicago Linguistic Society, Vol. 2 : What we Think, what we Mean, and how we Say it: Papers from the Parasession on the Correspondence of Conceptual, Semantic and Grammatical Representations*, 271–286.
- Nuyts, J. (1994). Epistemic modal qualifications: on their linguistic and conceptual structure. *Antwerp Papers in Linguistics* 81. Antwerp: University of Antwerp.
- Nuyts, J. (1997). How do you *think*? In Butler et al. (Eds., 1997), 3–18.
- Nuyts, J. (1998). Layered models of qualifications of states of affairs: cognition vs. typology? In van der Auwera, Durieux & Lejeune (Eds.), 274–284.
- Nuyts, J. (1999). Processing epistemic modality: some consequences for modeling language production. In R. Klabunde & C. von Steutterheim (Eds.), *Representations and Processes in Language Production*. Wiesbaden: Westdeutscher Verlag, 181–203.
- Nuyts, J. (2000). Tensions between discourse structure and conceptual semantics: the syntax of epistemic modal expressions. *Studies in Language*, 24(1), 103–135.
- Nuyts, J. (2001a). *Epistemic Modality, Language, and Conceptualization: A Cognitive-Pragmatic Perspective*. (Human Cognitive Processing 5.) Amsterdam & Philadelphia: John Benjamins.
- Nuyts, J. (2001b). Subjectivity as an evidential dimension in epistemic modal expressions. *Journal of Pragmatics*, 33, 383–400.
- Nuyts, J. (forthcoming). Remarks on layering in a cognitive-functional language production model. In Mackenzie & Gómez-González (Eds.).
- Nuyts, J., A. M. Bolkestein & C. Vet (Eds.). (1990). *Layers and Levels of Representation in Language Theory*. (Pragmatics and Beyond, New Series 13.) Amsterdam & Philadelphia: John Benjamins.
- Nuyts, J. & W. Vonk (1996). Discourse factors in the use of epistemic expressions in Dutch: an experimental investigation. *Antwerp Papers in Linguistics*, 88.
- Nuyts, J. & W. Vonk (1999). Epistemic modality and focus in Dutch. *Linguistics*, 37(4), 699–737. (Revised version of Nuyts & Vonk 1996).
- Olbertz, H. (1989). Periphrastic aspect in Spanish. *Working Papers in Functional Grammar* 32. Amsterdam: University of Amsterdam.
- Olbertz, H. (1998). *Verbal Periphrases in a Functional Grammar of Spanish*. (Functional Grammar Series 22.) Berlin & New York: Mouton de Gruyter.

- Olbertz, H., K. Hengeveld & J. Sánchez García (Eds.). (1998). *The Structure of the Lexicon in Functional Grammar*. (Studies in Language Companion Series 43.) Amsterdam & Philadelphia: John Benjamins.
- Olson, M. L. (1981). *Barai Clause Junctures: Towards a Functional Theory of Inter-Clausal Relations*. PhD dissertation, Australian National University.
- Palmer, F. R. (1968). *Selected Papers of J. R. Firth, 1952–1959*. London: Longman.
- Palmer, F. R. (1986). *Mood and Modality*. Cambridge: Cambridge University Press.
- Pawley, A. (1987). Encoding events in Kalam and English: different logics for reporting experience. In Tomlin (Ed.), 329–360.
- Pérez González, L. & A. Sánchez Macarro (2000). A computer-aided re-appraisal of co-selection: implications for interlingual and intercultural communication. In Hernández Hernández (Ed.), 95–113.
- Pérez Quintero, M. J. (Ed.). (2001). *Challenges and Developments in Functional Grammar*. (Monographic section of *Revista Canaria de Estudios Ingleses* 42.) La Laguna, Tenerife: Servicio de Publicaciones, Universidad de La Laguna.
- Pike, K. (1959). Language as particle, wave and field. *Texas Quarterly*, 2, 37–54.
- Plum, G. & A. Cowling (1987). Social constraints on grammatical variables: tense choice in English. In R. Steele & T. Threadgold (Eds.), *Language Topics: Essays in Honour of Michael Halliday, Volume 2*. Amsterdam & Philadelphia: John Benjamins, 281–305.
- Podolski, L. (1998). On some semantic, pragmatic and formal issues in the study of causative constructions. In Olbertz, Hengeveld & Sánchez García (Eds.), 233–245.
- Prince, E. F. (1978). A comparison of WH-clefts and *it*-clefts in discourse. *Language*, 54, 883–906.
- Prince, E. F. (1981). Toward a taxonomy of Given-New information. In P. Cole (Ed.), *Radical Pragmatics*. New York: Academic Press, 223–255.
- Prince, E. F. (1991). On 'Functional explanation in linguistics and the origins of language'. *Language and Communication*, 11(1/2), 79–82.
- Pustejovsky, J. (1991). The generative lexicon. *Computational Linguistics*, 17, 409–441.
- Pustejovsky, J. (1995). *The Generative Lexicon*. Cambridge, MA: MIT Press.
- Radford, A. (1988). *Transformational Grammar: A First Course*. Cambridge: Cambridge University Press.
- Radford, A. (1997). *Syntax: A Minimalist Introduction*. Cambridge: Cambridge University Press.
- Rappaport Hovav, M. & B. Levin (1998). Building verb meanings. In M. Butt & W. Geuder (Eds.), *The Projection of Arguments: Lexical and Compositional Factors*. Stanford: CSLI, 97–134.
- Ravelli, L. J. (1988). Grammatical metaphor: an initial analysis. In E. H. Steiner & R. Veltman (Eds.), *Pragmatics, Discourse and Text: Some Systemically-Inspired Approaches*. London: Pinter, 133–147.
- Rice, S. A. (1987). *Towards a Cognitive Model of Transitivity*. Unpublished PhD dissertation, University of California at San Diego.
- Rijkhoff, J. (1990). Towards a unified analysis of terms and predications. In Nuyts, Bolkestein & Vet (Eds.), 165–191.
- Rijkhoff, J. (1991). Nominal aspect. *Journal of Semantics*, 8, 291–309.
- Rijkhoff, J. (1992). *The Noun Phrase: A Typological Study of its Form and Structure*. Doctoral dissertation, University of Amsterdam.
- Rijkhoff, J. (2002). *The Noun Phrase*. Oxford: Oxford University Press.
- Rijkhoff, J. & D. Bakker (1998). Language sampling. *Linguistic Typology*, 2/3, 263–314.
- Rijksbaron, A. (1988). Aristotle and the classification of states of affairs in FG. Unpublished paper, University of Amsterdam.

- Rispoli, M. (1999). Functionalist accounts of the process of first language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of Child Language Acquisition*. San Diego, London, Boston, New York, Sydney, Tokyo & Toronto: Academic Press, 221–246.
- Rosch, E. (1978). Principles of categorization. In E. Rosch & B. B. Lloyd. (Eds.), *Cognition and Categorization*. Hillsdale, NJ: Lawrence Erlbaum, 27–48.
- Rose, D. (1996). Pitjantjatjara processes: an Australian experiential grammar. In Hasan, Cloran & Butt (Eds.), 287–323.
- Salkie, R. (1990). *The Chomsky Update: Linguistics and Politics*. London: Unwin Hyman.
- Samuelsdorff, P. O. (1998). Pronouns, adpositions, ‘adverbs’ and the lexicon. In Olbertz, Hengeveld & Sánchez García (Eds.), 267–278.
- Sánchez García, J. M. (1999). Lexical structure, lexical concepts and metaphorical concepts: the case of “change” verbs in English. *Journal of English Studies*, 1, 257–269. Logroño: Servicio de Publicaciones, Universidad de La Rioja.
- Schack Rasmussen, L. (1987). *Spanske verbers semantiske grundstruktur. En lokalistisk funktionsteori*. (The basic semantic structure of Spanish verbs. A localistic functional theory.) PhD dissertation, University of Copenhagen.
- Schack Rasmussen, L. (1994). Semantic functions in perspective – reconsidering meaning definitions. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 41–63.
- Schlesinger, I. M. (1995). *Cognitive Space and Linguistic Case: Semantic and Syntactic Categories in English*. Cambridge: Cambridge University Press.
- Schwarz, L. (1993). On the syntactic and semantic alignment of attributive and identificational constructions. In Van Valin (Ed.), 433–463.
- Searle, J. R. (1998). *Mind, Language, and Society: Philosophy in the Real World*. New York: Basic Books.
- Seiler, H. (1993). A functional view on prototypes. In R. A. Geiger & B. Rudzka-Ostyn (Eds.), *Conceptualizations and Mental Processing in Language*. Berlin & New York: Mouton de Gruyter, 115–139.
- Shore, S. (1996). Process types in Finnish: implicate order, covert categories, and prototypes. In Hasan, Cloran & Butt (Eds.), 237–263.
- Siewierska, A. (1988). *Word Order Rules*. London, New York & Sydney: Croom Helm.
- Siewierska, A. (1991). *Functional Grammar*. London: Routledge.
- Siewierska, A. (1993). Semantic functions and theta-roles; convergences and divergences. *Working Papers in Functional Grammar* 55. Amsterdam: University of Amsterdam.
- Simon-Vandenberg, A.-M. (1998). The modal metaphor *I don’t think*: system and text. In van der Auwera, Durieux & Lejeune (Eds.), 312–324.
- Simon-Vandenberg, A.-M., K. Davidse & D. Noël (Eds.). (1997). *Reconnecting Language: Morphology and Syntax in Functional Perspectives*. (Current Issues in Linguistic Theory 154.) Amsterdam & Philadelphia: John Benjamins.
- Sinclair, J. M. (1991). *Corpus, Concordance, Collocation*. Oxford: Oxford University Press.
- Taylor, J. R. (1995). *Linguistic Categorization: Prototypes in Linguistic Theory*, 2nd edn. Oxford: Clarendon Press.
- Taylor Torsello, C. (1996). On the logical metafunction. *Functions of Language*, 3(2), 151–183.
- Teich, E. (1991). A treatment of raising and control in systemic grammar. In Ventola (Ed.), 107–120.
- Tench, P. (Ed.). (1992). *Studies in Systemic Phonology*. London & New York: Pinter.
- Teruya, K. (1998). *An Exploration into the World of Experience: A Systemic-Functional Interpretation of the Grammar of Japanese*. PhD thesis, Macquarie University.
- Thai, M. D. (1998). *A Systemic Functional Interpretation of Vietnamese Grammar*. PhD thesis, Macquarie University.

- Thompson, G. (1996). *Introducing Functional Grammar*. London: Edward Arnold.
- Thompson, G. (1998). Acting the part. Lexico-grammatical choices and contextual factors. In Ghadessy (Ed.), 101–124.
- Thompson, S. A. (1991). On addressing functional explanation in linguistics. *Language and Communication*, 11(1/2), 93–96.
- Tinbergen, N. (1963). On aims and methods in ethology. *Zeitschrift für Tierpsychologie*, 20, 410–433.
- Tomlin, R. S. (Ed.). (1987). *Coherence and Grounding in Discourse*. (Typological Studies in Language 11.) Amsterdam & Philadelphia: John Benjamins.
- Tomlin, R. S. (1994). Functional grammars, pedagogical grammars, and communicative language teaching. In T. Odlin (Ed.), *Perspectives on Pedagogical Grammar*. Cambridge: Cambridge University Press, 140–178.
- Tsohatzidis, S. L. (Ed.). (1990). *Meanings and Prototypes: Studies in Linguistic Categorization*. London & New York: Routledge.
- Tucker, G. H. (1996a). Cultural classification and system networks: a Systemic Functional approach to lexical semantics. In Berry et al. (Eds.), 533–566.
- Tucker, G. H. (1996b). So grammarians haven't the faintest idea: reconciling lexis-oriented and grammar-oriented approaches to language. In Hasan, Cloran & Butt (Eds.), 145–178.
- Tucker, G. H. (1998). *The Lexicogrammar of Adjectives: A Systemic Functional Approach to Lexis*. London & New York: Cassell.
- Ungerer, F. & H.-J. Schmid (1996). *An Introduction to Cognitive Linguistics*. London & New York: Longman.
- van den Hauwe, J. (1992). Progressive markers in a Functional Grammar of Dutch. *Working Papers in Functional Grammar* 48. Amsterdam: University of Amsterdam.
- van der Auwera, J. (1990a). *Coming to Terms*. PhD Thesis, University of Antwerp.
- van der Auwera, J. (1990b). Getting ahead with predicational terms, noun predication terms, and dominant participles. In Hannay & Vester (Eds.), 115–132.
- van der Auwera, J. (2001). Modality: domains, layers, and parts of speech. In Pérez Quintero (Ed.), 237–247.
- van der Auwera, J., F. Durieux & L. Lejeune (Eds.). (1998). *English as a Human Language: In Honour of Louis Goossens*. Munich: Lincom Europa.
- van der Auwera, J. & L. Goossens (Eds.). (1987). *Ins and Outs of the Predication*. (Functional Grammar Series 6.) Dordrecht & Providence, RI: Foris.
- van der Auwera, J. & V. A. Plungian (1998). Modality's semantic map. *Linguistic Typology*, 2, 79–124.
- Van Valin, R. D., Jr. (1990). Layered syntax in Role and Reference Grammar. In Nuyts, Bolkestein & Vet (Eds.), 193–231.
- Van Valin, R. D., Jr. (1991a). Functionalist linguistic theory and language acquisition. *First Language*, 11, 7–40.
- Van Valin, R. D., Jr. (1991b). Variations on a functionalist theme. In *Souvenir of the International Summer Institute of Functional Linguistics, 1991, Hyderabad*. Hyderabad: Central Institute of English and Foreign Languages, 1–8.
- Van Valin, R. D., Jr. (Ed.). (1993a). *Advances in Role and Reference Grammar*. (Current Issues in Linguistic Theory 82.) Amsterdam & Philadelphia: John Benjamins.
- Van Valin, R. D., Jr. (1993b). A synopsis of Role and Reference Grammar. In Van Valin (Ed.), 1–164.
- Van Valin, R. D., Jr. (1994). Extraction restrictions, competing theories and the argument from the poverty of the stimulus. In S. D. Lima, R. L. Corrigan & G. K. Iverson (Eds.), *The Reality of Linguistic Rules*. (Studies in Language Companion Series 26.) Amsterdam & Philadelphia: John Benjamins, 243–259.

- Van Valin, R. D., Jr. (1995). Role and Reference Grammar. In Verschueren, Östman & Blommaert (Eds.), 461–469.
- Van Valin, R. D., Jr. (1996). Role and Reference Grammar. In Brown & Miller (Eds.), 281–294.
- Van Valin, R. D., Jr. (1998). The acquisition of WH-questions and the mechanisms of language acquisition. In M. Tomasello (Ed.), *The New Psychology of Language: Cognitive and Functional Approaches to Language Structure*. Mahway, NJ: Lawrence Erlbaum Associates, 221–249.
- Van Valin, R. D., Jr. (1999). Generalized semantic roles and the syntax-semantics interface. In F. Corblin, C. Dobrovie-Sorin & J.-M. Marandin (Eds.), *Empirical Issues in Formal Syntax and Semantics 2. Selected Papers from the Colloque de Syntaxe et Sémantique à Paris (CSSP 1997)*. The Hague: Thesus, 373–389.
- Van Valin, R. D., Jr. (2000). Functional linguistics. In M. Aronoff & J. Rees-Miller (Eds.), *The Handbook of Linguistics*. Oxford: Blackwell, 319–336.
- Van Valin, R. D., Jr. (forthcoming). *The Syntax-Semantics-Pragmatics Interface: An Introduction to Role and Reference Grammar*. Cambridge: Cambridge University Press.
- Van Valin, R. D., Jr. & W. A. Foley (1980). Role and Reference Grammar. In Moravcsik & Wirth (Eds.), 329–352.
- Van Valin, R. D., Jr. & R. J. LaPolla (1997). *Syntax: Structure, Meaning and Function*. Cambridge: Cambridge University Press.
- Van Valin, R. D., Jr. & D. P. Wilkins (1993). Predicting syntactic structure from semantic representations: *remember* in English and its equivalents in Mparntwe Arrernte. In Van Valin (Ed.), 499–534.
- Van Valin, R. D., Jr. & D. P. Wilkins (1996). The case for ‘effector’: case roles, agents and agency revisited. In M. Shibatani & S. A. Thompson (Eds.), *Grammatical Constructions*. Oxford: Oxford University Press, 289–322.
- Vendler, Z. (1967). *Linguistics in Philosophy*. Ithaca: Cornell University Press.
- Ventola, E. (Ed.). (1991). *Functional and Systemic Linguistics: Approaches and Uses*. (Trends in Linguistics Studies and Monographs 55.) Berlin & New York: Mouton de Gruyter.
- Verschueren, J., J.-O. Östman & J. Blommaert (Eds.). (1995). *Handbook of Pragmatics: Manual*. Amsterdam & Philadelphia: John Benjamins.
- Verstraete, J.-C. (2000). Review of Dik (1997a/b). *Language*, 76(1), 210–212.
- Verstraete, J.-C. (2001). Subjective and objective modality: interpersonal and ideational functions in the English modal auxiliary system. *Journal of Pragmatics*, 33, 1505–1528.
- Verstraete, J.-C. (forthcoming). The problem of subjective modality in the Functional Grammar model. In Mackenzie & Gómez-González (Eds.).
- Vet, C. (1986). A pragmatic approach to tense in Functional Grammar. *Working Papers in Functional Grammar 16*. Amsterdam: University of Amsterdam.
- Vet, C. (1991). Les constructions causatives et réfléchies en français. (Causative and reflexive constructions in French.) In D. Kremer (Ed.), *Actes du XVIII Congrès International de Linguistique et Philologie Romanes (Université de Trèves 1986), Tome 2: Linguistique théorique et linguistique synchronique, Section III*. (Proceedings of the XVIII International Congress of Romance Linguistics and Philology (University of Trier 1986), Vol. 2: Theoretical linguistics and synchronic linguistics, Section III.) Tübingen: Niemeyer, 571–581.
- Vet, C. (1992). Predication, aspect, and negation. In Fortescue, Harder & Kristoffersen (Eds.), 57–71.
- Vet, C. (1997). Modal verbs in the layered clause structure: speech acts and truth value. In Butler et al. (Eds., 1997), 19–28.
- Vet, C. (1998a). The multilayered structure of the utterance: about illocution, modality and discourse moves. In Hannay & Bolkestein (Eds.), 1–23.

- Vet, C. (1998b). Epistemic possibility in the layered structure of the utterance. In Hannay & Bolkestein (Eds.), 149–165.
- Vet, C. (2001). Temporal and aspectual operators in the Romance languages. In Pérez Quintero (Ed.), 249–264.
- Vossen, P. (1994). The end of the chain: where does decomposition of lexical knowledge lead us eventually? In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 11–39.
- Vossen, P. (1995). *Grammatical and Conceptual Individuation in the Lexicon*. Amsterdam: IFOTT.
- Wakker, G. (1992). Conditionals in the layered structure of Functional Grammar. In Fortescue, Harder & Kristoffersen (Eds.), 369–386.
- Watters, J. K. (1993). An investigation of Turkish clause linkage. In Van Valin (Ed.), 535–560.
- Weigand, H. (1990). *Linguistically Motivated Principles of Knowledge Base Systems*. (Functional Grammar Series 12.) Dordrecht & Providence, RI: Foris.
- Werth, P. (1999). *Text Worlds: Representing Conceptual Space in Discourse*. Harlow: Longman/Pearson Education Ltd. & New York: Pearson Education Ltd.
- Whitney, A. H. (1956). *Teach Yourself Finnish*. London: Teach Yourself Books.
- Whorf, B. L. (1956). *Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf*, Ed. J. B. Carroll. Cambridge, MA: MIT Press.
- Wierzbicka, A. (1988). *The Semantics of Grammar*. (Studies in Language Companion Series 18.) Amsterdam & Philadelphia: John Benjamins.
- Wierzbicka, A. (1996). *Semantics: Primes and Universals*. Oxford: Oxford University Press.
- Wilkins, D. P. (1989). *Mparntwe Arrernte (Aranda): Studies in the Structure and Semantics of Grammar*. PhD dissertation, Australian National University.
- Wittgenstein, L. (1978). *Philosophical Investigations*, trans. G. E. M. Anscombe. Oxford: Basil Blackwell.
- G. Wotjak (Ed.). (1997). *Functional Lexicology*. Frankfurt am Main: Peter Lang.
- Yallop, C. (1982). *Australian Aboriginal Languages*. (The Language Library.) London: André Deutsch.
- Yang, X. (2000). Review of Dik 1997b. *Word*, 51(2), 308–313.
- Zhu, Y. (1996). Modality and modulation in Chinese. In Berry et al. (Eds.), 183–209.
- Ziv, Y. (1994). Special utterance types in Functional Grammar. In Engberg-Pedersen, Falster Jakobsen & Schack Rasmussen (Eds.), 317–329.

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