

A THEORY OF SYNTAX FOR
SYSTEMIC FUNCTIONAL LINGUISTICS

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Robin P. Fawcett

A Theory of Syntax for Systemic Functional Linguistics

A THEORY OF SYNTAX
FOR SYSTEMIC FUNCTIONAL
LINGUISTICS

ROBIN P. FAWCETT

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The second linguist to whom I owe a particular debt is Gordon Tucker. He has been the main co-developer with me of the Cardiff Grammar, the syntax of which is presented in Part 2 of the book. At the same time he is also a friendly but ever-challenging critic. Thus he has filled the role for me that all linguists should try to provide for each other. I could not have a better colleague.

I am also indebted, of course, to many others with whom I have discussed the nature of language and/or whose works I have read with gratitude. These are too numerous to list, but the list of References gives some idea of those to whom I feel most grateful. With respect to the historical dimension of Part 1 of the book, I would like to express a particular debt to those who have provided earlier pictures of the development of Systemic Functional Linguistics — especially Kress (1976), Martin (1981), Butler (1985) and Halliday (1993).

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An invitation

The subject of Linguistics is conducted in the main by busy academics with teaching and administrative loads that have grown significantly heavier over the last few decades. The result is that time for research — let alone time for the exploration of theoretical frameworks other than that in which one is currently working — is severely limited. But there is a second major group of working linguists: the postgraduate and undergraduate students who are being shepherded into the subject by these over-worked academics. And the members of this second group should have more time for exploring alternative approaches to understanding language — and indeed, as an intrinsic part of their work, an obligation to undertake such explorations. And there is perhaps a third group: those who regard themselves as ‘users’ or ‘appliers’ of Linguistics. But these linguists, I shall argue in the Preface, should not regard themselves as being different in kind from ‘theoretical’ and ‘descriptive’ linguists.

This invitation is addressed to linguists of all these types. But before we come to the invitation itself let me give you a little of the background to it.

During the last thirty years I have looked at many different approaches to understanding the nature of language. I have done so as a constant check on the rightness of my original decision (which I made around 1970) to work within the broad framework of Systemic Functional Linguistics (SFL). These alternative theories have included the following: Stratificational Linguistics; Tagmemics; Categorical Grammar, Transformational Generative Grammar (TGG) and its string of successors, culminating in the Minimalist Program; TGG’s occasional interesting spin-offs (such as Lexical Functional Grammar, Generalized Phrase Structure Grammar and its successor Head-driven Phrase Structure Grammar, all of which I regard as still essentially ‘Chomskyan’ in their orientation despite the belief of those working in each that they represent a significant alternative to Chomsky); connectionist approaches to modelling language; Starosta’s Lexicase Grammar and Hudson’s Word Grammar; and other explicitly ‘functional’ grammars such as Dik’s Functional Grammar, Langacker’s Cognitive Linguistics, and van Valin’s Role and Reference Grammar.

However, I still consider that Systemic Functional Linguistics has the greatest potential as a framework for understanding the nature of language and its use. An important part of its value — but only a part — is that it is a tolerant framework, with open boundaries, so that one can use it to develop a version of the model that fits one's own perception of the forms and functions of language. Even more importantly, it is a theory that enables one to keep an appropriate balance between such fundamental pairs of concepts as language and text, form and meaning, and paradigmatic and syntagmatic relations in language.

If I had thought that one or other of the alternative theories really was a better prospect, I would long ago have stopped working in the framework of SFL and devoted my time to exploring the nature of human language in that other framework. In other words, I have looked at many alternatives, and the fact is that I still find that SFL — despite the occasional frustrations that one encounters in working in this or any other theory — the most promising of all current theories of language.

We come now to the invitation. If you have not yet taken a serious look at SFL, perhaps this is the moment to dip a toe in the water? This book provides an introduction to the theory as a whole, as well as a full examination of the problem of the representation of the structure of language at the level of form. It will introduce you to the basic principles of this fascinating and sometimes elusive theory, and also to some of the theory's major current issues.

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Preface

1 Systemic Functional Linguistics as a major current theory of language

From some viewpoints, Systemic Functional Linguistics would not be considered one of the major theories of language of our time. If one judges the importance of a theory by the evidence of papers given at conferences of the Linguistic Society of America, the Linguistics Association of Great Britain and other such events, and by its representation in the journals associated with these societies and associations, then this inference is understandable. But it is an inference that would be seriously misleading.

Let us accept that a linguistic theory includes not only (1) a set of assumptions about the essential nature of language but also (2) assumptions about the goals of linguistics, (3) assumptions about the methods by which it is appropriate to try to achieve those goals, and (4) assumptions about the relations between theory, description and application. In this broad definition of a theory, there is a continuum of theories stretching from standard Chomskyan and para-Chomskyan linguistics at one end to Systemic Functional Linguistics (SFL) at (or near) the other — with theories such as van Valin's Role and Reference Grammar and Dik's Functional Grammar somewhere in the middle. Thirty years ago, in the heyday of what Smith & Wilson (1970) hailed as "the Chomskyan revolution", there was far less tolerance for non-Chomskyan approaches than there is today, and those of us who wanted to be able to explore the value of the still quite new theory of SFL found that we had to create our own conferences, summer schools, newsletters, book series, and ultimately journals in order to have an academic forum in which to pursue alternative interpretations of what the task of linguistics is. It really was that bad.

Nowadays, of course, there is a rather less prescriptive atmosphere in linguistics, and most conferences and journals are open to a rather wider spectrum of types of contribution. But the legacy of that period is the series of 'alternative' forums that were created at that time, such as the annual meetings

of the Linguistics Association of Canada and the United States (LACUS) in North America, the regular conferences of Dikian functional linguists, and the International Systemic Functional Congresses (ISFCs) that take place annually in one or other of Europe, North America, Australasia, and the Far East, attracting attendances of 2-300 or more — and with annual local workshops in many countries as well. The picture is similar in the domain of publications. There are certain journals that are known to give a warmer welcome than others to papers with a functional perspective, so that many functional linguists have long since stopped offering papers to journals which are thought — perhaps quite wrongly — to be less interested in functional theories of language than they are in formal theories. In any case, there is so much going on within SFL (the functional theory which I know best) that those working within the theory find that they do not have the time and money to present systemic functional work at all of the wider linguistics conferences that they no doubt should — and this can in turn lead other linguists to think that ‘not much is happening in Systemic Functional Linguistics’.

What this means is that, if the base from which you set out on your exploration of language is a department of linguistics in which the ‘core’ of linguistics is seen as lying within formal syntax (i.e., in what we might characterize as the ‘S → NP VP’ paradigm, invoking ‘X-bar theory’ and so on), then you would probably have to make a considerable effort to find out about Systemic Functional Linguistics. My claim, of course, is that SFL is a far more interesting — and so far more important — theory of language than it may at first appear to be to someone whose initial standpoint is anywhere that is at all far away from it on the continuum of theories that I mentioned earlier.

An alternative approach to evaluating the importance of a theory is to ask what effect it has on the various fields in which a model of language is required — i.e., the various areas of ‘applied linguistics’. The first level of ‘application’ of a theory is one that is usually not thought of as an application at all — but it is. This is the use of a theory of language in the description of a language. It is descriptions of languages — not theories — that get used to help solve problems of various sorts in fields such as the teaching and learning of languages, translation between languages, studying how children learn their mother tongue, analyzing literary style, critical discourse analysis, and the like — these being what are usually thought of as the ‘applications’ of the theory. But the fact is that you cannot apply a theory of language directly to a problem; you can only apply a theory-based description of a particular language (or languages).

Over the last forty years or so, the ideas of Systemic Functional Linguistics (SFL) have influenced the description of many languages, and through this many other fields of applied linguistics. While the ideas of Noam Chomsky and other formal grammarians have dominated the conferences and publications in theoretical linguistics, descriptive linguists who have been concerned to provide usable descriptions of language such as Quirk, Leech, Sinclair, Huddleston, Biber and their colleagues have also drawn, directly or indirectly, upon the ideas of SFL — a theory whose principal architect is Michael Halliday (e.g., the treatment of ‘given’ and ‘new’ and ‘theme’ and rheme’ as separate pairs of concepts in Quirk *et al.* 1985). And there are numerous other scholars working in the various fields of ‘applied linguistics’ who have found the ideas of SFL useful.

Indeed, the belief in SFL is that the division between theory, description and application is ultimately an artificial one, since the influences can work fruitfully in both directions (e.g., as emphasized in Halliday & Fawcett 1987b). When a theory is used in a challenging field of application such as syllabus design, literary stylistics or modelling the computer generation of text, inadequacies in the description may be revealed, and an improved version of the description — and so sometimes also the theory — may then be developed. Indeed, it can be argued that any theory of language that has been found useful in as wide a range of fields of application as SFL has should for this reason alone be of interest to the theoretical linguist.

However, SFL can claim a considerable theoretical status in its own right. A major reason is its pre-eminence in the field that is the most demanding formal test-bed of all for a theory of language. This is the field of natural language generation in computers. This is both an application of the theory — which is why it was included in the list above — and, when the work is carried out in a principled, theory-based manner, a highly demanding formalization of the theory. In the 1980s and 1990s broad-coverage systemic functional grammars have been formalized and tested more fully than most (if not all) other current theories in the field, and my involvement in this work over the last fifteen years has convinced me that this is indeed the most stringent of all types of formalization. Each of the two major alternative versions of SFL to be described here have satisfied this demanding test of their ‘generativeness’ to an impressive extent, these two models being “among the largest grammars existing anywhere in computational form” (Halliday 1994:xii). Butler in fact goes further, saying of the grammar in the COMMUNAL Project at Cardiff that it “currently operates with the largest computer-based systemic grammar in the

world” (Butler 1993b:4503). Although it is notoriously hard to make comparisons between the coverage of grammars, I believe that he is right. Moreover, the Cardiff Grammar is still growing, as further areas are added and as existing areas are re-written to include the awkward and untidy bits that are omitted from so many published grammars (especially generative grammars).

In sum, then, we can say that Systemic Functional Linguistics has its own sets of assumptions about the essential nature of language, about the goals of linguistics, about the methods through which they should be pursued, and about relations between theory, description and application. These assumptions may only in part with those of theories of language at other points on the continuum mentioned earlier, but it can be argued that even from the standpoint of those other theories SFL deserves to be regarded as a major current theory, because of its successful formalization in computer models of language.

2 What this book is about

This book proposes a new theory of syntax for SFL. In doing so it examines and evaluates some of the major differences between two current versions of SFL, focussing in particular on the way in which they model syntax.

We shall find that there are also important alternative positions within Halliday’s theory, and — most pertinently — that he gives us no adequate statement of a ‘theory of syntax’ in either of the two major recent publications in which we might expect to find one: his paper “Systemic theory” (1993) and his widely influential *Introduction to Functional Grammar* (1985, second edition 1994). Moreover, we shall find that this leads us to draw unexpected conclusions about the theoretical status of the representations of clauses in *IFG*, and so about what a theory of syntax for SFL should be like.

Indeed, it is one of the most surprising facts about SFL that, after forty years of fairly widespread use in various fields of application, there is no general agreement as to how best to represent the structure of language at the level of form. This book makes clear proposals for a (partly) new theory of syntax, and in particular for the replacement of the method of representing structure that is used in Halliday’s *Introduction to Functional Grammar* (1994) by a simpler method. Moreover, the new theory of syntax is one that is equally relevant, I shall argue, to a model of language in which Halliday’s current representations are retained.

This book therefore addresses a major current issue in a major current theory of language. The questions that it discusses and the concepts that it proposes are ones that are potentially relevant to any functional grammar, so that the exploratory journey on which it takes the reader should interest any linguist who takes a functional approach to understanding the nature of language.

3 The book's two parts

The book has two main parts: a 'prolegomenon' to a theory of syntax, and the presentation of the theory itself.

The 'prolegomenon' provides the framework of ideas that is necessary in order to understand why the theory to be presented in Part 2 is as it is. Theories have histories, and the founding document of systemic theory is Halliday's "Categories of the Theory of Grammar" (1961/76) — a paper that was essentially a theory of syntax. It is fascinating to trace the way in which the original seven main concepts of "Categories" have developed into the two current alternative accounts of what is required in the syntax of "a modern systemic functional grammar" (a term that will be defined in Chapter 1). I have therefore chosen to begin Part 1 with a summary of Halliday's seminal paper "Categories". I then sketch in the major components of a systemic functional (SF) model of language that has the two levels of 'meaning' and 'form', going on to show that it provides a framework that can be used for evaluating the two major alternative approaches to syntax being considered here. Specifically, I identify the place of a **theory of syntax** within this overall model — both for the grammar itself and for the outputs from the grammar. Then in the following chapter I sketch in the major stages through which the theory of language presented in "Categories" has been transmuted into the new theory of language that is Systemic Functional Linguistics.

Against this historical background, the later chapters of Part 1 describe and summarize the three major 'post-Categories' sources for establishing a modern theory of syntax for SFL. The first is the 'theoretical-generative' approach to systemic functional syntax exemplified in Halliday's "Systemic theory" (1993), but also in works by Matthiessen & Bateman (1991) and by Fawcett, Tucker & Lin (1993). The second is Halliday's *An Introduction to Functional Grammar* (second edition 1994, henceforth *IFG*). The third 'updating' of "Categories" is my "Some proposals for systemic syntax" (1974-6/81) — together with the later

revisions to it, as described in Fawcett (1980), Tucker (1998) and Fawcett (in press). I shall try to provide a clear explanation as to (1) what the differences between these three current models of syntax are, (2) why these differences exist, and (3) the extent to which each work is a useful source for establishing a modern theory of syntax for SFL. Taken together, these three 'post-Categories' accounts of systemic syntax provide most — though not quite all — of the concepts needed for the new version of the theory presented in Part 2.

In evaluating these alternative theories of syntax, we shall find it useful to distinguish between two broad strands of scholarly work that are found in each of the two versions of SFL theory that are being compared. Indeed, these two strands can be found in many theories of language — though by no means all. They are what we shall call the 'theoretical-generative' and the 'text-descriptive' strands, and these terms will be explained more fully when they are introduced in Chapter 5.

However, there is a second set of distinctions that is equally useful. When we look at a theory from the viewpoint of a reader who is trying to discover what a given theoretical statement actually involves, it is useful to be able to consult published descriptions of languages that exemplify those concepts. In Chapter 7 we shall distinguish three major levels on the 'scale of availability' of a theory — and we shall find that both versions of SFL are currently inadequately provided for in these terms (as indeed are most if not all other theories of language). I then summarize the prospects for rectifying this situation.

With these points in mind, Part 2 presents the full set of categories and relationships that are required in a theory of syntax for a modern systemic functional grammar — i.e., a model of language that can be used for both the generation and the analysis of texts (including generation and analysis by a computer). At the same time, Part 2 evaluates the relationship between what is proposed here and the earlier major writings within the theory — including, as well as the works mentioned above, those by Halliday's colleagues in the 1960s who contributed to the theory of syntax, and those who implemented his version of the grammar in the computer.

While the concepts being presented in Part 2 are, in their very nature, abstract, they are illustrated at every point through a description of the syntax of English — with occasional comments on the requirements of markedly different languages.

The book has three appendices. Each of the first two illustrates an aspect of the theoretical model described in the main text. Appendix A provides

a simple but fully explicit example of the model of a SF grammar presented in Part 1 — a model, it is suggested, which can be said to be common to both of the current modern SF theories of language. Appendix B provides, in just three pages and a key, summary diagrams of the central units of English syntax and their structures. Finally, Appendix C provides a fuller account of the ‘rank scale debate’ than it seemed appropriate to include in the main text, for those with a particular interest in this topic.

Appendix B is taken from my *Functional Syntax Handbook: Analyzing English at the level of form* (Fawcett in press), a work which consists of a full description of English in terms of the theory of syntax presented here. It is designed for use both as a ‘fast track’ course book and as a reference work that can be consulted by those analyzing the structure of text-sentences in functional terms. This ‘syntax handbook’ will be complemented in due course by my *Functional Semantics Handbook: Analyzing English at the level of meaning* (Fawcett forthcoming a), and this will provide an equivalent framework for the analysis of texts in terms of their various types of meaning.

4 The relationship of the new proposals to Halliday’s representations of structure

In what I have said so far, I have been writing as if the theory of syntax to be presented here is an **alternative** to Halliday’s approach to structure. And this is indeed what it is, in that the method of representing the syntax of a text-sentence to be described here is ultimately an alternative to his ‘multiple structure’ method rather than a complement to it. However, I shall also suggest that even a user of Halliday’s approach who remains unconvinced by my argument **also needs the set of concepts proposed here** (or a fairly similar set). This statement is likely to come as a surprise to many readers, i.e., to those who are familiar with Halliday’s proposals for representing the structure of a clause by a set of several different structures — proposals which have not until now been publicly questioned by other systemic linguists. The reason why Halliday’s model needs to incorporate the concepts proposed here is that his current structural representations in *IFG* and elsewhere are not, as he himself would agree, the final stage in the process of generation in his framework, but an intermediate one. In the final stage, the five or more different structures that he distinguishes must be integrated into **a single represent-**

ation. And it is this integration into a single structure that the theory of syntax presented here provides.

To express matters in this way seems at first sight to provide a neat way to reconcile the two models of structure. To my considerable regret, however, I have to point out that this is not what I am proposing. This is because, once one recognizes the need for this final type of representation, it leads on to further questions. If this final integrated representation is required — as it undoubtedly is — we have to ask questions such as:

- 1 What is the status in the theory of the intermediate ‘multiple structure’ representations of clauses in *IFG*?
- 2 Do they represent some sort of ‘intermediate’ structure between the representation in terms of systemic features and the final integrated representation?
- 3 If so, are the ‘multiple structures’ needed at all?

If the answer to the third question is “Yes”, so that ‘multiple structures’ of the type shown in *IFG* are indeed to be treated as an integral part of the model of language, this entails the addition to the model of a new component. Its function would be to convert the ‘multiple structure’ type of representation into a single representation. But this leads in turn to further questions, such as:

- 4 Is such component used in the computer implementations of Halliday’s theory, e.g., is it described in Matthiessen & Bateman (1991)?
- 5 Is there any indication anywhere else in the literature of SFL as to what this component would be like? Indeed, we must also ask:
- 6 Is there, in fact, any way in which it is possible to ‘integrate’ several different structures (as opposed to integrating their elements, which is already standard practice in the theory)?

Chapter 7 asks these questions, provides the answers, and then discusses the implications of these answers for the theory.

Where does this leave the representations of clause structure in *IFG* and the many derived works? It may be argued by some that the main value of such ‘multiple structure’ representations is that they provide the best available description of a language that foregrounds the concept that each clause is the realization of several different broad types of meaning (or ‘metafunctions’, in Halliday’s terms). On the other hand, a representation of the clause that shows (1) the various different types of meaning that it expresses **at the level of**

semantics and (2) a single structure **at the level of form** provides an equally insightful representation of this important aspect of language, and presents no additional problems for the theory. Moreover it is in fact easier, in a fully generative SF grammar, to generate the final structures directly from the system networks than it is to do it via a 'multiple structure' representation. Chapter 7 includes an example of the alternative way of representing the many meanings in a clause, i.e., by showing the semantic features in their 'strands of meaning'. In this approach, then, there is no 'intermediate' structure, and the representation of syntax at the level of form is the final structure.

Thus, whether or not one retains the intermediate level of 'multiple structure' representations of *IFG* in one's model of language, every systemic functional grammar requires a representation of syntax in a single, integrated structure, underpinned by a set of theoretical concepts such as those set out in Part 2 of this book.

Preface to the 2010 paperback edition

I was delighted when John Benjamins informed me that they “are selectively bringing out reprints in paperback of successful books” and suggested including the present work. This decision reflects the steadily growing interest, over the ten years since this book was first published, in the “Cardiff Grammar” (CG) version of Systemic Functional Linguistics (SFL).

There are two important points that need to be made. The first is that virtually everything that I say in the book still holds good, so that it is an up-to-date guide to the CG position on all the matters it covers. This doesn’t mean that there have been no developments in the intervening years; there have, as one would expect in any living theory of language. But these have been in the details of description (for these, see Fawcett forthcoming 2011a and 2011b and other works listed in the select bibliography below). In other words, this book gives a good account of the theory of syntax (exemplified here largely through English) that I consider to be needed for SFL in the twenty-first century.¹

1. In his generally welcoming 25-page review of this book (2002: 80), Butler writes that “on occasion” it includes theoretical statements about syntax that do not apply to certain non-Indo-European languages — with the result, he suggests, that what is presented here is not a general theory of syntax for SFL (as the book’s title appears to claim). Butler cites just one example, but one is enough to justify his criticism — and there may well be others.

However, the explanation of this discrepancy between the title and the contents is less theoretically significant than his criticism implies. It is that I first wrote the book, and only then tried to find an appropriate title. And titles are notoriously problematical! Certainly, a more accurate title would have been “A Systemic Functional Syntax for English”, with the subtitle of “and the Concepts of the Theory of Syntax that Underlies it, with Some References to Other Languages”. But this would have been far too long, so we settled for the riskier — but shorter — title that the book in fact has. However, I don’t think that it is seriously misleading. The experience of the COMMUNAL team in building (with native speakers) — or simply considering — grammars of languages other than English (including Chinese, French, German, Italian, Japanese, Spanish and Swahili) suggests that the vast majority of the theoretical categories specified here and their related generalizations do in practice hold good for most languages — and perhaps for all languages.

Butler’s second major criticism is related to the first. It concerns the set of criteria to which we should attach importance as evidence when describing a language — and so ultimately for constructing a theory of language. He states his own preferences (most of which I share, especially the value of the evidence of real data) in a 5-page section of the review. Ultimately, the criteria in which linguists place their trust are derived from their experience of what feels as if it has worked well in the past, and I have to say that I continue to give relatively greater weight than Butler would to the two criteria for evaluating a theory mentioned in pages xvi to xviii of the main Preface. (See Section 1.6 of Fawcett 2008 for an account of the full set of factors that have shaped the development of the Cardiff Grammar.)

The second point is that, in the decade since this book first appeared, there has been a flowering of books and papers that either contribute to the Cardiff Grammar or describe and evaluate it in positive terms — e.g. books by Bache (2008), He (2007), Huang et al (2008) and Wang (2008). But the major landmark was Butler's impressive 2003 survey of the three current "structural-functional" theories of language that he considers most valuable, one of which is SFL.² And, significantly, in many sections he provides separate accounts of the proposals of the Sydney and the Cardiff versions of SFL. Then, in his "final assessment", he states:

In my view the Cardiff model represents a substantial improvement on the Sydney account. [...] There can be no doubt that SFG has lived up to its claim to be a text-oriented theory of language; [...] it has achieved a much wider coverage of English grammar than other approaches, this being especially true of the Cardiff grammar.' (Butler 2003b: 471)

A second landmark was the publication in 2008 of my *Invitation to Systemic Functional Linguistics through the Cardiff Grammar (Third Edition)*.

And a third as the fact that translations (of the Second Edition) into Chinese and Spanish appeared in the same year — so giving us introduction to the CG in three of the world's great languages.

There have been many other CG publications since 2000, including the many papers in the selected bibliography below. Most noteworthy, perhaps, are (i) those by Gordon Tucker, which provide the most specific and most rigorous of current proposals in any theory of language for modelling the interface between the lexicogrammar of English and those phenomena that are often assumed to be formulaic uses of language, and (ii) the welcome advent of publications by Chinese scholars.

And there are more CG-related publications to come, some being listed below.

A selected bibliography 2001–2011

- Bache, Carl, 2008. *English Tense and Aspect in Halliday's Systemic Functional Grammar: A Critical Appraisal and an Alternative*. London: Equinox.
- Ball, F., and Tucker, G., 2004. 'On the preferential co-occurrence of Processes and Circumstantial Adjuncts; some corpus evidence'. In Foley, J. A., *Language, Education and Discourse*. London: Continuum, 305-24.

2. The two theories of language that Butler describes, other than SFL, are Dik's Functional Grammar (e.g. 1997a and 1997b) and van Valin's Role and Reference Grammar (e.g. 1993).

- Butler, C. S., 2003. *Structure and Function: An introduction to three major structural-functional theories. Part 1: Approaches to the simplex clause. Part 2: From clause to discourse and beyond.* Amsterdam: John Benjamins.
- Castel, Víctor M. (2006) 'Generating Abstracts from Genre Structure through Lexicogrammar: Modelling of Feature Selection and Mapping'. *Signos* 39(62): 327-356. Chile: Pontificia Universidad Católica de Valparaíso.
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- Fawcett, Robin P., 2006. 'Establishing the grammar of "typicity" in English: an exercise in scientific inquiry.' In Huang, G., Chang, C. and Dai, Fan (eds.), *Functional Linguistics as Applicable Linguistics*, Guangzhou: Sun Yat-sen University Press, 159-262.
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- Fawcett, Robin P., 2008a. *Invitation to Systemic Functional Linguistics through the Cardiff Grammar: an extension and simplification of Halliday's Systemic Functional Grammar* (Third Edition). London: Equinox.
- Fawcett, Robin P., 2008b. 'Invitation to Systemic Functional Linguistics: the Cardiff Grammar as an extension and simplification of Halliday's Systemic Functional Grammar' (Second Edition). In Chinese, trans. Huang Guowen, He Wei and Liao Chuyan. In Huang Guowen, He Wei, and Liao Chuyan (eds.) 2008, 108-200.
- Fawcett, Robin P., 2008c. *Invitación a la Gramática Sistemática Funcional. La Gramática de Cardiff como extensión y simplificación de la Gramática Sistemática Funcional de Halliday* (in Spanish, trans. José María Gil and Adolfo Martín García). Mar del Plata, Argentina: University of Mar del Plata Press. In Spanish.
- Fawcett, Robin P., 2009. 'Seven problems to beware of when analyzing Processes and Participant Roles in texts'. In Slembrouck, Stef, Taverniers, Miriam, and Van Herreweghe, Mieke (eds), *From 'will' to 'well': Studies in Linguistics offered to Anne-Marie Simon-Vandenbergen.* Gent: Academia Press, 209-24.

- Fawcett, Robin P., forthcoming 2010. *Alternative Architectures for Systemic Functional Linguistics and Other Theories of Language*. London: Equinox.
- Fawcett, Robin P., forthcoming 2011a. *The Functional Syntax Handbook: Analyzing English at the Level of Form*. London: Equinox.
- Fawcett, Robin P., forthcoming 2011b. *The Functional Semantics Handbook: Analyzing English at the Level of Meaning*. London: Equinox.
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- He, Wei, 2007. *On English Tense*. Beijing: Higher Education Press.
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1

Introduction

1.1 The scope and purposes of this book

The title of this book can be read as implying that Systemic Functional Linguistics (SFL) does not currently have an agreed theory of syntax, and that it is therefore in need of one. This is precisely the interpretation that I intend.

There certainly was a theory of syntax at the inception of SFL, because the core of Halliday's "Categories of the theory of grammar" (1961) consists of just that. But later developments in Halliday's thinking have left most of the concepts presented in "Categories" with a curiously peripheral status, as we shall see in due course. And the concepts which have superseded them in Halliday's current model for use in representing structure at the level of form seem to hover — insightfully or unsatisfactorily, depending upon your viewpoint — somewhere between the levels of meaning and form. As we shall see in Chapter 5, Halliday's most recent restatement of the theory (Halliday 1993) has virtually nothing to say about structure at the level of form — i.e., syntax — and his recent major functional description of English (Halliday 1985 and 1994) similarly fails to provide a summary of the theory that underlies it.¹

This book makes clear proposals for a new theory of syntax for a modern, comprehensive, computer-implementable SFL. It is one that is relevant, it will be argued, to all versions of SFL, including — perhaps surprisingly — that of Halliday. The book therefore addresses a fundamental issue in what is being increasingly recognized as one of the major current theories of language. For an objective evaluation of SFL in relation to other leading 'functional' theories of language, see Butler (forthcoming a and b).²

1. However, there are some explicitly theoretical statements and, as we shall see in Chapter 6, it is possible to infer from the description much of the rest of the underlying theory.

2. Butler (forthcoming a) first characterizes the major differences between a 'formalist' and a 'functionalist' approach to understanding language, and then goes on to discuss six major current theories that are explicitly 'functionalist'. These are (following closely his summarizing descriptions): (1) the 'generative functionalism' of Prince and Kuno, (2) Functional Grammar, as initially proposed by Dik, (3) Role and Reference Grammar, developed mainly by

However, most of the questions that this book discusses and the concepts that it proposes are potentially relevant to all functional linguists, whatever theory they work with. The book assumes no prior knowledge of SFL, and it can therefore be read by newcomers to the theory as an introduction to current issues within SFL. Note, however, that the focus is mainly on issues that relate to the representation of structure at the level of form, and that other current issues receive rather less attention.

This book seeks to answer the following major question:

1. What theoretical concepts are required for the description of syntax in a modern, large-scale systemic functional grammar?

And, as an interesting side issue:

2. How far are the founding concepts introduced in Halliday's "Categories of the theory of grammar" (1961/76) still valid in such a model?³

As we shall discover, there are some surprising twists in the answers to both of these questions.

van Valin, (4) Systemic Functional Grammar, associated principally with the name of Halliday, (5) the rather loose collection of approaches sometimes called West Coast Functionalism, and (6) Cognitive Grammar, developed primarily by Langacker. From these six he selects Functional Grammar, Role and Reference Grammar and Systemic Functional Grammar (SFG) as the ones that are sufficiently well formalized to be termed, in his words, 'structural-functional' grammars. And within SFG he gives a generous amount of space to the proposals in the Cardiff Grammar framework, alongside those of Halliday, so that it is presented at times almost as a fourth alternative 'functional-structural' grammar.

3. This book therefore takes "Categories" as the starting point of the new theory. This theory, like all others, is built upon the work of earlier scholars, and Halliday himself writes that "its primary source was the work of J.R. Firth and his colleagues" (Halliday 1993:4505). A close reading of Firth (1957 and 1968) shows that most of the concepts in "Categories" can be found at some point or other in Firth's writings, but Halliday's achievement — as so often in influential innovatory work — was to perceive an overall theoretical framework within which they could be insightfully related to each other. Thus, while all systemic functional linguists would join with Halliday in honouring Firth as a revered predecessor, it is "Categories" that is regarded as the founding document of the theory. For summaries of Firth's views on language, see Firth's own "Synopsis of linguistics theory 1930-55" (1957/68), and for historical perspectives on the theory that include its other antecedents in the ideas of Malinowski, Hjelmslev, Whorf, the Prague School and Chinese linguistics, see Kress (1976), Monaghan (1979), Steiner (1983), Butler (1985), Hasan & Martin (1989) and Halliday (1993). For the influence of Saussure on SFL see Fawcett (1983).

Apart from this introductory chapter, the book has two main parts. Part 1 is a ‘prolegomenon’ to the theory, and Part 2 is presentation of the theory itself — this being exemplified at every point, typically through a description of the syntax of English but occasionally referring to other languages with markedly different syntax. Readers who are wary of theory that is exemplified predominantly through English will understandably be critical, and I can only invite them to note that SFL has been used for the description of other languages from its earliest days — though this dimension of linguistic research has perhaps less zealously than in those theories in which the search for formal language universals is a major goal.⁴ The emphasis in SFL is on first describing languages in their own terms, and then looking to see what the description has in common with descriptions of other languages. And there is a longstanding suspicion of claims for ‘universals’ — other than those concerning the overall characteristics of language (e.g., as discussed in Chapter 3). However, throughout its history SFL has been used to describe other languages than English, and the version of the theory whose syntactic component is presented in Part 2 has similarly been used to describe other languages than English (including Chinese and Japanese).⁵

Before going any further, I should try to clarify the senses in which I am using the terms “grammar” and “syntax”. In “Categories”, the term “grammar” has a meaning close to a combination of the usual senses of the terms **syntax** and **morphology**. Here, however, I shall use the term “grammar” in the sense of ‘a model of the sentence-generating component of language’ — a description that will be amplified in Section 3.2 of Chapter 3. And I shall use **syntax** in the sense of ‘syntagmatic relations at the level of form, including inflectional morphology’. Like Halliday (1961/76:65) and Firth before him (1957/68:183), I see no strong justification for setting up two components of a general model of language, one for structure above the ‘word’ (‘syntax’) and one for structure below it (‘morphology’) — even though ‘inflectional’ languages may appear to

4. Indeed, Halliday’s first published description of a language was an account of Chinese.

5. Some linguists — and perhaps especially those who have been influenced by the assumptions of formal language theory — would wish their theory to provide in advance for all of the possible characteristics that any human language might turn out to have. The approach to theory-building that is taken in SFL is more pragmatic, interleaving the construction of theory with the description of languages and texts.

invite this distinction.⁶ See Section 10.5 of Chapter 10 for the way in which the morphology of English is handled here, and for a comment on the application of the theory to ‘agglutinating’ languages such as Japanese and Swahili.

This book has one major limitation, which should be stated straight away. This is that its focus is on just one part of a modern **systemic functional grammar** (a SF grammar), i.e., the **syntax**, as defined above. There are three reasons for not trying to cover the full model of language in a single book. Firstly, this topic is sufficient for one book, so that to try to present a full discussion of the whole theory would make the book more than twice as long. Secondly, this component of a modern SF grammar has received far less attention that it deserves in the recent literature of SFL. Thirdly, it is this level of language that is the subject of Halliday’s well-known *Introduction to Functional Grammar*, a work that will be referred to regularly throughout this book. (The first edition was published in 1985 and the second in 1994; most references will be to the latter, which I shall refer to as *IFG*.) We shall find that there are a number of theoretical problems with *IFG* which need to be addressed if we are to develop an adequate theory of syntax for a modern SF grammar. Part 1 of the present book therefore also functions as a friendly critique of that work from within a framework of shared basic assumptions. However, the argument that I shall present here concludes with a demonstration that the representations in *IFG* cannot serve as the ‘final’ representation at the level of form, and that this fact requires us to reconsider the theoretical status of the ‘multiple structure’ representations in *IFG* itself — and so in the many derived works. Part 2 therefore specifies the concepts that are needed for a modern, large-scale systemic functional grammar.

1.2 What is “a modern, large-scale systemic functional grammar”?

Clearly, it is important that I should explain what I mean by the expression “a modern, large-scale systemic functional grammar” (which I shall normally

6. It makes even less sense to make a distinction between ‘syntax’ and ‘morphology’ in agglutinating languages such as Japanese, Swahili and Mohawk than it does in English, since it can be argued that in such languages many of the morphemes realize ‘event-related’ meanings and function directly as elements of the clause. For a discussion of this matter, see Section 10.5.2 of Chapter 10.

refer to hereafter as “a modern SF grammar”). We shall come to the questions of what it means for a grammar to be **systemic** and **functional** in Chapters 3 and 4 respectively. Here I wish to explain what I mean by a “modern, large-scale grammar”.

Firstly, such a grammar should be capable of providing a descriptive framework of a language that can be used for the **large-scale analysis of texts**. Typically, such text analysis are carried out for one of the many ‘applications’ of linguistic theory; for surveys of the applications for which SFL has been used, e.g., as described in Butler (1985), Fawcett & Young (1987) and Butler (1993b). However, text analysis can also be undertaken simply as the exploration of the nature of language, as a source of information for the construction of models of language. Since the 1980s there has been an increasing use of corpora of texts stored in computers as a significant input to the construction of grammars, e.g., Sinclair (1990); Francis, Hunston & Manning (1996 and 1998); and Biber *et al.* (1999).

The second requirement of a “modern, large-scale grammar” reflects one of the major developments in Linguistics of the last few decades: the construction of computer models of language. Such models are being developed for use, within Artificial Intelligence, in the two complementary fields of Natural Language Generation and Natural Language Understanding (NLG and NLU) — and there has a great deal of work on making systemic functional grammars sufficiently full in their coverage and sufficiently explicit in their formalization to be incorporated in **computer models of language** — mainly in NLG but also in NLU. But this work is not simply yet another area of application. The principled implementation of a theory of language in a computer model is the most demanding of all possible formal tests of a theory of language. The implementation of a theory in natural language generation is particularly testing, as the literature of the area demonstrates. The reason is that the output from the system is a string of words, and every little flaw in the implementation can immediately be noticed by any user of the language. This is in contrast with a system for NLU, often called a “parser”, where the output can only be evaluated in terms of the theory that is used in the processing of the text.

Thus, when a theory of language has demonstrated its value through its use in both the large-scale analysis of texts and in a large-scale, principled computer implementation for NLG and NLU, it has met three of the most demanding of all possible tests of a theory. As will be clear, the reason why the computer implementation of a theory of language is to be valued highly is that

responding to these challenges in a principled manner provides an extremely rigorous formal test of the theory's concepts.

Within the broad family of systemic functional theories of language, there are what we may term (1) the "Sydney Grammar" (with two 'sub-dialects' associated with Hasan and Martin concerning differences in their models relating to the higher levels of '(discourse) semantics', 'register' and 'genre'), (2) the "Cardiff Grammar", (3) the "Nottingham Grammar", (4) the "Leuven Grammar", and perhaps others. Halliday has made the interesting suggestion that we should think of these alternative versions of SFL as being related to each other in the way that the dialects and registers of a language are.⁷

However, the only two SF grammars that have been formalized to the point where they can be implemented in a computer are the Sydney Grammar and the Cardiff Grammar.⁸ These have been implemented in the Penman and COMMUNAL Projects respectively. Both versions of SF grammar have been used predominantly for modelling English, but both have also been used for Chinese, Japanese and other languages. The major component of Penman is a computer model of Halliday's SF grammar; it incorporates minor modifications

7. It was Michael Halliday who first suggested the metaphor of 'the Cardiff dialect', 'the Nottingham dialect' etc, during the International Systemic Functional Congress held in Beijing in 1995. However, he has also suggested the metaphor of 'register variation' — originally for thinking about the differences between Martin's and Hasan's different approaches to genre and register. He calls the difference between those two models a "kind of variation in 'metaregister'", saying that this is "one of the ways in which systemic theory appears as a metaphor for language itself" (Halliday 1993:4507). In some ways the concept of 'register variation' provides a more insightful metaphor than that of 'dialectal variation'.

8. The Cardiff Grammar 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. It is called "the Cardiff Grammar" because it has been developed by a group of linguists associated with Cardiff University. These currently include (besides myself): my fellow lexicogrammarian Gordon Tucker (see especially Tucker 1998), Paul Tench, a specialist in intonation (see especially Tench 1996), and several postgraduate students. Earlier there have been valuable inputs from David Young (e.g., as reported in Fawcett, Tucker & Young 1988), Joan Wright, and Yuen Lin, and from a number of distinguished scholars who it has been our good fortune to have as visitors to Cardiff — including, among others, Professor Huang Guowen of Zhongshan University, Guangzhou, Professor Erich Steiner of the University of the Saarland, Saarbrücken, and Professor Masa-aki Tatsuki of Doshisha University, Kyoto. Versions of the Cardiff Grammar have already been developed for central portions of two languages other than English, i.e., Chinese and Japanese (small but significant computer implementations having been built for both), and further work is planned on other languages. Finally, there have been valuable contributions to the overall model from many postgraduate students. For a fairly full bibliography of work in the Cardiff Grammar framework, see Fawcett (1998).

by Matthiessen, and it is described in Mann & Matthiessen (1983/85), Matthiessen & Bateman (1991), Matthiessen (1995) etc. COMMUNAL is the computer implementation of the Cardiff Grammar, and it is described in Fawcett (1988a), Fawcett & Tucker (1990), Fawcett, Tucker & Lin (1993), Tucker (1998), etc.⁹ Halliday describes the two computer SF grammars as follows (referring first to the one that implements his own grammar):

the current version of this grammar was [...] developed by Christian Matthiessen. A closely related grammar, with some descriptive differences but based on the same systemic functional theory, has been developed at the Computational Linguistics Unit of Cardiff University, under the direction of Robin Fawcett. These two are among the largest grammars existing anywhere in computational form. (Halliday 1994:xii)

The Penman Project led in due course to a number of spin-off projects, e.g., Patten's SLANG (1988), and the KOMET Project in multilingual text generation, as reported (for German) in Teich (1999), and to work in NLU by Kaspar (1988) and O'Donnell (1994). The COMMUNAL Project, however, is a later but completely new computer implementation of a SF grammar for English, derived from the earlier descriptive work of Fawcett and colleagues (while learning from the perceived strengths and weaknesses of the 'Nigel' grammar in Penman). The three most important innovations of COMMUNAL for our present purposes are the facts (1) that the system networks were explicitly developed to model the level of semantics; (2) that the realizations of meanings in lexis, intonation and punctuation have all been integrated with realizations in syntax and morphology from the inception of the project; and (3) that the concept of probability is built into the model at many different points. One spin-off application of Fawcett's work has been its use in modelling TRANSITIVITY in the EUROTRA Project in Machine Translation (e.g., Steiner *et al.* 1988). The syntax framework introduced here has also been successfully tested in the field of Natural Language Understanding. See Weerasinghe & Fawcett (1993) and Weerasinghe (1994) for a description of the probability-based parser that constructs tree diagrams from an input string of words, and O'Donoghue (1994) for an account of his complementary semantic

9. The acronym "COMMUNAL" stands for "CONvivial Man-Machine Understanding through NATural Language". This is a long-term project in building a computer model of how we generate English text. At its heart lies GENESYS, a sentence generator that is so named because it GENERates SYStemically, i.e., using a systemic functional grammar. For an account of how a sentence is generated in this grammar, see Fawcett, Tucker & Lin (1993).

interpreter, whose task is to recover the semantic features selected in generating the functional structure, and so to provide a feature-based semantic representation.

Here we shall limit ourselves to the Sydney and the Cardiff ‘dialects’ of SF grammar, since it is only these two that have been subject to development and testing in the environments of both extensive text description and large-scale computer modelling.

Despite the real and important differences between the two models (which this book will bring out at the relevant points), Halliday is right in saying (as he does in the passage cited above) that the grammar in the COMMUNAL Project is “based on the same systemic functional theory” as that in Penman. In other words, while there are important differences between the two models, as this book demonstrates, there is sufficient common ground between the two models for us to be able to treat them as variants of the same theory (as we shall in Chapter 3).

What we need, clearly, is a recent statement by Halliday in which he summarizes his current theory of language, in the way that “Categories” did for Scale and Category Grammar. Fortunately, his contribution on “Systemic Theory” to the *Encyclopaedia of Languages and Linguistics* (Asher 1993) goes a long way to providing this, and it can be usefully supplemented by his “On grammar and grammatics” (1996). However, the orientation of “Systemic theory” is ‘theoretical-generative’ rather than ‘text-descriptive’ (to employ two terms whose implications will be explained more fully in Section 5.2 of Chapter 5), and the perhaps surprising result is that it has rather little to say about the syntactic structure of texts. We shall therefore also need to make use of Halliday’s major recent descriptive work, *An Introduction to Functional Grammar*, and this provides, as we shall see, a significantly different picture of language. I shall also draw occasionally on Matthiessen (1995), a work that complements *IFG* invaluable by providing the system networks that are largely missing from that work, and which also sometimes provide a hint of an interestingly different perspective on the Sydney Grammar.

However, for reasons which will be explained at the relevant points, the fact is that Halliday has nowhere made a comprehensive statement as to the nature of syntax in a modern SF grammar that is comparable in its scope with that in “Categories” — and nor has Matthiessen or any other exponent of the Sydney Grammar. One would expect that the enormous changes made to the model as it was developed from the Scale and Category Grammar of the 1960s

into the Systemic Functional Grammar of the 1990s would have led to changes in the representation of structure at the level of form. And indeed they have, as Chapter 7 will clearly demonstrate. But Halliday has provided only the most general of justifications for the immense changes that he has made in the way that formal structure is represented in his model (e.g., in Chapters 1 and 2 of *IFG*). The only reasonably full statement by a systemic functional grammarian whose purpose is to reflect the major changes in the theory referred to above has been that of Fawcett (1974-6/81) — this being probably best known through the summary provided in Butler (1985:94-102).

It is important to emphasize that the ‘ground rules’ that guide my work on syntax differ from Halliday’s in one important way. This is that the aim is to show only the minimal necessary structure at the level of form, and to provide for the explicit representation of meanings — and so also the representation of the broad types of meaning corresponding to Halliday’s ‘metafunctions’ — at a second level of representation, i.e., at the ‘systemic-semantic’ level of representation. The model of syntax presented in Fawcett (1974-6/81) has developed, with a small number of major changes and many minor ones, into the theory of syntax that has become an integral part of the current large-scale Cardiff Grammar — as described in Fawcett, Tucker & Lin (1993), Tucker (1998), Fawcett (in press and forthcoming a), and the various other works listed in Fawcett (1998). In setting out a modern theory of SF syntax in Part 2, therefore, I shall inevitably draw to a significant extent on this work as well as on that of Halliday and his close colleagues.

1.3 The structure of the book

The overall structure of the book is as follows. Part 1 provides a prolegomenon to a modern theory of systemic functional syntax, summarizing the history of this aspect of SFL theory and raising a number of important issues. Part 2 then presents the theory itself — and, at the same time, it exemplifies it through a description of the syntax of English (with occasional remarks about its application to other languages).

The main purpose of Part 1 is to show why Part 2 is needed. In other words, it is only if I can convince you that there is a need for the type of representation at the level of form presented in Part 2 that those proposals become relevant. Part 1 begins with a summary of the history of the central concepts of

the theory, partly to enable us to understand which of the current central concepts have always been in the theory, and partly because the earlier versions of the theory constitute a ‘quarry’, as it were, in which ideas may be found which will help in building the new theory of syntax that is required.

We shall begin, in Chapter 2, with a summary of Halliday’s seminal paper “Categories of the theory of grammar” (1961/76) — which is itself essentially a theory of syntax. After outlining Halliday’s overall model of language as it was in 1961, I shall summarize the seven main concepts in what was at that time an exciting new theory of syntax (or “grammar”, as Halliday would term it). However, during the sixties Halliday developed what was essentially a theory of syntax into the rich theory of language as a whole that is known today as Systemic Functional Grammar. The purpose of Chapter 3 is to outline the major concepts that underlie a modern systemic functional grammar, and so to specify the context in which a systemic functional theory of syntax has to operate. This provides the basis for the rest of the book. This chapter also explains why, in SFL, it is not possible — or even desirable — for such a theory of syntax to be ‘autonomous’. Chapter 4 then briefly describes the major innovations made by Halliday and his colleagues in the 1960s, which progressively transformed the theory into Systemic Functional Grammar — i.e., into the model of language described in Chapter 3. Interestingly, however, neither Halliday nor any of his close colleagues has made a detailed statement about a modern theory of SF syntax that can be compared with that in “Categories”. The best summary of the “basic concepts” of the theory as Halliday sees them today is in his paper “Systemic theory” (1993), and this is summarized in Chapter 5. A second obvious source of insights is the major description of English that he provides in *IFG*), and this is examined in Chapter 7. Surprisingly, there are considerable differences between the theoretical concepts presented in these two works by Halliday, both of which were published in the early 1990s, and this clearly requires comment and explanation. But it is the analysis of texts in *IFG*, of course, that constitutes the major evidence as to how Halliday sees the structure of what we shall later call ‘instances of syntax’. And in evaluating these representations we shall find — contrary to what you might expect — that they raise serious theoretical problems. Moreover, in the course of Chapter 7 it becomes clear that, even if you feel completely happy about the representations of structure in *IFG*, Halliday’s model additionally needs an integrating syntax of the sort proposed here in Part 2. However, there is a third document that ‘updates’ the concepts

in “Categories” in the light of the development of Scale and Category Grammar into Systemic Functional Grammar, i.e., Fawcett (1974-6/81), and this is summarized briefly in Chapter 8. (The summary is brief, because there is a considerable overlap between that work and the proposals made in Part 2.) Taken together, the discussions of these three ‘post-Categories’ accounts of systemic syntax provide, together with the discussion of “Categories” itself, the necessary basis for understanding why the theory to be set out in Part 2 is as it is.

Part 2, then, constitutes a full statement of what is required in a theory of syntax for a modern systemic functional grammar — i.e., for a theory that provides the concepts that are needed when making descriptions of languages that can be used both as (1) a generative systemic functional grammar of a language (e.g., in a computer) and (2) a framework for the systematic description of texts. Chapter 9 describes the specification of structure provided by the grammar itself — which we shall term its **syntax potential** — and Chapters 10 and 11 specify respectively the **categories** and the **relationships** between these categories that are required in a model of the **instances of syntax**. Thus the “categories” presented here correspond in general terms to the “categories” of Halliday (1961/76), while the “relationships” presented here correspond — though with considerable differences — to his “scales”. The final chapter of Part 2 — Chapter 12 — provides a summary of the differences between (1) Halliday’s current model of syntax and (2) the new theory of syntax presented here, and also between “Categories” and the latter.

Thus the book both starts and ends with “Categories”. In this way it acknowledges the vital place of this remarkable document in the history of Systemic Functional Linguistics in general, and in particular in the representation of syntax in such a theory.

There are also three appendices. Appendix A is a small example of a generative grammar, and its purpose is to illustrate the ‘core’ model that is introduced in Chapter 3 and that forms the basis of the comparison between the Sydney Grammar and the Cardiff Grammar that runs through the book. Appendix B is a description of the major syntactic units of English, summarized in three pages, as developed through very large amounts of text-descriptive work in the framework of the Cardiff Grammar. It describes the central portions of English syntax, and it consequently exemplifies most of the concepts introduced in Chapters 10 and 11. Appendix C provides a fuller account of what has been termed ‘the rank scale debate’ than is required in the main text, for readers with a particular interest in this topic.