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FOOTNOTES IN ACADEMIC WRITTEN DISCOURSE: A FORMAL
AND FUNCTIONAL ANALYSIS

A THESIS SUBMITTED TO THE UNIVERSITY OF
WALES

BY

THARWAT MOHAMED EL-SAYED EL-SAKRAN

IN FULFILMENT OF THE REQUIREMENTS OF THE
DEGREE OF DOCTOR OF PHILOSOPHY

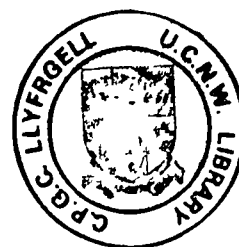
DEPARTMENT OF LINGUISTICS

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i



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DEDICATION

TO MY WIFE, MY CHILDREN AND MY PARENTS

LIST OF DIAGRAMS AND TABLES

A. LIST OF DIAGRAMS

Diagram 1. Cohesion and Coherence relationships between M.T.E. Ss., FNs and M.T.RE.Ss.	Page NO 3
Diagram 2. Lexical links between Sentences.	76
Diagram 3. Lexical Links between FN and Matrix Text Extract.	77
Diagram 4. The exiting from Matrix Text to FN and Re-entering Matrix Text.	160
Diagram 5. The Relationship between M.T.E.S. and FN.	162
Diagram 6. A FN occurring at the end of the discussion of a Point.	178
Diagram 7. A FN occurring in the Middle of the Discussion of a Point.	178
Diagram 8. Correlation between the Length of FNs and the Recall of Information.	219
Diagram 9. The Recall of Information for Sentences with FNs in Medial Position.	232
Diagram 10. The Recall of Information for Sentences with FNs in Sentence Final Position.	232

B. LIST OF TABLES

Table 1. A Review of the Concepts of Frame, Schema, Script, Plan, Genre and Intertextuality.	17
Table 2. Similarities and Dissimilarities between the Preliminary Analysis and the Results Obtained from the Actual Investigation of Cohesion and Coherence Relations between Matrix Text and FNs.	189
Table 3. Results for the Identification of FN Excerpts from Non-FN Excerpts.	236
Table 4. Syntactic Patterns of Formulaic Expressions and their Frequency in FNs.	243
Table 5. The Percentages for the Occurrences of Modals in FNs.	266

NOTATIONS

1. Ss = Sentence(s)
2. FNs = Footnote(s)
3. M T E Ss = Matrix Text Exit Sentence(s)
4. M T RE Ss = Matrix Text Re-Entry Sentence(s)
5. All FNs are typed in a special smaller type face
6. The superscript numbers in the examples mark the original place of a fn index
7. The superscript numbers before any small type print are the original fn numbers in their respective articles
8. The numbers in square brackets at the end of the examples refer to the number of article (in the order shown in Appendix 1) from which the example is copied and the page number respectively
9. The letter X used in some of the examples marks the possible positions for a FN

THESIS SUMMARY

This thesis presents a formal and functional analysis of footnotes in academic journal articles. In Chapter One a brief account of the recent history of Genre Analysis Studies leading to a definition of footnotes is given. Also given is an account of the differences and similarities between footnotes and some other germane conventional structures (viz, parentheticals and asides) that may carry out similar functions to those that footnotes realize. Reasons why writers use footnotes are suggested and discussed. The work is based on a corpus of 10 linguistics journal articles comprising 113 footnotes.

In the search for a framework in Chapter Two, the relevant literature on text and discourse analysis studies is carefully examined and applied to a sample of the data used for the present work.

A classification of the functions to which the article writers have put their footnotes is offered in Chapter Three. The Chapter ends with a discussion of the criteria writers base their footnoting decisions on.

The cohesion and coherence relations between footnotes, the 'matrix text exit sentence' (i.e. the sentence tagged by the footnote) and the 'matrix text re-entry sentence' (i.e. the sentence following the one tagged by the footnote) had been investigated in the context of cohesion and coherence theories and Winter's "Clause Relations". An experiment was conducted to test the coherence and cohesion relations between 'matrix text exit sentences' and footnotes. The issue of whether footnotes present new or old information is then taken up and the literature on the THEME-RHEME dichotomy is reviewed with a view to shedding further light on footnotes.

Chapter Five is concerned with the question of whether footnotes help or hinder the reader and the reading process and the results are statistically analyzed. Readers' attitudes towards footnotes are surveyed through the use of a questionnaire. Also addressed are the issues of: the utility of footnotes to readers and the purposes for which readers consult footnotes.

In Chapter Six some linguistic features recurring in footnotes (e.g. formulaic expressions, the frequent use of proper names, hedges, etc.) are studied.

The results of the study suggest that the employment of footnotes is a compensatory strategy on the part of writers to overcome the problem of being over/under informative especially when an article is targeted at a multiple audience.

This thesis, in addition to the fact that it provides a coverage of a neglected but intrinsically interesting and important genre (FOOTNOTES), makes certain theoretical and pedagogical suggestions and identifies further issues for future research which are presented on in Chapter Seven.

TABLE OF CONTENTS

	Page No.
Title Page	i
Declaration	ii
Acknowledgments	iii
Dedication	iv
List of Diagrams and Tables	v
Notations	vi
Thesis Summary	vii
List of Contents	viii
<u>INTRODUCTION TO THE THESIS</u>	1
0.1. Introduction	1
0.2. The Hypotheses	1
0.3. An overview of the Contents of the Thesis	2
<u>CHAPTER ONE: SECTION A :TOWARDS A DEFINITION OF FOOTNOTES</u>	
1A.0. Introduction	5
1A.1. The Term Genre	6
1A.1.1. The Notions of Genre and Register	9
1A.2. Related Notions	13
1A.3. Are Footnotes a Genre ?	18
1A.4. What Are Footnotes ?	20
1A.5.0. Parentheticals, Asides and FNs	21
1A.5.1. Non-Restrictive Relative Clauses	22
1A.5.2. Appositives	23
1A.5.3. Interpolations	26
1A.5.4. Parenthetical Clauses, Adjuncts and Parenthetical Sentence Adverbs	28
1A.5.5. Asides	31

CHAPTER ONE: SECTION B

1B.0.	Why do Writers use FNs ?	37
1B.1.	Differences between Spoken and Written Discourse and the employment of FNs	37
1B.2.0.	The Writer's sense of Audience and the use of FNs	40
1B.2.1.	What is meant by Audience Awareness ?	41
1B.2.2.	A writer is Addressing a Multiple Audience	45
1B.2.3.	How do Writers get to Know their Audience?	46
1B.2.4.	How would a writer overcome his/her audience's different information demands ?	48

CHAPTER ONE: SECTION C

1C.0.	<u>CORPUS, RATIONALES AND LIMITATIONS</u>	50
1C.1.0.	Corpus	50
1C.1.1.	Sources of Data used in the Study	50
1C.1.2.	Rationales for the Corpus	51
1C.1.3.	Limitations of the Corpus	52

CHAPTER TWO: IN SEARCH OF A FRAMEWORK 53

2.0.	Introduction	53
2.1.	The Sample	54
2.2.	Some Selected Approaches to Text and Discourse Analysis	54
2.2.1.	Halliday and Hasan (1976)	54
2.2.2.	Winter (1977 & 1986)	62
2.2.3.	Hoey (1979, 1983 & forthcoming)	68
2.2.4.	Widdowson (1973, 1978 & 1979)	80
2.2.5.	Montgomery (1977) & Coulthard & Montgomery (1981)	85
2.2.6.	Grice (1975)	89
2.2.7.	Sperber & Wilson & Wilson & Sperber's	

<u>CHAPTER THREE: SECTION A</u>	<u>TYPES OF FOOTNOTES</u>	111
3A.0.	Introduction	111
3A.1.0.	Types of FNs	112
3A.1.1.	Referential FNs	112
3A.1.1.1.	The Realization of Referential FNs	118
3A.1.2.	Evaluative Referential FNs	119
3A.1.2.1.	The Realization of Evaluative referential FNs	121
3A.1.3.	Counter-Attack FNs	121
3A.1.3.1.	The Realization of Counter-Attack FNs	123
3A.1.4.	Further Research FNs	123
3A.1.4.1.	<i>The Realization of Further Research FNs</i>	125
3A.1.5.	Elaboration FNs	125
3A.1.5.1.	The Realization of Elaboration FNs	127
3A.1.6.	Definition FNs	128
3A.1.6.1.	The Realization of Definition FNs	130
3A.1.7.	Concessive FNs	131
3A.1.7.1.	The Realization of Concessive FNs	132
3A.1.8.	Notation FNs	132
3A.1.8.1.	The Realization of Notation FNs	133
3A.1.9.	Evaluative FNs	134
3A.1.9.1.	The Realization of Evaluative FNs	135
3A.1.10.	Endophoric Cross-Referencing FNs	135
3A.1.10.1.	The Realization of Cross-Referencing FNs	135
3A.1.11.	Afterthought FNs	138
3A.1.11.1.	The Realization of Afterthought FNs	140
3A.1.12.	Acknowledgment FNs	141
3A.1.12.1.	The Realization of Acknowledgment FNs	141
3A.2.	The Frequency of the different Functions of FNs	142
3A.3.	Simplicity Versus Complexity of FNs	143
3A.4.	An Abandoned attempt	144

<u>CHAPTER THREE:</u>	<u>SECTION B</u>	145
3B.0.	<u>FNS AND THE WRITER</u>	145
3B.1.	Academic Writing and FNs	145
3B.2.0.	The Experiment	147
3B.2.1.	Data	147
3B.2.2.	Subjects	147
3B.2.3.	Procedure	148
3B.2.4.	Results	148
<u>CHAPTER FOUR:</u>	<u>COHESION, COHERENCE AND THEMATIC PROGRESSION</u>	
4.0.	Introduction	153
4.1.	The Concepts of Cohesion and Coherence	154
4.2.	FNs and the Matrix text	158
4.3.0.	The relationships between M.T.E.S & FN M.T.E.S and M.T.RE.S & between FN & M.T. RE.S	160
4.3.1.	The Relationship between M.T.E.S & FN	161
4.3.2.	The Relationship between M.T.E.S & M.T. RE.S	163
4.3.3.	The Relationship between FN & M.T.RE.S	166
4.4.	Readers' awareness of cohesion & coherence relationships between FNs & the points they relate to in matrix text ?	167
4.4.0.	The FN Relocation	168
4.4.1.	The experiment	168
4.4.1.1.	Materials	168
4.4.1.2.	Subjects	169
4.4.1.3.	Procedures	169
4.4.2.	The Results of the preliminary Analysis	170
4.4.3.	Results Obtained from the Experiment	183
4.5.	Discussion and Conclusion	190
4.6.	Information Structure	192
<u>CHAPTER FIVE:</u>	<u>FNS AND THE READER</u>	203
5.0.	Introduction	203
5.1.0.	FNs and the Discourse Processor	203

5.1.1.	The Impact of FNs on the Syntactic Constituentsof Sentences	205
5.1.2.	The cognitive effects of syntactic discontinuity on discourse processors	207
5.2.0.	The Hypothesis	208
5.2.1.	Subjects	208
5.2.2.	Material	208
5.2.3.	Method	209
5.2.4.	Procedures	210
5.2.5.	Results	210
5.3.0.	The Impact of FNs on Relations between Sentences	211
5.3.1.	Examples of Interrupted CRs from our data	212
5.3.2.	Experimental Hypothesis	213
5.3.2.1.	Subjects	214
5.3.2.2.	Material	215
5.3.2.3.	Experimental Procedure	215
5.3.2.4.	Results	217
5.4.0.	Utility of FNs to Discourse Readers	221
5.4.1.	Experiment	221
5.4.1.1.	Data	221
5.4.1.2.	Subjects	222
5.4.1.3.	Procedure	222
5.4.1.4.	Results	223
5.5.0.	Deciding whether to exploit the FN	224
5.5.1.	Experimental Procedures and Questions	224
5.5.2.	Results	225
5.6.0.	The Frequency of FNs in Different Academic Disciplines and Readers' attitudes towards them	226
5.6.1.	Eliciting answers	227
5.6.1.1.	Method	227
5.6.1.2.	Analyzing the Data	228
5.7.0.	Syntactic Positions of FNs	231
<u>CHAPTER SIX: FORMAL FEATURES OF FNS</u>		234
6.0.	Introduction	234
6.1.0.	The Hypothesis	235
6.1.1.	Materials	235
6.1.2.	Procedures	235
6.1.3.	Subjects	236
6.1.4.	Results and Discussion	236
6.2.	Formulaic (set) Expressions in FNs	240

6.2.1.	The Syntax of Formulaic Expressions	240
6.3.0.	Cohesive devices employed within FNs	243
6.3.1.	Intra-and inter-sentential cohesive devices employed within FNs	244
6.3.1.1.	Lexical Cohesion	245
6.3.2.	Conjunctive items in FNs	248
6.3.2.1.	Transitional 'however'	249
6.3.2.2.	Dismissive 'however'	249
6.3.2.3.	Adversative 'however'	249
6.3.3.	The functions of the conjunctive adjunct 'therefore' in FNs	251
6.4.0.	Hedging in FNs	253
6.4.1.	Hedging Devices in FNs	256
6.4.1.1.	Verb (phrase) form and Adverbs	256
6.4.1.2.	Prepositional Phrases	259
6.4.1.3.	Attribution as an aspect of hedging	260
6.4.1.3.1.	Markers of attribution	261
6.4.2.	Attribution and person deixis	262
6.5.	Passive and active constructions in FNs	264
6.6.	Modals' occurrences in FNs	266
6.7.	Summary	269

CHAPTER SEVEN: SUMMARY AND CONCLUSIONS 271

7.0.	Introduction	271
7.1.	Summary of the Research	271
7.2.	The Main Findings of this Research	272
7.3.	Potential Pedagogical Applications	275
7.4.	Evaluation of the Study	278
7.5.	Suggestions for Future Research	279

APPENDICES

Appendix 1	Details of the linguistics articles used for the study	281
Appendix 2a	Text given to writers to uncover the thinking behind their footnoting decisions	282

Appendix 2b	Instructions given to writers	283
Appendix 3a	Instructions for the relocation task	284
Appendix 3b	The confidence scale for the relocation task	285
Appendix 3c	Diagram for the correlation between subjects' accuracy and confidence	286
Appendix 4a	Test for adverse effects of FNs on the constituents of sentences	287
Appendix 4b	Cloze test for measuring comprehension	289
Appendix 4c	Individual subjects' scores on discontinuous and continuous sequences	291
Appendix 4d	Correlations between subjects' scores on continuous and discontinuous sequences	292
Appendix 5a	Test for measuring the disruptive effect of FNs on Clause Relation	293
Appendix 5b	Test for measuring subjects' recall of CR without being interrupted by FNs	297
Appendix 6a	Test used for proving that information offered in FNs may be 'foreground' information for some as well as 'background' information for others	300
Appendix 6b	The check test used to verify subjects' responses to the text in appendix (6a)	301
Appendix 6c	Test used for identifying FNs' utility for readers and readers' reading purposes	302
Appendix 7	Questionnaire	303
Appendix 8		304
	<u>BIBLIOGRAPHY</u>	306

INTRODUCTION TO THE THESIS

0.1. INTRODUCTION

This thesis presents a formal and functional analysis of footnotes (henceforward FN(s)) in academic written discourse. It attempts to investigate the use of FNs that accompany main texts from the writer's point (in the context of the writing process) and from the reader's point (in the context of the reading process and reading comprehension). In the course of this study and as a result of our thinking on FNs and claims made by readers and style manual writers certain hypotheses have emerged.

0.2. THE HYPOTHESES

The central research hypotheses were:

- (a) That FNs represent a writer's attempt to meet, in addition to other conventional factors, his/her readers' variable background information levels;
- (b) That the information presented in FNs is not necessarily new to all readers; and
- (c) That FNs, although useful to some readers, may have adverse effects on other readers' reading comprehension.

The main thrust of the present thesis therefore is to investigate why and under what conditions writers employ FNs and what type of information is presented in FNs. This leads to a series of other questions which I do not state formally as hypotheses but which are nevertheless of prime significance.

- (1) How is cohesion and coherence achieved between matrix text exit sentences, FNs and matrix text re-entry Ss ?
- (2) How often do 'average' readers consult FNs in the reading process ?
- (3) For what purposes do readers consult FNs ? and where are these purposes derived from ?
- (4) How do readers assess the importance and role of FNs ?
- (5) What are readers' attitudes towards FNs ?
- (6) What are the preferred syntactic positions for FNs ?

0.3. AN OVERVIEW OF THE CONTENTS OF THE THESIS

Chapter One provides a brief account of the recent history of genre analysis studies leading to a tentative definition of FNs. It also compares and contrasts FNs and other related conventional structures that seem to perform similar functions to those FNs realize. Also in this chapter, an attempt is made to provide plausible reasons why FNs are employed. The chapter ends with a description of the corpus used for the present study, its rationales and limitations.

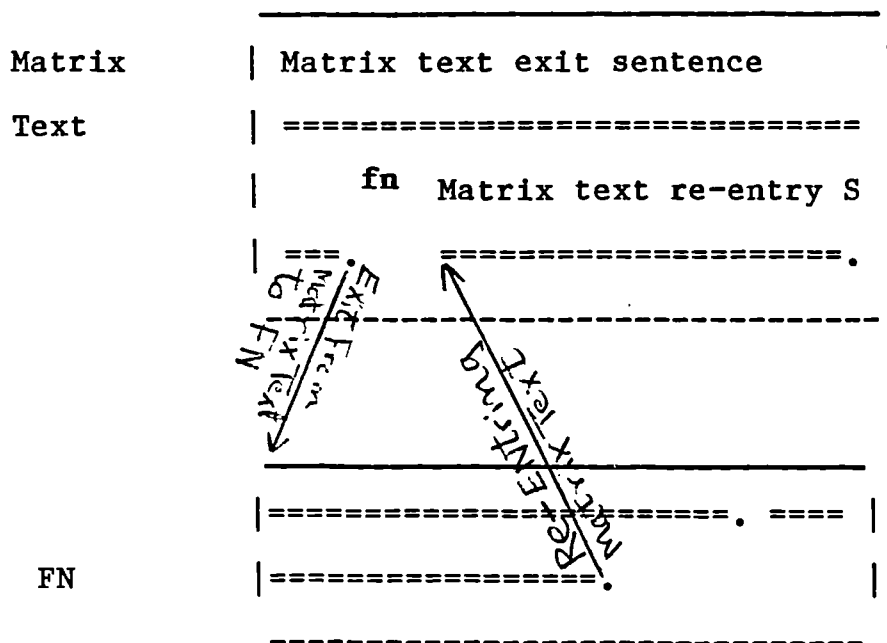
Chapter Two presents a review of some selected approaches to text and discourse analysis and applies them to a sample of our data to see how far such approaches will take us towards the analysis of FNs.

Chapter Three provides a classification of the functions of FNs in terms of the effects such FNs were intended by the

article writer to have on his/her readers. The writer's intended effects are identified on the basis of textual criteria in both the main text and the FNs. Chapter Three concludes with a discussion of the criteria writers base their footnoting decisions on.

In chapter Four the cohesion and coherence relationships between matrix text exit Ss, FNs and matrix text re-entry Ss (see diagram below) are investigated.

Diagram (1)



Also taken up in this chapter is the issue of whether FNs present 'old' or 'new' information.

Chapter Five addresses the following issues:

- (1) The adverse effects FNs may have on readers' reading comprehension;
- (2) The utility of FNs to readers;
- (3) The frequency of FNs in different academic disciplines and readers' attitudes towards them; and
- (4) The syntactic positions that FNs occupy in our corpus.

Chapter Six reports on an examination of textual features found to be recurrent in FNs and other text types.

Chapter Seven winds up the whole thesis by bringing together the central hypotheses and shows to what extent these hypotheses have been confirmed. It thus opens with a summary of the thesis followed by the main findings of the research and their potential pedagogical applications for English language teaching (ELT) in general and English for specific purposes in particular.

Then it critically evaluates the present study and finally it puts forward suggestions for future research along the lines of this topic.

CHAPTER ONE

SECTION A: TOWARDS A DEFINITION OF FOOTNOTES

1A.0 INTRODUCTION

Discourse analysts have produced descriptions designed to account for the interconnectedness of continuous prose without acknowledging the fact that not all discourses take the form of continuous prose. Examples of non-continuous discourses are: 'shopping lists', 'address books', 'cookery books', 'telephone directories', 'footnotes', etc. The aim of this thesis is to provide a formal and functional analysis of a Cinderella type of discourse that has been long neglected (i.e. footnotes). The thesis aims to contribute to the newly developing field of Genre Analysis by a coverage of a hitherto neglected but intrinsically interesting and important sub-genre: that is the use of FOOTNOTES in academic journal articles.

In this chapter, I shall attempt four tasks. First, to give a brief account of the recent history of Genre Analysis Studies, leading to a definition of the notion which will equip me to draw a distinction between it and the notion of Register. Second, to contextualise the notion of genre, that is; I shall see what it has in common with, or adds to, other related notions current in discourse analysis. Third, I shall offer a definition of FNs in the light of our characterization of the notion genre and distinguish between FNs and some other conventions (e.g. parentheticals and asides) that seem to carry out similar functions to those that FNs perform and to follow

similar discursual conventions (e.g. discontinuity). Fourth, plausible reasons are suggested why FNs are used. Then, the Chapter concludes with a description of the data used, its rationales and limitations.

1A.1 THE TERM 'GENRE'

The term 'genre' is best known in literary study, where it denotes conventional formats of writing such as nouvelle, conte, sonnet and so on (Fowler, 1982). Fowler (ibid:257) defines the term 'genre' in terms of the "rhetorical patterns and structures" of text types. He rightly argues that genre conventions have to be learnt and sees genre conventions as offering positive support to writers who want to produce in a specific genre. In his own words:

"Far from inhibiting the author, genres are a positive support. They offer room... for him to write in a habitation of mediated definiteness; a proportioned mental space; a literary matrix by which to order his experience during composition"(Fowler, ibid: 31).

Put differently, genres operate as problem-solving models by giving a writer access to formal ideas as to how a variety of constituents might suitably be combined. For example, "Poems are made in part from older poems, each is the child... of an earlier representative of the genre and may yet be the mother of a subsequent representative" (Fowler, ibid:42). For Fowler, the groupings of literary genres is based upon both

outer form (i.e. specific metre or structure) and upon inner form (i.e. attitude, tone, purpose).

Recently, the notion 'genre' has begun to be used in two practical domains also: in the fields of English for Science and Technology (EST) and English Across the Curriculum (EAC). The term 'genre' was first used, to the best of my knowledge, in ESP (English for Specific Purposes) work by Swales (1981) in his work on article introductions. In this work Swales uses the term to refer to a system of analysis that is able to reveal something of the patterns of organisation of a 'genre' and the language used to express those patterns. Swales (ibid:10) defines 'genre' as:

"a more or less standardised communicative event with a goal or set of goals mutually understood by the participants in that event and occurring within a functional rather than a social or personal setting".

From this definition it is noticed that by 'genre' Swales means a typified society recognised form that is used in typified society circumstances. It has characteristic features of style and form that are recognised, either overtly or covertly, by those who use the genre. Thus, for example, the research article has a known public purpose, and has conventions about layout, form and style that are to a large degree standardised. Swales' later work on genre returns to English Across the Curriculum (Swales, 1985) and serves to

locate genre studies on a broader foundation than it has in EST. He refers to 'real life genres' such as newscast, testimonial, recipes, etc. Most importantly, it is in the 1985 article that Swales clarifies his definition of genre in the following way:-

"A genre is a recognised communicative event with a shared public purpose and with aims mutually understood by the participants within that event. A genre is ... a structural and standardised communicative event with constraints on allowable contributions in terms of their positioning, form and intent. Overt knowledge of the conventions of a genre is likely to be much greater in those who routinely or professionally operate with that genre rather than in those who become involved in it only occasionally. Societies give genre names to types of communicative event that they recognise as recurring.... Modified genre-names 'survey article', 'issue memo', 'panel discussion' indicate features that a speech community finds salient and thus provide a way into sub-genres". (my underlining) (A comment is given on the underlined statements in 1A.3 below).

The emphasis in Swales' (1985) definition of genre is on the conventional, formulaic, routine labour-saving aspect of language use; all this in stark contrast to the generative and creative aspects of language competence that are stressed in theoretical syntax. There is clearly much held in common between genre study and the ethnography of communication. However, recently Swales (1990:49-53) puts more emphasis not on the formulaic routine aspects of genres "which identify the extent to which an exemplar is prototypical of a particular

genre" (p.52) but rather on the communicative purpose of a genre.

1A.1.1 THE NOTIONS OF 'GENRE' AND 'REGISTER'

Some linguists (e.g. Halliday et al, 1964 and Ure, 1971) use the term 'genre' synonymously with the term 'register'. Therefore, it is essential to draw a distinction between these two notions. The dividing line between 'genre' and 'register' is often unclear. From Swales' definition, it is obvious that the description of a genre involves the establishment of the essential features of a text type that distinguish it from other text-types. The notion of genre is prescriptive in the sense that it implies norms with regard to the layout, ordering and language appropriate to a particular text-type (e.g.letters).

By contrast, the notion of 'register' appears to be descriptive rather than prescriptive. It is concerned with variation in language and how situations in which the communicative event takes place affect the textual forms used. The term 'register' was used (e.g. Halliday et al, 1964) in connection with the lexis and grammatical forms that distinguish a text-type from others. More recently, Halliday (1978:32) defines 'register' as:

"The notion of register is ... a form of prediction: given that we know the situation, the social context of language use, we can predict a great deal about the language that

will occur with reasonable probability of being right".

Here, the notion of 'register' obviously overlaps considerably with the definition of 'genre' given above. When we examine how Halliday uses the notion of register in his analysis, we find him talking about the 'register of mathematics' which he defines thus:

"The meanings that belong to the language of mathematics...and that a language must express if it is being used for mathematical purposes" (Halliday, *ibid*:195).

Here Halliday's use of the term 'register' is much more general than the use of the term 'genre', and is somewhat akin to the term 'variety'. A genre analysis focuses on particular text-types (e.g. report, instruction manuals, letters, etc.), the pattern of organisation in those types of texts that is common to different text-types and their communicative purposes. Put differently, a genre analysis examines the macro-structure of a text-type whereas a register analysis refers to the counting of lexis and grammatical forms in particular sub-genres (e.g. medical or mathematical journal articles). A typical example of register analysis studies is Barber's (1962) analysis of scientific syntax.

Even more recently, Halliday (1989a:41) has defined the notion of 'register' "as a variety according to use". Halliday (ibid) divides registers into two types as follows:

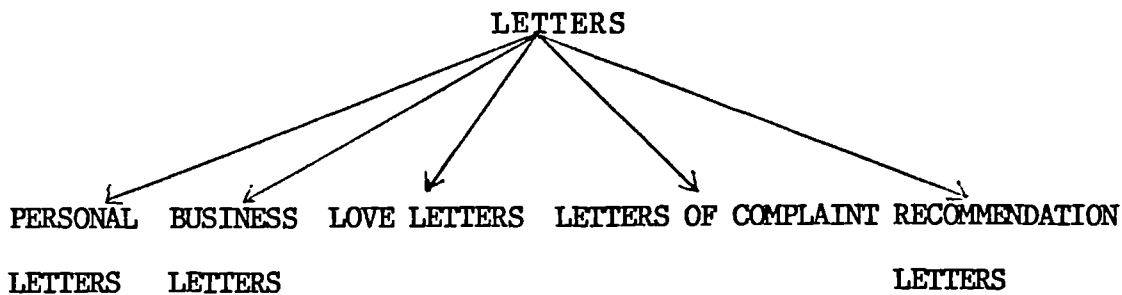
(1) Closed registers: For example, the international language of the air which air crew have to learn in order to act as pilots and navigators on the international air routes. They have to communicate with ground control, they have to use a fixed language in which to do so, and they have to keep the total messages within a certain range. They will not start discussing the latest fashions, or any thing of that sort. If they do this, then they will be going outside the register.

(2) Open registers :(e.g. the language of the classroom, doctor-patient consultation, recipes, etc. These are called 'open registers' because, for example, when a doctor sees a patient he/she has to establish some sort of rapport with his/her patient and this necessitates that he/she goes outside the medical register.

The difference between the two types of register lies, according to Halliday, in the fixedness of the meanings that one can use in each type. The distinguishing feature that Halliday uses to differentiate between his two types of register is the fixedness of the meaning which is mainly accounted for in terms of lexico-grammatical and phonological features. On the basis of this we may argue that the term

'genre is more general and comprehensive than the term 'register' as the former covers the rhetorical patterns of texts and their communicative purposes.

From the above discussion, we may conclude that Halliday's definition of register is useful as a tool for distinguishing between sub-genres. For example, under the genre of 'letters' we may have the following sub-genres which can be distinguished in terms of their lexis and syntax:



Applying Halliday 's (ibid:42) definition of register, as "the semantic configurations that are typically associated with particular social contexts" to the above registrally-differentiated sub-genres of the genre letters, we might be able to identify and distinguish between them. But the registrial features of these sub-genres may be very similar to the extent that one may not be able to differentiate between them. Then, one may be able to do so (distinguish between these sub-genres) by examining the communicative purpose behind each sub-genre.

Halliday's definition of 'register' is not very different from the notion of 'Bottom-Up Processing' used in discourse analysis (see Brown and Yule, 1983) in that the notion of register, when applied to a text-type, helps us identify the micro features of a text (e.g. 'Once upon a time' in a narrative) and this in turn serves in the identification of the genre or sub-genre. In the above discussion, we have argued that the notions of 'genre' and 'register' are not interchangeable and that genre and register go hand in hand.

Now we move to the other notions related to the notion of genre, as a detailed examination of the differences between the notions of register and genre is beyond the scope of this study.

1A.2 RELATED NOTIONS

In his article discussing the relevance of Genre Analysis to the translator, James (1989) brings in the notions of 'Schema', 'Frame', 'Scenario', 'Script', 'Plan' and 'intertextuality' and contrasts them with the notion 'genre'. He surveys and comments on the use of the above concepts by several discourse analysts and artificial intelligence specialists. The following discussion is extensively based on James' work.

de Beaugrande and Dressler (1981:184) associate three of the above concepts with the traditional text types: frames are

activated in descriptions, schemata in narratives, while the argumentative genre utilises a "plan for inducing belief" (ibid). Widdowson (1983:55) takes a similar view of frames, referring to them as 'ideational', while plans and scripts for him are 'interpersonal'. Scripts come nearest in his system to genres, being "... a conventional version [of a goal-directed plan] established as a routine, a predictable situational sequences" (ibid:56). The difference between the two (scripts and genres) lies in the tendency for scripts to involve more than just the language used: so, the restaurant-script described by Schank and Ableson (1977) is as much concerned with the non-verbal moves of Entering and Eating as with the verbal interaction occasioned in ordering.

Note the emphasis on stereotypic patterning of the verbal behaviour, the reference to the 'rhetorical routine' as the hallmark of script and genre. The difference between the two must not be overlooked, however: scripts have a broader scope than genres in a sense which goes beyond the verbal/nonverbal dimension. A script is an episode in public or interpersonal life with a beginning, middle and end: the pedagogic dialogue used for teaching foreign languages is a good example of a script which is as purely verbal as can be, and it is as interesting as is an episode from Dallas in having a situation + problem + solution organisation like those described by Hoey (1983). Genres are parts of scripts, and can be used in other scripts; they are transferable and recurrent.

According to James (ibid:33), genres, like scripts, could be said to impose a template on our perception, whether the 'reality' we perceive be in the form of events or encoded in language in the form of texts. The implication of this is that we approach texts knowing what to expect, and impose our own preconceptions on the version of reality that the text carries. Such textual processing is known as Top-Down processing and involves the confirmation/disconfirmation of one's earlier expectations, which themselves are determined either by the title of the text or by its opening tone-setting section.

So, as text producers we somehow know in advance what the distinguishing features of each generic type are likely to be, while as text receivers we pigeon-hole for genre each text we encounter. As Brown and Yule (1983:235) put it: "Once we start processing a discourse fragment we do not treat it as the first piece of discourse we have ever encountered. We have our experience of having processed other, perhaps very similarly titled, discourse fragments before". This direction is complemented by text processing that works Bottom-UP or literally; in the sense that interpretation is (simultaneously with Top-Down) determined by the words on the page.

A third related notion that James (1989) brings into his discussion is 'intertextuality'. This term is proposed by de Beaugrande and Dressler (1981) as one of the seven Standards of Textuality. It "... concerns the factors which make the

utilisation of one text dependent upon knowledge of one or more previously encountered texts " (ibid:10). Their use of the term covers three senses. First, there are those cases where, to satisfy the intertextuality principle ..." the text producer must consult the prior text continually" (ibid) because his present text is a response to the 'earlier' one, rather in the way that an answer is a response to a Question or an acceptance response to an invitation: they are what have been called in conversation analysis adjacency pairs. Outside of conversation, such intertextuality relations are implied by: REBUTTAL, REVIEW, PARODY, REPORT and the like, which are of course Genres.

The second use of the principle is what de Beaugrande and Dressler (ibid:186) refer to as "Text Allusion: the ways people use to refer to well-known texts". Thirdly, they note the existence within language communities of text-types which are generated by "... a set of heuristics for producing, predicting, textual occurrences and hence acts as a prominent determiner of efficiency, effectiveness, and appropriateness" (ibid). This suggests a very close similarity between their text-type and genre, especially in the emphasis placed on the work-saving and 'formulaic' features of the former.

Note that it has been well-established that formulae or 'prefabrications' (that is, patterns of language that are rote-learned as whole expressions) play a powerful role in the

learning of the grammar of a foreign language (Hakuta, 1974). The suggestion that the principle of intertextuality is likewise "a prominent determiner of efficiency, effectiveness" is significant. Intertextuality, constituting a claim that one text relates to another text or one text-part relates to another part, has much in common with the notion of coherence which is the "... underlying organising structure making the words and sentences into a unified discourse that has cultural significance for those who create or comprehend it" (Tannen, 1984:xiv).

The above review may be summarised as follows:

TABLE 1

	FRAME	SCHEMA	SCRIPT	PLAN	GENRE	INTERTEXTUALITY
Beaugrande & Dressler	Description	Narratives	??	Persuasion	??	Prior texts
Widdowson	Ideational	??	Interpersonal More than just the language used		The language	??
James	??	??	Broader (episode)	??	Narrower (parts of scripts)	??
Schank & Ableson	??	??	non-verbal & verbal interaction	??	??	??
Tannen	??	??	??	??	??	Coherence

Having surveyed the use of the notion 'genre', we now attempt, in the light of the above discussion, to offer a pragmatic definition of FOOTNOTES.

1A.3 ARE FOOTNOTES A GENRE ?

Examining FNs in the light of Swales' (1985) definition of 'genre' (and in particular the underlined statements in his definition on page 8 above), FNs, I believe, can be considered a genre for the following reasons:-

(1) they have a recognized name within the relevant discourse communities.

(2) members of those communities recognize FNs as being identifiable communicative acts.

(3) the members of the discourse community share an understanding of what the purposes of FNs are and what information is normally given in them (for more details on this, see 3B.1).

(4) they are subject to the following conventional constraints:

a. they are always positioned at the bottom of page. But, now because of the wide-spread and use of word processors in typing and printing, it has become difficult, time consuming and uneconomical to have them printed at the bottom of page and are, therefore, in the majority of cases printed at the end of articles, chapters or books;

b. they are separated from matrix text by three spaces, when at bottom of page, and printed on a separate paper when at

end of article. They are typed in a special smaller type face and are always single spaced.

Now, it is, I think, clear that FNs have met most of the criteria Swales (1985 and 1990) sets for genre status/membership. Of course the remaining issue is whether FNs are sufficiently structured and standardized communicative events to constitute a genre. Examining FNs in the light of this last point we found out that some FNs (namely, referential FNs and acknowledgment FNs) have a recognized structure peculiar to them (see 6.2 for details). But, other types of FNs (e.g. elaboration FNs) are not sufficiently structured to qualify for genre membership; especially when removed from the institutional environment within which they operate (see 6.1.4).

However, this type of FNs (and others identified in section A of Chapter 3) in spite of their non-standardized structure still qualify for genre status on the basis of their communicative purpose. Miller (1984:51) argues that "a rhetorically sound definition of genre must be centered not on the substance or form of discourse but on the action it is used to accomplish". Elaboration FNs are employed (see 3b.1.) for a purpose and this purpose is identifiable in the light of the institutional environment (i.e. the matrix text) within which FNs operate.

All the types of FNs we identified, with the exception of referential and acknowledgment FNs, when deprived of their outstanding features (i.e. the Arabic number indexing them to specific points in the matrix text and the smaller type face) and presented to members of the discourse community jumbled up with excerpts from main texts, these discourse community members may not be able to identify a FN excerpt from a non-FN excerpt (see 6.1 - 6.1.4). This perhaps supports the point that these types of FNs are identifiable as such only within their institutional environment.

1A.4 WHAT ARE FOOTNOTES ?

Footnotes may be characterized in terms of the purposes they serve as follows:

They are structures employed by writers to bring into the reader's consciousness unactivated elements of information that the writer assumes are introduced into the reader's consciousness by what he/she writes. This information does not have to be totally unknown to the reader. That is to say, it may be recalled from the reader's subconscious by what the writer writes. The point is that although it may be known, the writer assumes it is unlikely to be in the reader's consciousness at the moment of reading.

Take the following example:

EX. (1)

³ Transcription symbols:

- tone unit boundaries: //...//
- pauses (increasing length): '.'; ' _'; ' _ _'; ' _ _ _ _'
- nucleus: CAPS
- tones: fall (∖); rise (/); level (_); fall-rise(∨); rise-fall (∧)
- onset://
- stress (nonnuclear): 'or"

- subordinate tone units: ...
- speaker identity: A, B, ... (surreptitious)
a, b, ... (nonsurreptitious) [2:840]

The information offered in this FN is not new to all readers as some of them might have come across such conventions before. However, by inserting such information into a FN the writer is probably assuming that such conventions are unlikely to be in the reader's consciousness at the moment of reading the text (for more details on this particular example, see 3A.1.8.).

Having defined FNs, we now turn to other conventional structures (i.e. parentheticals and asides) that seem to carry out similar functions to FNs.

1A.5. PARENTHETICALS, ASIDES AND FNS

In the following sections, an attempt is made both to identify parallels between and also to distinguish among some conventional structures and FNs . These are: PARENTHETICALS and ASIDES. The term parentheticals is self-explanatory. It refers to structures in written language put between parentheses, correlative commas, dashes and sometimes a single comma or dash and a full-stop when occurring in sentence final position. The term is used by linguists (e.g. Levinson,1983; Matthes,1981; Corum,1975 and Hartmann and Stork,1975) and discourse analysts (e.g. Winter,1982) and grammarians (e.g. Quirk et al,1985) to cover the following structures:

1. NON-RESTRICTIVE RELATIVE CLAUSES;
2. APPOSITIVES;
3. INTERPOLATIONS;
4. PARENTHETICAL CLAUSES AND PARENTHETICAL ADJUNCTS.

Now, we shall separately define and characterize each of the above structures and, at the same time, distinguish between them and FNs.

1A.5.1 NON-RESTRICTIVE RELATIVE CLAUSES

Relative clauses are traditionally classified into restrictive and non-restrictive relatives as in (2) and (3) below respectively.

- EX. (2) The boy (who(m)) you saw yesterday is coming to tea.
Ex. (3) My brother Samir, whom you saw yesterday, is coming to tea.

The distinction between restrictive and non-restrictive relative clauses is as follows. The relative clause in (3) can be left out without any material damage to the *sense of the* sentence, whereas the same omission in (2) robs the host sentence of a most essential fact which represents the specification of who the boy is. The non-restrictive relative clause is separated from its nominal head 'my brother', by correlative commas and this marks it as a deliberate inclusion of "additional information within" the sentence (Levinson, 1983 :183). In this regard, non-restrictive relative clauses are

like some FNs that provide specifying additional information. However, they are unlike FNs in that they physically occur within the boundaries of their host sentences and have to be formulated in a specific way to fit in with the syntax of their host sentences. Relatives are thus syntactic parentheticals while FNs are discourse (above-the-sentence) parentheticals. That is to say, FNs do not have to be patterned to fit into the syntax of the sentence(s) they accompany. Now, we can turn our attention to the second sub-category of parentheticals.

1A.5.2. APPOSITIVES

Apposition, according to Winter (1982) and Quirk et al (1985) denotes both a semantic and grammatical relation between heads or headed structures and modifying structures within the sentence. Items related in this way are called appositives. The grammatical relation between appositives resides in an identity of grammatical form; the semantic relation concerns the co-referentiality of the constituents. Identity of grammatical form means that the second appositive must echo in some way the grammatical form of the first. Take the following example:

Ex. (4) The president spoke of the problem, Egypt's problem, of how to fight inflation.

In this example, the first appositive (i.e. problem) is lexically repeated by the second appositive. The repetition takes the form of substitution of the premodifier Egypt's for

the definite article of the first appositive. This relation is sometimes made fully explicit by such adverbials as 'more specifically', 'more exactly', etc. The co-referential nature of the constituents means that the two appositives must either "be identical in reference" or "the reference of one must be included in the reference of the other"(Quirk et al,1985:1301). Thus in example (5) below

Ex. (5) Paul Daniel, the distinguished magician, died in his sleep last night.

'Paul Daniel' and 'the distinguished magician' refer exophorically to the same person. One test for apposition is to try and rewrite the two appositives in the form of a subject, verb, complement structure where the two NPs occupy S and C slots. The appositive in example (5) would therefore be rewritten as (6) below:

Ex. (6) Paul Daniel is the distinguished magician.

The function of the second appositive in (5) above (viz 'the distinguished magician') is to amplify or further specify the meaning of the first. The implication here is that the first appositive is the most central semantic item of the two. Furthermore, we can often delete the second appositive and still retain a grammatical sentence. Appositives have no single typographical signal. They may be marked off by any of the punctuation marks mentioned on page 21 above. In addition,

there are certain adverbials which make further explicit the appositional meaning. Typical examples of these adverbials are: 'for instance', 'more specifically', 'in particular', 'to be more precise', 'that is to say', 'namely', 'what this means is', etc.

In cases where the appositional meaning is not clearly signalled, it is a characteristic of such implicit apposition that it can be made explicit by the insertion of adverbials. An example of an explicit apposition is:-

Ex. (7)

The ex-president of Egypt, that is, Anwar Sadat,
was assassinated in 1981.

Appositives have been treated as parentheticals (Quirk et al, 1985) because of the fact that they are marked as parenthetical by punctuation (in writing) and intonation in speech (see Quirk et al, 1985:1300ff for more details and for different types of apposition).

Appositive constructions, like relatives, are different from FNs in that they are physically included within their host-sentence's boundaries and the reader has no option of disregarding them. The semantics of appositive structures is, unlike the semantics of FNs (see ch.3) limited in scope in that nearly all second appositives, as in our example above, specify or narrow down the meaning of some item in the host sentence.

The closest structures to FNs, in terms of the functions they realize, are interpolations. It is to these that we now turn our attention.

1A.5.3. INTERPOLATIONS

Let us first begin by giving an example of an interpolation:

Ex. (8)

Our inferences concerning the characteristics, qualities and inner states of others are based on prior beliefs (sometimes quite erroneously) about how these features are expressed and associated with one another.

The underlined interpolation, in the above example, is evaluative. Its evaluative role is indicated by the use of the postmodifier erroneously. In fact the interpolation itself consists of an adjunct and two modifiers.

Like appositions, interpolations modify different parts of the clause or even the whole clause. Interpolations, unlike apposition structures, which are always anaphoric, can have either anaphoric or cataphoric reference to the item they modify. The dividing line between interpolations and appositions lies in their semantic function within the sentence. The function of the former is to comment on or evaluate some part of the adjoining clause structure as exemplified in (8) above.

Also, unlike apposition, interpolations do not further specify the meaning of some other item within the clause. Interpolation, like apposition, is typographically signalled by a variety of punctuation marks. These comprise the following: correlative commas, correlative dashes, parentheses and semi-colon, comma or dash and a full-stop when occurring finally in a sentence. The following is an example of an interpolation:

Ex. (9)

The theory - and it is only a theory - is that these early frogs fed on smaller animals along the shores and banks of ponds and streams, and the shortest cut to safety when attacked was to leap into the water.(borrowed from Winter 1982:134)

The interpolated clause is evaluating the significance of the word 'theory' as a word in this context. Because interpolation is, strictly speaking, a non-essential extraneous element of clause structure (see Winter, *ibid*:132ff), it can be removed without rendering its host sentence ungrammatical. Interpolations, although physically included within their host sentences, carry out similar functions to those that FNs realize (see ch.3). The fact that interpolated structures are marked off by intonation in speech and in writing by the same typographical signals that single out appositives, qualifies them as parenthetical structures. Now, we turn our attention to the last sub-category of parentheticals.

1A.5.4. PARENTHETICAL CLAUSES, ADJUNCTS AND PARENTHETICAL SENTENCE ADVERBS (used for proposition modulation)

Parenthetical clauses and adjuncts (see below) "are used to strengthen or weaken the force of an assertion" (Corum, 1975:133). The following is an example of a parenthetical clause weakening the force of the proposition made in its host sentence:

Ex. (10) Thomas, I believe, smokes Marlboro.

The parenthetical clause in the above example weakens the force of the proposition expressed by showing its tentativeness. But, if the parenthetical clause 'I am sure' is used instead, then the proposition made will be strengthened.

A similar viewpoint about parenthetical expressions is given by Loewenberg (1982:196) and Mcconell-Ginet (1982:180), who use the term 'hedge' to refer to adjectival, adverbial or parenthetical expressions that qualify, by restricting or extending, what is said in the utterance in which they occur. An example of a hedging parenthetical clause is:

Ex. (11) It is going to rain, I think.

The parenthetical clause, "I think", is used by the speaker to 'shield' (Prince et al, 1982) himself against any blame if it does not rain or in other words to weaken the proposition made.

Paranthenetical clauses, adjuncts and adverbs also give the hearer or reader access to the speaker's or writer's attitude towards a proposition (see Lakoff,1974). Take this example:-

Ex. (12) Sara, regrettably, has hoof and mouth disease.

Paranthenetical adverbs, adverbial phrases and paranthenetical clauses of the type 'I know', 'I believe' share the feature of mobility or 'transportability' (Corum, 1975). Note the different locations that paranthenetical adjuncts, clauses and adverbs may take:-

Ex. (13)

Obviously		obviously		obviously		obviously
	pickled		tastes		with	
No doubt		no doubt		no doubt		no doubt
	chilie		better		salt	
I think		I think		I think		I think

Such paranthenetical structures are typically set off from their host sentence in speech by phonological pauses. In writing they are singled out from their host sentences by means of correlative commas, dashes and parentheses or a single comma depending on their location in their host sentence. For example, if a paranthenetical clause (see below) occurs finally in a sentence; then only one comma is used:-

Ex. (14) Michael drinks Martini, I believe.

These parenthetical constructions differ from non-restrictive relative clauses, appositions, interpolations and footnotes in that all the latter sets can not be freely moved unless the sentence constituents themselves are moved. For instance, the interpolated clause, 'and it is only a theory', in Ex. (9) above can not be moved to any other slot within its host sentence unless the whole sentence structure is adjusted or totally changed. The interpolated clause is an evaluation of the noun phrase 'the theory' at the beginning of Ex. (9) above and therefore it (the noun phrase) has to be immediately after this noun phrase. Unlike non-restrictive relative clauses, apposition, interpolations and FNs, parenthetical clauses and adjuncts may occur initially in their host sentences.

To round off the discussion of parenthetical structures; it has been demonstrated that all the categories listed differ from FNs in that they are physically included in their host sentences and are, unlike FNs, restricted to realizing one or two functions as shown above. It would be of interest if further research were carried out to find whether there would be any relation between the number of parenthetical structures used and the number of FNs accompanying a text. In other words, does the use of a large number of parenthetical constructions reduce the number of FNs and vice versa ? and why ? We can,

now, turn to the second major category of structures similar to
FNs.

1A.5.5. ASIDES

The term 'asides' is used by Montgomery (1977) and by
Coulthard et al (1981) in their attempts to analyze the
structure of lecture monologue. In their study, Coulthard et al
(ibid) propose that lectures be seen as being enacted on two
discourse planes simultaneously. They label these planes main
and subsidiary. They see the former as both necessary and
sufficient to the discourse, whereas they see the latter as
necessary but not sufficient in the sense that it can not stand
on its own. Subsidiary discourse is then broken down into two
categories: glossing and asides. The role of glossing is to
reflect back on, to modify, reformulate, evaluate and comment
on the main discourse. Take the following example of a
reformulation gloss:

Ex. (15)

Main	"All these equivalent circuits are experimentally determined
Subsidiary/	at least they have a basis in experiment

Coulthard and Montgomery (ibid:37) argue that asides have
a much more tenuous semantic relationship with the main
discourse than glosses. They (asides) can consist of strings of
utterances or simply of an insertion within an utterance. Their
boundary is marked by the fact that the subsequent discourse
refers back to the discourse immediately preceding the aside as

continuity is re-established. The aside, they argue, typically contextualizes the discourse by, for example, linking abstract to concrete blackboard description (i.e. procedural asides, see (16) below), or relating the process of description to some further activity (see (17) below) to be undertaken by the audience or to some previous information supplied to them (i.e. recall asides).

Ex. (16) Procedural Aside

Main "/in the stem er the situation is different because
plane the xylem and the phloem are on the same radius
 /now if you have a stem with separate vascular bundles
 like this and so on
Aside 1 just show xylem phloem for simplicity- ll xylem here
 phloem towards the outside" (Montgomery, 1977:38)

Ex. (17) Recall Aside

Main /but as soon as you put into a circuit and you do what
 you have to to get the thing working
Aside /it is this process I referred to as biasing earlier on
Main /then currents will flow through it voltages will appear
 across it.

Asides are, according to Montgomery and Coulthard et al (1981), signalled most importantly by intonational features such as lower key, accelerated tempo, and a drop in the frequency of tonic syllables.

From the above descriptions of asides and glosses, it seems that the glossing category is the closest to FNs from the point of view of the functions they both realize. However, some of the functions (e.g. repeat and restate) Montgomery lists under the category of glossing seem to be a result of the spoken mode of lecture discourse. In this genre a lecturer may, because of the transient nature of speech, have to repeat/restate some items of the discourse to make sure that his/her interlocutors have grasped them.

The two functions realized by asides (i.e. procedural and recall) seem to be similar to some of the functions (e.g. text-connectives) that some parenthetical phrases/clauses realize (see Kopple,1985). Take the following examples of a procedural and recall function being achieved through the use of parentheticals.

Ex. (18)

Procedural When we turn to other combinations of different parenthetical vowel additions (see Table 5), the tendencies in the two experiments are very clear and similar.

Ex. (19)

Recall This fact is, as stated earlier, one of the cornerstones in our investigation.

The underlined parenthetical element in example (18) is not different from Montgomery's (ibid) 'procedural aside' since it establishes a link between the verbal and non-verbal data. In example 19, the underlined clause is carrying out a recall function since it reinstates in the discourse some information which is treated as already familiar to the audience. As far as our corpus is concerned, it seems that the functions Montgomery classifies as asides are realized through the use of parenthetical phrases and clauses. The two modes of delivery used (i.e. spoken or written mode) may be responsible for these variations.

Other discourse analysts who have used the term differently from Montgomery are Sinclair and Coulthard (1975) and Edmondson (1981). Sinclair and Coulthard, who studied classroom discourse, define asides as "instances of the teacher talking to himself" (1975:44) and give the following as examples

Ex. (20)

"'it's freezing in here', 'where did I put my chalk ?'"(p.44).

But Sinclair and Coulthard have not elaborated on this type of aside. However, this type of aside, it seems to me, is like a rhetorical question in not requiring an answer. Edmondson's

(1981) use of the term is in the footsteps of Sinclair and Coulthard.

In addition, the term is used in drama and theatre studies (e.g. Burns, 1972) to refer to occasions when an actor on the stage addresses the audience directly and tells them about the relationship between the characters, their motives and intentions which are supposed to be kept outside the knowledge of other characters. An example of this type of aside is:

Ex. (21) Character A. addressing Character B
 A. Have you heard ?
 B. What ?
 A. The king has died.
 (A. turns to the audience and says "I wish
 he believed me"(Aside).

In the above example, the aside actually provides the audience with the assumption on whose basis A.'s last utterance is to be interpreted. An aside, as used in drama and theatre, is not very different perhaps in extent, and in terms of its embeddedness in a dialogue from a soliloquy. The only substantive difference between them is that "in a soliloquy, the actor is not addressing the audience nor does the presence of the audience seem to be necessary for" its effectiveness (Burns, *ibid*:54).

Thus far, we hope to have shown that the term aside is used in three ways as follows:-

- 1.to refer to structures used to relate parts of the discourse together (i.e.verbal to non-verbal data) and to reinstate in the discourse some information which is treated as already familiar to the audience.
- 2.to refer to cases where teachers in classroom situations talk to themselves.
- 3.to refer to occasions where people (namely, actors) disclose their inner feeling to the audience in a theatre setting.

How similar or different are asides from FNs ? First of all, FNs are not self-addressed. They are directed at those readers whom the writer thinks will benefit from them. Second, unlike asides, whose main functions are 'procedural' and 'recall' as shown above, they carry a wide range of functions (see ch.3) and are physically separated from the mainline text. Third, asides tend to give a somewhat impromptu addition rather than a planned inclusion. In other words, the use of FNs in a text appears purposeful and deliberate.

To round off, on the grounds of the aforementioned, asides may be best described as a 'genre' peculiar to spoken discourse.

Having distinguished between FNs, parenthetical structures and asides we now investigate and provide plausible reasons for the employment of FNs.

SECTION B

1B.0. WHY DO WRITERS USE FNS ?

Apart from using FNs for documentation purposes (see 3A.1. and 3A.1.1. for details); we believe that FNs are employed for the following reasons:

- (1) The differences between spoken and written discourse lead to the employment of FNs in the latter; and
- (2) The indeterminacy of a writer's prospective audience leads to the employment of FNs to meet that audience 's variable background information levels.

In the following sections, we will deal with each of these factors in turn and show in what way they lead to the employment of FNs.

1B.1. DIFFERENCES BETWEEN SPOKEN AND WRITTEN DISCOURSE AND THE EMPLOYMENT OF FNS

Communication through the spoken mode is not only realized by phonation but also employs such paralinguistic devices as gesture, facial expressions and so on. A speaker has available to him/her voice quality effects. A speaker, armed with the above features of spoken discourse, can always override the effect of the words he/she speaks. Thus, to quote Brown and

Yule (1983:4) a "speaker who says 'I' d really like to', leaning forward, smiling, with a 'warm, breathy' voice quality, is much more likely to be interpreted as meaning what he says,...."

These prosodic and paralinguistic features are denied to the writer. As Halliday (1989b:30) puts it these are "aspects of spoken language that have no counterpart in writing". Again, a speaker can observe his/her interlocuter(s) and, if he/she wants to, modify what he/she is saying to make it more accessible or acceptable to his/her hearer. Also, interlocuters can interrupt and ask the speaker to clarify things. By contrast, the writer has no access to immediate feedback and simply has to imagine his/her prospective readers' reactions. The possibility of a mismatch between the speaker's intentions and the interlocuters' comprehension, though not entirely remote, still could be made less likely through the listeners asking questions and the speaker checking his/her interlocuters' understanding.

In the case of writing, this kind of mismatch is, in most cases, very likely to happen as readers do not approach written texts with equal background knowledge. It is this question of background knowledge that makes writers do their best to convey their message in as a clear way as possible. Writers, in fact, have a variety of options to effect this. The most common ones are glosses, definitions, examples, illustrations, non-verbal

data, etc. Such devices can be inserted into the mainstream text or used in the form of parentheticals embedded in the mainstream text and typographically marked, in the form of appendices at the end of the written text or in the form of footnotes placed either at the bottom of pages or at the end of articles, chapters or books.

It seems to me that because writers do not have full access to information about their future audience (a point taken up in the next section) that they resort to such devices to make up for the differences in readers' knowledge and needs. It can be argued that writers employ such devices precisely at those points of text which they believe are potential troublesources that may lead to miscommunication. Miscommunication can either result from the fact that the writer and some of his/her readers do not share the same background knowledge, which can be social, cultural or academic, or it can be due to the fact that the writer has left certain aspects of the text vague, imprecise or ambiguous, or it may be because some readers do not have the same access to subject/genre conventions or requirements which the writer uses to assign restricted values to specific linguistic and discoursal features of the text. Candlin (1978:1) seems to emphasize this source of miscommunication when he says:

"Writings in the area of mutual intelligibility have almost certainly underestimated potential misunderstanding by under emphasizing or failing to take account of the variability in value, as between speaker's (or writer's)

intent and hearer's (or reader's) uptake".

To overcome any misunderstanding between the writer and some of his/her assumed prospective audience, some writers offer information in FNs to make up for any over/under informativity in their texts. The information presented in FNs may be beneficial to some readers, but not to some others, depending on their level of background knowledge. FNs primarily clarify and buttress the text at these points where the writer's purpose is likely to be misunderstood by readers. It has to be mentioned that FNs may have rather an indecisive effect on the reading process because of the syntactic discontinuity they may create (a point which is thoroughly investigated in Chapter Five).

1B.2.0. THE WRITER'S SENSE OF AUDIENCE AND THE USE OF FOOTNOTES

The terms 'audience awareness', 'sense of audience' and 'reader awareness' are widely used by a number of investigators as one of the measures of competent writing. Before reporting on how these notions are utilized in assessing writing competence, it is in order to start with (1) an overview of what these terms refer to and then proceed to the questions of: (2) why a writer should have an audience in mind; and (3) how the indeterminacy of a writer's audience leads to the employment of FNs.

1B.2.1. What is meant by 'audience awareness'

The terms 'audience awareness' and 'reader awareness' as used by Bartlett (1981) and Becker (1986), Suleiman and Crosman (1980) and Kennedy and Bolitho (1984) are reader-orientated; in that they denote a writer's capacity to envisage his/her audience's characteristics and their information needs. In other words, a writer, before and during the process of writing, should concern him/her self with questions about his/her prospective audience such as the following:

Who am I writing to ?

What do I want to tell them ?

How much do they already know about my topic ?,... etc.

On the other hand, Smith (1982) uses these notions to refer to text features. In other words, Smith's use of the term is text-orientated (see below). Bartlett (1981), like many others, (e.g. Britton, 1975) uses the term 'sense of audience' in characterizing children's writing as 'egocentric'. In her investigation of children's writing, she points out that children, when writing, leave out information that is crucial to the understanding of what they write. In other words, children are unable to set aside their own (egocentric) intentions and view their compositions from a reader's perspective. She (ibid:18) gives the following as an illustration of children's egocentrism in writing:

Ex. (22) "One day two boys set out for the park.
He had a bike."

Bartlett thus suggests that young writers face two sorts of problems in constructing coherent, unambiguous text. "They must be able to assess the information actually available to readers in a text, being careful to differentiate their own intent to inform from the information actually transmitted" (p.18). It is worth noting that experienced writers face similar problems, but they have developed the means through which they can overcome such problems.

Unlike other writers, Smith (1982) uses the notion of 'audience' and 'reader awareness' in connection with the notion of 'register'. He claims that a writer's awareness of his/her readership is represented by writing for them in an appropriate register. For instance, if writing a letter of complaint, one has to use the conventional format for such letters (Smith confuses 'register' with 'genre') and worry about nothing else as long as there is no "genre violation" (for an explanation of what this term means, see James (1989)). Smith has overlooked the fact that the degree of elaboration of the thing the complaint is about is dependent on the reader's degree of familiarity with what is being complained about. Also, the style to be used in writing the letter depends on the status of the person expected to read it. Smith is claiming that a writer, through adopting a certain register and style is selecting a certain type of audience.

Flower and Hayes(1980), like Bartlett (1981), used the notion of 'audience awareness' as one measure of competent writing. They reported differences between more and less skilled writers in terms of their awareness of their audience. They examined comments writers made as they composed thinking aloud protocols. Flower and Hayes found clear differences between "expert writers"and "novice" writers (college freshmen diagnosed as having writing problems).

The expert writers were far more concerned with their audience. They spent more time thinking about the effect they wanted to make on the audience, how they wanted to present themselves to the reader, what background knowledge the reader needed to have and what might interest the reader. On the other hand, novice writers tended to be "tied to topic" (p.27) and spent less time thinking about the reader. A particularly vivid example was one novice writer, an engineering student, who, when asked to write about his job for readers of Seventeen magazine (13to15 year old girls), ended up with a "detailed technical analysis of steam turbulence in an electrical generator"(p.30)!

Flower (1979) suggests that novice writers have difficulties in converting "writer-based prose" to "reader-based prose". All writers, she suggests, have access to writer-based prose, a personal style that "reflects the interior monologue of a writer thinking and talking to himself"

(Flower,1979:63). Good writers, Flower (1979) maintains, convert writer-based prose to reader-based prose, a less egocentric style that attempts to be sensitive to the reader's information needs. Less effective writers may be unaware of the reader's needs or they may be aware of them but unwilling or unable to consider them in writing.

There seems to be consensus that a writer should have an audience in mind and should develop a sensitivity to his/her audience's characteristics, levels of information and interests. In this regard Raskin and Weiser (1987) argue that

"writers can make decisions about the amount of information to include in a sentence only to the extent they can accurately determine who the readers will be and how much they will know about the subject of the discourse"(p. 197).

They go on to argue that under-informativity is a particular problem for inexperienced writers who are extremely egocentric and therefore incapable of recognizing that what seems explicit to them may be implicit to their readers or vice-versa. Raskin and Weiser point out that inexperienced writers often assume that readers are familiar with information that can not be recovered from the text. It is also worthwhile to note that if 'under-informativity' is taken as a sign of egocentrism then by the same token 'over-informativity' may be treated as a sign of egocentrism too; as some readers can be

bored by being fed information with which they are well acquainted. Knowing one's audience does not only influence the approach and purpose in writing, but also determines "the very content of the writing itself- what points you make, what examples you use" (Cowan & Cowan,1980:.87).

It is obvious from the foregoing discussion that the terms referred to above (namely, audience awareness, sense of audience and reader awareness) are used in two different ways:

- 1) to denote writers' sensitivity to readers' characteristics, information needs and interest; and
- 2) to denote textual features (i.e. register).

All of the above mentioned studies focused on single readers and not on a multiple audience. This is the case in such studies as all of them are concerned with students writing in the classroom. In this type of writing, the students always have a clear audience (i.e. a teacher or a classmate) in mind.

1B.2.2. WRITER IS ADDRESSING A MULTIPLE AUDIENCE

But, in our case (writing academic articles for publication) the article-writer's audience is not always fixed and may be wider than the writer imagines. For this reason, we may argue that for an article there might be more than one type of audience as follows:-

- 1) primary audience; and
- 2) intermediary audience.

- 1) a primary audience comprises those readers a writer believes will use what he/she perceives as 'final drafts' of his/her articles for specific professional purposes. This category includes the author 's colleagues and others in their field.
- 2) intermediary audience are those readers a writer believes will look at drafts of a document during the composing process and then offer advice about ways to revise the drafts. This category comprises journal editors and reviewers. The effect of this type of audience is noticeable in some footnotes in our corpus, answering questions raised by reviewers to the article writer (see 3A.1.3.).

A writer addressing such a multiple audience has to know something about their linguistic knowledge, encyclopedic knowledge, age, social status, and what purposes they will use his/her document for. There is no doubt that such knowledge affects a writer's linguistic choices and the amount of inference he/she requires of his/her audience and how much information he/she feels required to give about the topic he/she is addressing. But, how do writers get to know about their audience or in other words develop their 'sense of audience' ? This is the question we, now, turn to.

1B.2.3. HOW DO WRITERS GET TO KNOW THEIR AUDIENCE (s) ?

In most cases, writers build their assumptions about their audience, before and/or during the process of writing, on their personal experience and contact with colleagues and students.

For example, some writers work as teachers and therefore manage to know the level of their audience's knowledge. Some other writers, actually, give a draft of what they intend to publish to a representative sample of their prospective audience and ask them for their comments. This is a very useful practice for writers as it enables them to know the reaction of the consumers to what they expect them to read in the future and how understandable their writing is to them.

Once a writer has a fair idea of who his/her audience will be, then he/she will be able to assess roughly how much background knowledge his/her prospective audience possess and how much supposed information he/she has to give. Thinking of a multiple audience (i.e. more than one type of readers), a writer has to meet different readers' demands. A writer of an academic journal article may be addressing several different categories of readers that can be grouped in terms of their level of knowledge as follows:

- (1) Readers at the same level of knowledge as the writer (e.g. reviewers, editors and colleagues from the same field); and
- (2) Readers below the writer's level (e.g. students).

These two categories of different readers each with unequal knowledge show the enormous difficulty of the task a writer faces when addressing a 'wide audience' with different needs, interests and purposes. The audience's different needs, interests and purposes affect the writer's decision of how much

information to give in the text and what degree of inference is required from his/her audience.

1B.2.4. HOW WOULD A WRITER OVERCOME HIS/HER AUDIENCE'S
DIFFERENT INFORMATIONAL DEMANDS ?

The solution to this problem lies in adopting an accommodation strategy on the part of the writer. By 'accommodation strategy'(James, forthcoming) is meant that the writer tries his/her best to make his/her writing suit the variable information levels of his/her multiple audience. In other words, in written discourse the writer assumes a hypothetical ideal reader for whom he/she is supposed to be writing and anticipates this ideal reader's reactions and adjusts his/her writing accordingly so as to facilitate communication.

We may argue here that because of the imperfect awareness by W of his/her possible audience's information needs and interests, he/she may resort to the use of a discursal strategy to compensate for the variability of his/her audience's knowledge. This strategy is realized in resorting to the footnoting mode. Some footnotes are dictated on the writer by the nature of academic writing. That is to say, some writers use footnotes to cite references they have quoted something from. Other footnotes, as we have just argued, are used by writers to avoid the risk of being 'over-informative' in the matrix text or part of it for some or 'under-informative' in

toto (Grice,1975) for others. Therefore, footnotes are meant to compensate for any potential over-or-under informativity. For example, some readers may already possess the information presented in a footnote and therefore may disregard the footnote. Other readers who do not have the information offered in a FN may take it. This way a writer is showing his/her courtesy to his/her audience by taking into account the variability of its levels of knowledge. Take the following:

Ex. (23)

It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1: 105-106] (the superscript number marks the FN's original location).

¹. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

The information offered in the above FN expresses an exception to the generalization made about Finnish phonotactic restriction in the sentence tagged by the FN. Since the writers have inserted this piece of information in a FN rather than in the matrix text, then they must have assumed that it is known to some of their audience but not to others. The FN is there to cater for the variability of the audience's level of knowledge.

To some expert on the Finnish language, the information in the FN may be important because he/she needs to know that the writers of the article know about this exception but for others who do not have this information, it is important for them as an additional piece of information.

From the above discussion, it may be concluded that a writer, through presenting information in FNs, is attempting to cater for his/her audience's variable information needs. An evidence to support our point that differences in background knowledge between a writer and his/her prospective audience and between the audience itself may lead to the employment of FNs is cited in Willard and Brown (1990:40). Willard and Brown argue that T. S. Eliot's footnotes to The Waste Land, by their very presence make the point that a writer could no longer assume a shared body of cultural symbols between him/her self and the audience.

Having shown how the heterogeneity of a writer's audience leads to the employment of FNs, we now move to a description of the data used for the present study.

SECTION C :

1C.0. CORPUS, RATIONALES AND LIMITATIONS

1C.1. CORPUS

1C.1.1. SOURCES OF DATA USED IN THE STUDY

The data used for the present study include 10 linguistics journal articles (see Appendix 1). These articles were chosen randomly (through the use of a random table) from the 1988 Linguistics Journal Issues. Since the articles were randomly chosen, some of them did not have any footnotes and, therefore, had to be discarded and replaced by other articles. Any article with less than 5 footnotes was disregarded and another article was chosen randomly to replace it. The average number of words per article was 5,275 words and the total number of words for all 10 articles was 52,750 words.

1C.1.2. RATIONALES FOR THE CORPUS

Three points can be made about the decisions underlying the selection of this corpus. They are:
Firstly, in order to control text type, one parameter was held constant. It was the field of discourse (see Halliday et al 1964); the 10 articles were all linguistics articles. Second, I did not bother whether the authors of the articles were native speakers of English or NNSs, because all writers publishing, despite their origins or languages, had to follow strictly the style manual recommended by the journal in which they publish, and satisfy a referee appointed by the journal's editor. But it would be interesting (for future research) to see if native/non-native authors adopt different practices.

The fact that the articles were chosen from the same field and the same journal would provide solid ground to maximise

comparability between the 10 articles; since one could be fairly sure that variation might be explained as resulting from factors other than change in the field of discourse or publishing house. Thirdly, linguistics articles, and not any other articles from any other discipline, were selected because of the analyst's familiarity with the subject.

1C.1.3. LIMITATIONS OF THE CORPUS

Although the size of the corpus (10 articles) used may sound small, we would like to make it clear that the number of footnotes employed in these articles (113 FNs) is quite large enough for the purposes of the present study. However, the results obtained from this study, especially the classification of FNs and their formal features, are only generalizable to linguistics journal articles. FNs in other disciplines may have a wide or less variety of functions than the ones we identified in the articles used for this study (see 3A.4.).

In the next Chapter we present a review of some selected approaches to text and discourse analysis and show with what success they handle our data.

CHAPTER TWO
IN SEARCH OF A FRAMEWORK

2.0. INTRODUCTION

Rather than stressing analysing text only (text is here viewed as the carrier of discourse) as product, we are of the opinion that, one should aim at both the textual features and the discourse which is 'in play' behind the text. Such an analysis should be an analysis of 'whys' and 'hows' rather than one of 'whats'. In other words, rather than specifying what communicative functions (i.e. describing, defining, restating, etc.) the textual elements carry, the discourse analyst should try to look into the writer's motives for offering an element and try to characterize why such an element is offered to the reader, how it helps the discourse to unfold and convey the intended message and how it affects the reader's cognitive process and thereby the comprehension procedure.

I should like to begin my search by presenting a sample of the data (a footnote with the extract from the text¹ it accompanies) to which frequent reference will be subsequently made in this chapter. My aim in doing so is to show how various approaches to discourse analysis would handle it.

¹ My text is a journal article by Maria Wingstedt and Richard Schulman (1988) titled "Listeners' judgments of simplifications of consonant clusters" taken from the Journal of Linguistics, vol. 26, pp. 105- 123. [see article no.1 in Appendix (1)]

Some selected approaches from the literature will first be very briefly reviewed and then the discussion will be focused on those approaches to be tried out on my sample.

2.1. The Sample

Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-106]

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

2.2. SOME SELECTED APPROACHES TO TEXT AND DISCOURSE ANALYSIS.

2.2.1. Halliday and Hasan (1976)

Halliday and Hasan (henceforward H. & H.), in their book 'Cohesion In English', are interested in investigating the relationships between a sequence of sentences in terms of what they call 'grammatical and lexical cohesion'. There they identified and comprehensively described five types of cohesive ties: 'reference', 'substitution', 'ellipsis', 'conjunction' and

'lexical cohesion'.

I will now consider these ties briefly and then show how far such notions will take us on the road towards the analysis of footnotes by reference to our sample.

a) Reference is defined by H. and H. (ibid:11) as that relation "in which ONE ELEMENT IS INTERPRETED BY REFERENCE TO ANOTHER". (original emphasis)

An example of a reference relation is the following:

Ex.(24) (1) Last week Tom went to a tandoori restaurant with his girl friend.(2) They had a very spicy meal there.

The pronoun 'they' in the second sentence, is only interpretable by reference to 'Tom' and 'his girl friend'. The adverb of place is also interpretable with reference to sentence 1. Reference can be to an item in the situation outside the text (exophoric) as well as to items in the text (endophoric). The above example is an instance of the latter and the following is an example of the former.

Ex.(25) A. These roses are lovely.
B. Yes, they are indeed.

The noun phrase 'these roses' in A's utterance is a reference to something in the situation outside the text.

Examples of reference items are: personal pronouns, demonstratives and comparatives. The following are examples of the three types respectively:

Ex. (26) (1) Sawsan is nine months old. She was born in Wales.

(2) A. Are you going to the party ?

B. Yes.

A. I will see you there then.

(3) Sawsan is smaller than Bilal.

b) Substitution is a relationship on the lexicogrammatical level. It is essentially confined to the text and the substitute item has the same grammatical function as that for which it substitutes. A substitute item may function as a verb (do), a nominal (one, ones, same), and as a substitute for a clause (so, not). These substitute items replace other items which can be recovered from the text. Take the following example:

Ex. (27) A. Did you buy the car ?

B. Yes I did.

c) Ellipsis is different from substitution in that it is substitution by zero. This means "something [is] left unsaid" without the implication that what is unsaid is not understood; on the contrary "unsaid" implies "but understood nevertheless" (ibid:42). Ellipsis is an anaphoric and cataphoric relation, as

indeed most cohesive ties are. Its cohesive effect lies in the fact that it recovers an element from a preceding sentence and uses it to fill an empty slot in a following sentence.

d) Conjunction: Although H. and H. include conjunction as an essentially grammatical means of creating cohesion, they acknowledge that it has a lexical component (1976:6). Grammatically and lexically, conjunctive cohesion differs significantly from the previous types of cohesion discussed. Unlike reference, substitution and ellipsis, conjunction does not refer to or replace a specific grammatical element in a previous sentence. Nor does conjunction provide a new lexical item that echoes or otherwise connects with a word used previously.

Instead, conjunctions create cohesion by relating to each other successive sentences that have no overt links. For instance, the following example contains two separate sentences that have no obvious semantic or grammatical relationship between them.

Ex. (28) (i) The men were tired out. They kept fighting the
fire.

However, (ii) below is cohesive because the conjunctive item 'however' provides a semantic link which creates a relationship between the proposition in the first sentence and the proposition in the second.

Ex. (29) (ii) The men were tired out. However, they kept fighting the fire.

As the above example suggests, conjunction refers to cohesion achieved by connectives.

H. and H. have classified these transitions according to the semantic relationships they suggest. Their categories are: additive, adversative, causal and temporal. The following are examples illustrating each category respectively.

- Ex. (30) a) He was locked up in his study for 10 hours. And in all this time he did nothing.
- b) Even though he is rich, he is not a happy man.
- c) He can not practise weight lifting because of his bad backache.
- d) First, he visited his aunt. Next, he went straight home.

Additive conjunctions constitute the most general category. And produces cohesion simply by signalling that there is more to say about the topic of the previous sentence or even more generally, that the two sentences linked by and are intended to be seen as related. This conjunctive use of and differs somewhat from its use as a coordinating conjunction in which and joins two parallel or semantically equivalent words, phrases or clauses.

The adversative conjunctive ties indicate a contrastive relationship. The second sentence in the linked pair presents a proposition that contradicts or is contrary to the proposition expressed in the first. Causal ties indicate that the second sentence will present a reason or result derived from the information in the preceding sentence. Temporal ties suggest relationships in time. Adversative, causal and temporal ties are alike in that the lexical items by which they are expressed contain the semantic features indicating the purpose of the tie.

It must be pointed out that the use of conjunctions does not create cohesion if no lexical or semantic relationship exists. Despite the conjunctions in the example below, the text is neither cohesive nor coherent.

Ex. (31)

The girl loved cats. However, many people enjoyed the film. After work, he went to his cousin. But dogs make good friends for people who live alone. Consequently, no one was in favour of the decision.

H. and H.'s category of conjunctives is hardly used to link a footnote to a matrix text. However, they are frequently used to make a smooth transition between the sentences that make up a footnote.

(e) the last type of cohesive relations is the type H. and H. call 'lexical cohesion', which is the cohesive effect realised by the selection of vocabulary. Lexical cohesion involves

repetition or reiteration; however, reiteration is a wider term than repetition. It includes the occurrence of a related item which may be anything from a synonym or near synonym of the original to a general word dominating the entire class. Another type of lexical cohesion is achieved by means of 'collocation' " the association of lexical items that regularly co-occur" (ibid:284). As a matter of fact, lexical cohesion has been found to be the predominant means of connecting sentences in discourse (Witte and Faigley,1981 & Hoey, forthcoming).

Let us now try to analyse our example (copied below for ease of reference) in terms of cohesive ties to see what insights into FNs are yielded thereby. If we try to account for the relationship between the matrix text and its associated footnote in terms of cohesion theory; it will be noticed that the noun phrase 'this restriction' in the first sentence¹ of the footnote refers backward (is anaphoric to) to something mentioned before in the extract that the footnote accompanies.

It can be shown that there is a semantic relation between the matrix text and the footnote and this is manifest in the repetition of identical lexical items, such as 'restrictions' and 'Finnish' and the near synonyms 'consonant sequences' and 'consonant clusters' in the matrix text and the footnote respectively.

¹ To avoid controversies about what a 'sentence' is, the term is used in this study to refer to two entities: (1) the orthographic sentence that starts with a capital letter and ends with a full-stop and (2) the independent clause.

If the footnote's index (the Arabic number) is taken to be analogous to lexical cohesion, then cohesion can be established between the matrix text and the footnote by virtue of the Arabic number and regardless of any lexical repetition.

According to H. and H.'s definition of 'text' (ibid:2) as " ... a semantic unit: a unit not of form but of meaning", our extract is a text because it forms a 'semantic unity'. The different parts of the texts (both of the extract and of the footnote) are cohesive by means of grammatical and lexical cohesive links which show how sentences are related retrospectively as shown below.

2.1. Sample

Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-105] (The underlined lexical and grammatical items qualify the extract as a text).

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure condition. See for example Suomi (n.d.); Karlsson (1983). [1:121] (The underlined lexical and grammatical items, according to H and H., qualify the footnote as a text rather than mere strings of sentences).

H. and H.'s definition of 'text' makes the footnote equal in status to the part of the matrix text it is bound to. If this was the case, the writer of such a footnote would not include central information in a peripheral footnote. But, what sort of 'text' is the footnote ? Does it really have an equal status to the extract from the matrix text it accompanies ? Why is it placed outside of the matrix text ? H. and H.'s framework does not answer these questions as it mainly explores how continuity is marked in texts and does not concern itself with the pragmatic factors for the production of a text . For answers to the above questions, we have to look elsewhere.

2.2.2, Winter (1977) and (1986)

One frequently cited attempt to analyse written texts is that proposed by Winter (1977), who analyses written discourse in terms of what he calls 'Clause Relations' (CRs). He (1986:91) defines a CR as follows:

"A Clause Relation is the shared cognitive process whereby we interpret the meaning of a clause or group of clauses in the light of their adjoining clause or group of clauses".

Before proceeding any further, it is important to explain Winter's basic terms. Winter uses the term 'paragraph' to refer to "sentence pairs or groups of sentences in a clause relation "(ibid:23). (This use of the term 'paragraph' is similar to

Lackstrom et al's (1972) 'conceptual paragraph' which is a unit of meaning). The relation holding between the members of each pair is called a CR. The term 'member' stands for "one part of a two-part membership, rather than for a sentence in a one-to-one relation with another sentence"(Winter, 1977:2-3). A 'member' can consist of one sentence or more. But it may also consist of a nominal group as well as of finite and non-finite clauses (ibid:10). In other words, clause relations can exist within the orthographic sentence as well as beyond it.

As for the term 'sentence', Winter uses it in two different senses.(1)'sentence' is defined as that which occurs between two full-stops (ibid:6). (2) Otherwise, sentence and clause are not distinguished. In other words, the sentence is taken to be grammatically co-extensive with the independent clause and constituted by the following:-

SUBJECT VERB (object) (complement) (adjunct)

The brackets indicate the optional items.

Types of Clause Relations

Winter's clause relations are "relations between binary members". In the light of Winter's definition of the term 'member', do our matrix text and the footnote represent two members ? The following example from Winter (ibid:10)

represents two members, where the first member is underlined and the second is in bold type.

Ex. (32) After the police raids, **the rifle clubs banned the use of semi-automatic weapons.**

Winter's model sets out to specify the types of relation(s) between such two-part members. These types are signalled through the three 'vocabularies' Winter posits. These he calls 'vocabulary 1', the subordinators, e.g. 'after', 'because', etc.; 'vocabulary 2', or sentence connectors, e.g. 'for example', 'that is to say'; and 'vocabulary 3' which includes a closed-set of vocabulary items such as 'achieve', 'result', 'different', (for a list of each type see *ibid*: 14, 16, and 20 respectively).

All three types of vocabulary constitute a set of contextual items which function as signposts to what a sentence means in connection with its adjoining sentences (contextual meaning). More precisely, the explicit occurrence of these items in text signals a particular type of relation between the clause in which it occurs and the clause or clauses which adjoin it.

Within Winter's framework there are two principal types of relation. The first is where entities, actions, or people are matched and is called the 'Matching Relation'. The second is

where we observe a change in time/space sequence and is called the 'Logical Sequence Relation'. In this relation (see example 32 above) the time sequence is crucial to the semantics of interpretation. The great majority of the items of vocabulary one, two and three, referred to above, are included in one of these two relations or, in some cases, both. As an example of a Matching CR, consider the following:-

Ex. (33)

It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally. [1:105-105]

The underlined vocabulary 2 item signals a matching contrast relation between the two sentences. But, can we account for the relation between the last sentence of the matrix text and the footnote in terms of Winter's clause relations ? Winter's definition of clause relations is rich in implications. For example, the use of the adjective 'adjoining' in his definition of clause relation cited on page 62 of this chapter. can be taken to mean 'within the same discourse' and thus the footnote may come under the umbrella of clause relations. In the light of this, what is the function of the footnote ?

It may be argued, within Winter's framework, that the footnote is carrying out a 'concessive' function in relation to

matrix text exit sentence. The footnote may be interpreted in the context of this sentence as saying " what is true of" standard Finnish is not true of contemporary Finnish. It is worth noting that the last sentence in the above extract has a comparative denial relation to the sentence preceding it, a cause-result relation with the sentence following it and a concessive relation with the footnote.

Winter, to my knowledge, has not dealt with sentences (or to use his terminology, CRs) that enter into three different relations simultaneously and this makes his CRs inadequate for an account of the CRs between matrix text exit sentences, FNs and matrix text re-entry sentences. It is worth noting that Winter uses what he calls the question technique' to make implicit clause relations explicit. According to him (1977: 48) when relations between clauses are not spelt out, the reader resorts spontaneously to the question technique to find out the relation between a pair of clauses. The following extract from our sample illustrates what Winter means:-

Ex. (34)

It is characteristic for the Germanic languages that the restrictions on the combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-106]

The footnote

1. We are aware of the fact that this restriction is not without exceptions, but

refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

The above extract and footnote, looked at in terms of Winter's question technique, will be as follows:-

Ex. (35)

It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. What about the non-Germanic languages ? Or are there any other languages that do not allow for such things ? For comparison, there are languages where such restrictions are more severe, such as Finnish, where only one consonant is permitted initially or finally.¹

Asking a retrospective question based on the content of the first sentence of the footnote, we can have the following:-

Are you aware of any exceptions to such restrictions ? We get

We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. What are these exceptions ? There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure condition. Could you give me an example please ? See for example Suomi (n.d.); Karlsson (1983).

In spite of the fact that the question technique works, it atomizes the footnote into speech acts and does not treat it as a unit of meaning. With the exception that Winter' CRs tell us that there is a relation between the FN and the text it accompanies, his framework does not tell us why the information

in the footnote is placed outside of the matrix text; nor does it give us any clue as to the status of the information presented in the footnote. Winter uses the terms 'clause', 'sentence', 'member', and paragraph, but leaves us unclear about what the precise relation between them is. Again, we have to look elsewhere for satisfactory answers to the questions posed above.

2.2.3. Hoey (1979, 1983, & forthcoming)

Hoey (1983) develops and applies Winter's clause relations to the analysis of extended texts. Hoey's approach to discourse analysis is premised on the concept of Relations and he elaborately develops certain methods for spelling out such relations (see below). He, like Winter, emphasises the role of context in enabling us to identify these relations. Relations may be binary (between two clauses) or n-ary (between more than two); simple or complex, prospective or retrospective. They occur between clauses, parts of clauses and groups of clauses and between groups of sentences.

Hoey (1979) distinguishes between two main categories of relation: those that are linguistically signalled and those that are elicited. Signalled relations are "readily decoded" because they occur as a "physical part of the discourse" (Hoey, 1979:56), whereas elicited relations "involve the introduction into the discourse (by the reader) what is not explicit" (ibid:56) (my brackets). We will deal with each category in

turn.

Relations may be signalled grammatically, as for instance by the use of subordinators (Winter's vocabulary 1) or by conjuncts (called by Winter sentence connectors) or they may be signalled lexically by the use of vocabulary 3 items. In fact, such grammatically and lexically signalled relations are not very different from H. and H.'s (1976) cohesive devices. Another technique of signalling relations is that of repetition. According to Hoey (1983 and forthcoming), there are several types of repetition:-

- a) simple repetition;
- b) complex repetition;
- c) substitution;
- d) ellipsis and
- e) paraphrase.

- a) simple lexical repetition occurs, according to Hoey (forthcoming):

"when a lexical item that has already occurred in a text is repeated with no greater alternation than is entirely explicable in terms of a closed grammatical paradigm".

An example is:

Ex.(36)

(1)Very recently, some pet dogs have become fierce and have attacked their owners. (2) A week ago, they showed a program on T.V. tackling the issue of why a dog attacks

his/her owner(s).

The lexical item 'dog' in the second sentence is a simple lexical repetition of 'dogs' in the first sentence. The only variation between the two lexical items is entirely explicable in terms of the singular/plural paradigm. Hoey (forthcoming) is extremely cautious to make it clear that not any lexical repetition will do, but only repetition that retains the sense of the echoed lexical item.

b) complex lexical repetition

This type of repetition takes place when two lexical items share a lexical morpheme but are not formally identical or when they are formally identical but have different grammatical functions. Take the following example:

Ex. (37)

Ironing clothes is not a difficult job for anyone to do. To iron a cotton shirt follow these instructions. 1. set the iron temperature on four and....

The three lexical items (ironing, to iron and iron) share a lexical morpheme but are not formally identical. These three lexical items indicate the continuity of the topic that is being talked about; because although they are grammatically different they still retain the same sense.

c) substitution occurs whenever an item or a class of items stand for an earlier item in the text. Although Halliday and Hasan (1976) treat substitution as a type of cohesive tie, Hoey

(1983 and forthcoming) looks at it as a subclass of repetition. Under the heading of substitution, Hoey lists the following: personal pronouns, demonstrative pronouns, demonstrative adverbs, and the proform 'do' with or without 'so'. The following is an example of substitution:

Ex.(38) A. Do you eat camel meat ?
B. My brother does.

d) ellipsis takes place when what stands in for an earlier item is nothing at all. As Halliday and Hasan (1976) state, the boundary lines among these two types of tie and reference are not clear-cut. What follows is an instance of ellipsis:

Ex.(39) A. Have you eaten camel meat ?
B. Yes I have.

B's answer is an example of ellipsis because the speaker could have said : yes I have eaten camel meat.

e) paraphrase

As paraphrase serves the function of repeating, Hoey (forthcoming) deals with it as a type of repetition. He classifies it into:

- (i) simple paraphrase and
- (ii) complex paraphrase.

i) simple paraphrase

It takes place whenever a lexical item substitutes for another in the context without loss or gain in specificity and with no discernible change in meaning. Take the following example.

Ex. (40)

What is attempted in this work is to offer to the readers a selected variety of Shakespeare's plays. The aim of the book is to present these plays with a more recent view; the view of someone who lives in the 21st century.

According to Hoey (ibid), the two underlined lexical items represent an example of a simple paraphrase. However, we may ask: What are the differences between this type of paraphrase and substitution ? It seems that Hoey's categories of repetition (i.e. simple repetition, complex repetition, paraphrase, substitution, etc.) overlap because of the lack of characteristic features for each category.

ii) complex paraphrase

This occurs whenever one of the items can be paraphrased within the context in such a way as to include the other. Hoey (1983:111) gives the following example:

Ex.(41) Fred and Ted were friends.
Fred was big.
Ted was little.

According to Hoey (ibid:112) "'big' and 'little' have no morpheme in common but can be paraphrased in terms of each other: 'big'-'far from little', 'little'-'not at all big'". He goes on to add that "most true antonyms can be handled in this way..."(p.112).

The above categories are used by Hoey as signals of links between sentences and it is on the basis of the number of links that sentences are judged as 'Central' or 'Marginal' in the texts they contribute to. In Hoey's own words:-

"...sentences linked by repetition would be more closely related than those not so linked even if they are separated by a number of sentences. Some sentences would be seen to be linked to a variety of other sentences, while others would be linked to few or more; the former would be central to the text, the latter marginal" (Hoey, forthcoming).

Later in the same book, Hoey makes it clear that "... any two sentences are connected as packages of information if they share at least three points of reference" (ibid). According to Hoey 'central' sentences are expected to be "germane to the development of the topic of a text" and are expected to "make a number of connections" (at least three) "with other sentences, while 'marginal' sentences are expected to have less than three links with other sentences and contribute less to the development of the theme(s) of a text. However, Hoey does not address the issue of whether longer sentences would have more links with other sentences than shorter ones do. Furthermore, he

does not tell us the wisdom for restricting the number of links to three only.

Hoey rightly suggests that the marginality of sentences does not mean that they serve no purpose. Marginal sentences "are frequently of importance in making a reader's task easier or in providing some necessary ancillary information without which the main theme might be open to misunderstanding" (ibid). The underlined quotation deals with one possible function of footnotes.

As a way of testing the marginality of sentences, Hoey suggests omitting those that are thought to be marginal to see whether the text will make sense without them. If it does, then those sentences cannot be said to be indispensable. Hoey (1983) mentions many other patterns of relations that are elaborately discussed and diagrammatically illustrated. What concerns us most are his notions of lexical links and how the nature and number of these determine the marginality and centrality of sentences, as well as how such notions may be utilised to account for our sample.

On the basis of Hoey's categories of lexical repetition and paraphrase, we might attempt to identify links between the footnote and the matrix exit sentence to which the footnote refers as shown below.

2.0. Sample

(1) Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language.(2) It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. (3) For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-106]

¹•We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

We will start first by showing the lexical links between the three sentences in the matrix text and then examine the links between each of these sentences and the footnote.

sentences 1&2

There are two lexical links connecting sentences 1 and 2. Although the noun phrase 'consonant sequences' is used once in sentence 1 and twice in sentence 2 and the noun phrase 'restrictions' is used twice in sentence 1 and once in S2, we only have two links. This is so because, as Hoey argues, an item in one sentence that connects with two in another is deemed to establish only one connection, not two.

sentences 1&3

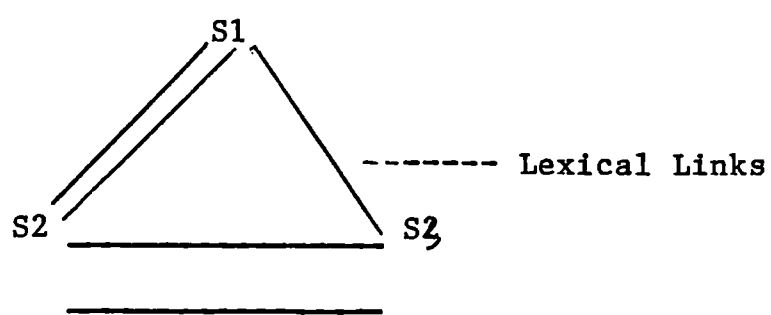
There is only one lexical link between sentences 1 and 3

represented in their sharing the lexical item 'restrictions'.
sentences 2&3

There are two lexical links between sentences 2 and 3. These are manifest in the use of the noun phrase 'restriction' in both sentences and the use of antonyms 'allowed for' and 'much more severe'.

The number of lexical links between the three sentences can be diagrammatically illustrated as follows:

Diagram 2



Now, we will examine the number of links between each of the above sentences and the footnote.

sentence 1 & the footnote

There are 2 lexical links between sentence 1 and the footnote. These are represented in the repetition of the lexical items 'restriction' and 'consonant clusters'.

sentence 2 & the footnote

There are 2 lexical links between sentence 2 and the footnote. These links are shown in the repetition of the lexical items 'restriction' and 'consonant clusters' in both

sentence 2 and the footnote.

sentence 3 and the footnote

There are 3 links between sentence 3 and the footnote. These links are manifest in the repetition of the lexical items 'restriction' and 'Finnish' in sentence 3 and the sentences making up the footnote.

Such lexical links between the FN and the matrix text extract tagged by it can be diagrammatically represented as follows:

Diagram 3



From the above illustration of the lexical links between the sentences of the matrix text and between each of these sentences and the footnote, we may conclude, on the basis of the minimum number of lexical links (Hoey makes it 3 links) that the footnote is more intimately related to the penultimate sentence of the matrix text than to any other sentence. Also, the footnote has two lexical links with sentence 1, two links with sentence 2 and three links with sentence 3; whereas sentences 1 and 3 of the matrix have only one lexical link in common.

Hoey claims that sentences that contribute to the development of (what he calls central sentences) the topic of a text are expected to make a number of connections with others and vice-versa. If we apply this to our footnote, we may conclude that it is central. However, if this was so, why did the writers place it outside of the mainstream text ? If the footnote was presenting central information, it would not be outside of the matrix text. However, it has to be made clear that when counting the number of lexical links between the footnote and the sentences of the matrix text, we treated the whole of the footnote (which is made up of three sentences) as one speech act. This procedure may be responsible for the connections the footnote has with the different sentences in the matrix text.

To round off the discussion of Hoey's work, it is obvious that there are problems surrounding the application of his theory of lexical relations to our sample. First, Hoey examines lexical links between adjacent and non-adjacent single sentences; whereas, in our case, we need to look at the links between a sentence or more and the whole of the footnote which may be more than one sentence long. If we were interested in finding out which sentence in the footnote was the most central to the development of the topic of the text; only then, would Hoey's model be of help. Hoey's model may help in deciding the centrality or marginality of one sentence footnotes. Second, his notions of 'centrality' and 'marginality' are relative in

nature and thus may be of help in comparing the relative centrality or marginality of different footnotes.

Hoey's claim that the more lexical connections a sentence has with other sentences, the more central it is, is similar to Halliday and Hasan's (1976) claim that the more cohesive ties a text has, the more dense (informationally) it is. Hoey's terms, 'centrality' and 'marginality', although based on an objective criterion (the number of lexical links) are still subjective and, in his own words, "not open to proof" (forthcoming). Put differently, it is the reader of the text who must decide, ultimately, whether some part of the text is central or marginal to the argument. The term 'marginal' is relative, as what may be marginal for someone may not be so for another. This is so because readers do not approach a text with identical background knowledge nor with identical reading purposes.

For instance, the information given in the following FN may be important for a reader who may want to know what significance tests were used and what level of significance was obtained, whereas other readers may not need such information.

Ex. (42)

⁴•Chi-square tests were employed for the statistical evaluation of the data; significance levels are .01 throughout. [2:840]

Hoey's notion of marginality brings us closer to finding an answer to one of the questions : Why is a piece of

information placed outside of the text in a footnote form ? Nevertheless, the notion of marginality should not be measured solely in terms of the number of lexical links, but in terms of readers' pre-existing assumptions. Hoey's theory of lexical links stops short of accounting for the other questions we put forward above. For instance it does not solve the issue of writers' motives for including a marginal sentence into the discourse. Therefore, we have to look elsewhere.

2.2.4. Widdowson (1973,1978, 1979)

Widdowson's approach to discourse analysis is 'pragmatic' and maintains the sharp distinction between language as code and language as use, between the semantic signification of a sentence and the pragmatic value of an utterance:

"By signification is meant the semantic specification of linguistic elements in the language code and by value the pragmatic implications the use of such elements have in context" (Widdowson, 1973:195).

Widdowson's main interest is in language as communication (see Widdowson, 1978). He has contributed to what he calls the 'communicative approach' to teaching which has discourse at its centre, rather than a collection of 'notions' as is the case with Wilkin's approach (1976), which is " falsely assumed to be the communicative approach" (Widdowson, 1979:253-254). He characterises the 'communicative facts' which the communicative approach would take into account. These facts are:

a) sentences express propositions and these propositions are linked by means of cohesive devices as detailed in Halliday and Hasan (1976). As Widdowson (1978:31) puts it cohesion is "the overt linguistically-signalled relationship between propositions".

b) a coherence relationship is established by examining what function the various propositions perform. Each function is called the illocutionary function and is independent of surface features such as cohesion. In other words, sentences perform acts in discourse in the Austinian (1962) and Searlean (1975) sense. 'Coherence procedures' are resorted to by users to discover the illocutionary development of discourse. By coherence procedures Widdowson means "the way in which the language user realises what communicative act is being performed in the expression of particular propositions, and how different acts are related to each other in the linear and hierarchical arrangements" (Widdowson, 1979:146). Thus the discovery that a certain expression counts as an order or an invitation involves coherence procedures (Widdowson (1978:27-31). As usual, however, there is the warning "procedures of cohesion and coherence are not entirely distinct, any more than are rules of usage and use" (Widdowson, ibid:146).

c) relationships such as those of coherence do not exist in the text, but are negotiated by the "interactive endeavour of participants engaged in a discourse" (Widdowson, 1979:255). They are thus " dependent on a third kind of relationship which the

sentence in context realises: the relationship of interaction. The sentence can be said to represent a set of clues provided by the writer, or speaker, by reference to which the reader or listener can create propositional and illocutionary meaning..."(ibid:255).

When it comes to applying Widdowson's approach to our sample, we ask ourselves what use we are going to make of his notions of: cohesion and coherence. He tells us that he is using cohesion in the Hallidayan sense, and then we find him transferring markers of Hallidayan cohesion such as 'for example', 'in other words', 'therefore', 'however', and treating them as illocution markers, while maintaining that illocutionary development is established through coherence (Widdowson, 1978:30ff). In addition, he associates cohesion and coherence with another dichotomy: text and discourse respectively.

Widdowson (1979) draws a distinction between 'text' and 'discourse' in the light of his notions of coherence and cohesion as follows. He argues that when a sample of language is treated as an exemplification of the language system (i.e.usage), then we are treating it as a text. On discourse, he says when a sample of language is looked at as an instance of use and that it communicates something and does this in a certain manner, then we are treating it as discourse. It is perhaps obvious from the above that rhetorical functions

represent the focal interest of discourse. Rhetorical functions are concerned with effective communication and situational appropriateness.

We will characterise our sample in terms of illocutionary acts of the type Widdowson uses such as 'definition', 'elaboration', 'clarification', 'exemplification', etc., bearing in mind that such acts can combine to form larger units of discourse. In this connection, it is of interest to observe that one of the many problems facing the analysis of discourse in terms of 'discourse functions' such as 'statement-justification', or 'generalisation-exemplification' is the tendency for functional labels to proliferate in the absence of any clear theoretical basis for establishing a hierarchy of functions. A 'description', for instance, can have as one of its constituents a 'report', or 'report' can in turn include a 'description' or an 'explanation'. Although, Widdowson (1978) talks of a hierarchy of acts, it is not clear on what basis he establishes that hierarchy (ibid:135). In fact, there does not seem to be, in Widdowson's classification, any theoretical basis for establishing such a hierarchy.

Now let us try to apply Widdowson's approach to our sample. It is worthwhile pointing out that when Widdowson is bent on applying his own approach to a piece of text (see for example, Widdowson, 1978: 135-139), all notions about 'process analysis' and 'cohesion' evaporate. What remain, however, are his notions

of illocutionary acts. Analysing our sample in terms of illocutionary functions goes as follows:-

	sentence 1	is a generalisation.
The extract	sentence 2	is a particularisation of sentence 1
	sentence 3	is comparative in relation to sentence two.
The footnote	sentence 1	is a concession to the proposition made in the M.T.E. S.(S 3)
	sentence 2	is a substantiation of sentence 1 in the footnote; and
	sentence 3	is an exemplification of the sources that readers can go to to check the truth of the substantiation in sentence 2.

The analysis of the sample in terms of illocutionary acts takes the form of just allocating functional labels to each sentence without considering why such an act is effected and what benefit will it have to text readers. In other words, to label a statement as, say, 'a definition' is not of itself to have achieved very much. More to the point would be insight into why a definition had been introduced at that particular juncture- a sense of its rationale. Analysing our sample in terms of Widdowson's framework atomizes the unity of the

footnote, in that it does not look into the footnote as a whole and considers its function in relation with the sentence it goes with, but only considers the relationship between the first sentence of the footnote and the sentence from the matrix text that the footnote accompanies. Furthermore, our original question as to: why is the information expressed in the footnote placed outside of the matrix text in a footnote form is left unanswered . Another approach may be more satisfactory.

2.2.5. Montgomery (1977) and Coulthard and Montgomery (1981)

In analysing lecture monologue, Montgomery (1977) proposes three units in descending order, from larger to smaller units as follows: Episode, Period and Member. Each of these units is isolated on a different criterion from that of the others, as Montgomery (ibid) himself points out. We will deal with each unit in turn.

Episode:

Episodes are identified by the kind of activity occurring at their boundaries. The activity occurring at the preliminary boundary is called **prospective focus** and that at the closing is called **retrospective focus**. This last type of focus contains some anaphoric text reference item such as 'this', 'that', 'this process', etc. An example of a prospective focus episode is "right so let's turn to mathematics for the next forty-five minutes" (Coulthard et al, 1981:34).

Period:

The period, is identified on phonological criteria. High pitch usually marks beginning of the period and low pitch marks its closure. The period can, however, cross episode boundaries, which means that it can extend beyond the focus. In such cases, the episode is heard as continuing beyond the focus until it finally stops with the end of the period.

Members:

These are identified by means of syntactic criteria. A member consists minimally of one free clause with its bound clauses. It can, however, only consist of more than one free clause when there is a close relationship of the branched type, i.e. when the necessary element of structure that is missing from one clause is recoverable from the next.

There are two types of member: one type is basically oriented towards the subject matter, or in other words, to the main discourse. The other is oriented towards the reception of the subject matter, i.e. the subsidiary strand. These two strands of discourse correspond to two planes. The main plane of discourse includes 'focusing members': prospective and retrospective and 'informing members' which constitute the main body of episodes. Informing members are frequently linked together by a limited range of conjunctive items such as 'and', 'so', 'but', 'or', 'so that' thereby setting up chains of logical relations as the discourse unfolds. Cohesive ties, as in Halliday and Hasan (1976), and clause relations as in Winter

(1977), play an important role in distinguishing the boundaries of informing members.

The subsidiary plane is divided into two main activities: **glossing** and **asides**. The glossing members are always at the service of main discourse: they reformulate, qualify, restate, evaluate, comment. In other words, they have independent existence. Not so the asides: these have a more tenuous relationship with the main flow of discourse. They can run parallel to the main discourse as in the case of the type called **procedural**, which relates illustrations or diagrams to main discourse. Another type of aside is **recall**. This serves to reinstate at any point in the discourse some previously invoked item of information as if it is already familiar.

Examining our sample in the light of Montgomery's (1977) framework, three of his glossing categories can be used to shed some light on our problem as follows:

1) the first sentence of the footnote can be seen as an evaluation of the validity of the last sentence (i.e.M.T.E.S.) of our matrix text. It evaluates the validity of the statement made about the 'severe phonotactic restrictions in Finnish'. This relation is marked by the anaphoric 'this' used in the footnote. This corroborates Montgomery's (1977) claim that utterances which evaluate or comment on stretches of the discourse often include a text reference item such as 'this' or

'that'.

2) sentence 2 of the footnote can be seen in relation to the first sentence of the footnote as a comment.

3) sentence 3 can be taken as an example, as it is providing sources from which details about the violations of the restrictions referred to can be obtained. This may be instantiated by the illocutionary force marker 'for example' used in the last sentence of the footnote.

Montgomery (ibid), as mentioned above, classifies discourse into 'main discourse' and 'subsidiary discourse', but leaves us unclear about where to draw the dividing line between the two. He rightly states that 'subsidiary discourse' is oriented towards the reception of main discourse. But he does not say in what way subsidiary discourse is oriented towards main discourse. However if we apply this to our example, we may argue that the footnote is subsidiary in the sense that it provides some readers with information stating the existence of exceptions to the statement made in the sentence tagged by the footnote. This is if we take the footnote as a whole.

However, applying his framework to the individual sentences of the footnote shows the relation between the last sentence of the matrix text and the first sentence of the footnote; whereas the other two sentences of the footnote are accounted for in relation to the last sentence of the matrix text that they are supposed to be accompanying. Montgomery, like Widdowson

1973,1978, has classified his lecture discourse in terms of Speech Act Theory labels and has not looked into the listener's (or in our case the reader's) characteristics and the mode of delivery that might have demanded lecturers to re-state or reformulate a given piece of discourse.

Montgomery has overlooked the fact that the term 'subsidiary' is relative; in the sense that what is subsidiary to some readers might be essential to others. He states that writers exemplify, restate, qualify, etc, but not why such illocutionary acts are executed; on this we are left in the dark. For these reasons, we have to look elsewhere: to pragmatics.

2.2.6. Grice (1975)

Grice (1975), in his frequently cited article 'Logic and Conversation', provides a framework for utterance interpretation. In this article he makes it clear that conversationalists have to obey the "co-operative principle", which he presents as follows:

"Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged"(Grice,ibid:45).

Grice also identifies four maxims as constitutive of the co-operative principle:-

" Quantity: Make your contribution as informative as is required (for the current purposes of the

- exchange). Do not make your contribution more informative than is required.
- "Quality: Do not say what you believe to be false. Do not say that for which you lack adequate evidence.
- "Relation: Be relevant
- "Manner: Be perspicuous. Avoid obscurity of expression. Avoid ambiguity. Be brief (avoid unnecessary prolixity). Be orderly" (45-46).

Examining the relationship between the matrix text and the footnote from the view point of Grice's maxim of quantity (which does not specify how much is enough for something to be informative), we may say that the first half of this maxim "Make your contribution as informative as is required (for the current purposes of the exchange)", indicates that a text should be informative to its readers. If this is so, why place information in a footnote and mark it, by means of an Arabic number, as related to a text or part of it ?

The second half of Grice's maxim of quantity provides an indirect answer to the above question. This is, a piece of information is probably presented outside of the matrix text in order not to make this text "more informative than is required". This answer is not enough to account for the presence of the footnote. It is not only there to avoid a writer or a speaker the risk of being over-informative, but there for other purposes as well. What are these other purposes ? We will come to them on concluding our discussion of Grice's work.

Our sample FN on page 66, when considered in the light of Grice's maxim of quality, is seen to present evidence for the

statement the authors make in the penultimate sentence in the matrix text and the supporting evidence given in the last sentence of the footnote in the form of sources that readers may go to for details. In the light of the maxim of manner, the footnote may be seen as carrying out a clarificatory function of the last sentence of the matrix text. This last sentence is a generalization about some restriction in Finnish phonotactics. The footnote makes it clear that this restriction applies only to contemporary Finnish

Although, Grice discusses and exemplifies the other maxims, he has not dwelt much on the simple instruction 'Be Relevant'. In fact, Grice admits to finding a precise characterisation of 'relevance' "extremely difficult", and has little to offer by way of definition, except the following:

"I expect a partner's contribution to be appropriate to immediate needs at each stage of the transaction"(ibid:47). (my underlining)

How is the 'appropriacy' of a contribution to be measured ? What are these immediate needs referred to above ? Are they the needs of the listener (reader in our case) ? or the needs for the discourse to be informative ? It seems that Grice is dealing with relevance from a semantic point of view; that is to say in terms of discourse topic. In fact, no two persons can agree on the relevance of something, as what may be received by

one person as relevant to a topic may not be seen to be so by another.

As Brown and Yule (1983:68) rightly state, the notion of topic "is very difficult to pin down". The notion of relevance can be broken down to two types: (i) semantic relevance and (ii) pragmatic relevance. Semantic relevance is concerned with the propositional content of sentences and this is what Grice is implicitly implying in his work. Pragmatic relevance is interpreted in the light of readers background knowledge and assumptions by writers about their prospective readers' background knowledge. Grice seems to have overlooked this second type of relevance.

From the above discussion, it is noticeable that studying our sample within Grice's framework advances us on the road towards finding a partial answer to our question: Why is a piece of information presented in a footnote form? However, it does not address the issue of readers' background knowledge, which plays an important role in determining the relevance of a proposition to a reader or listener. For this reason, we have to look elsewhere. This time we are going to the domain of communication and cognition. In particular, we are going to Sperber and Wilson's (1986) Theory of Relevance.

2.2.7. S. & W. (1986) & W. & S. (1986) RELEVANCE THEORY

For Sperber and Wilson (1986) the key to the definition of

the relevance of a proposition is the "contextual effects" which it elicits and the "processing effort" it requires to be processed. The terms "contextual effects" and "processing effort" will be defined and explained as the discussion proceeds. S. and W. (1986) argue that:

"

To modify and improve a context is to have some effect on that context- but not just any modification will do.... the addition of new information does not count as an improvement; nor does the addition of new information which is entirely unrelated to old information"(1986:109).

They classify the contextual effects which a proposition elicits into three types. These types are:-

1) contextual implications, which they present as follows:

"A set of assumptions [p] contextually implies an assumption Q in the context [c] if and only if
(i) the union of [p] and [c] non-trivially implies Q,
(ii) [p] does not non-trivially imply Q, and
(iii) [c] does not non-trivially imply Q"(S & W, ibid: 107-108).

A "contextual implication" is, according to them, new information in the sense that it could not have been derived from [c] or [p] alone, but is the result of interaction between the two. The following example illustrates contextual implications:

Ex. (43)

(i) The pen is in the pocket of my jacket.[C]

(ii) The jacket is in the wardrobe. [P]

We get the contextual implication

(1) The pen is in the wardrobe. [Q]

(2)The second type of contextual effects is represented where new information strengthens an old assumption . They (ibid:109) argue that "new information may provide further evidence for, and therefore strengthen old assumptions...." The following is an example from W & S (1986:9).

You wake up, hearing a pattering on the roof, and form the assumption that :

Ex. (44) a. It's raining.

You open your eyes, look out of the window and discover that:-

b. IT IS RAINING. (fact)

Here, the new information (b) strengthens, or confirms, your existing assumption (a). It would also, intuitively, be relevant to you in a context containing assumption (a). W.& S. argue that new information is relevant in any context in which it strengthens an existing assumption and the more it strengthens them, the more relevant it will be.

(3) As for the third type, they go on to argue that if new information can achieve relevance by strengthening an existing assumption, it should also achieve relevance by contradicting, and thus eliminating, an existing assumption. The following example makes this point clear:-

You wake up hearing a pattering on the roof, and form the assumption that

Ex. (45) a. It's raining.

This time, when you look out of the window you discover that the sound was made by the leaves falling on the roof and that

b. IT'S NOT RAINING.

They argue that when new information contradicts an old assumption, the weaker of the two is abandoned. Therefore, because of the conclusive evidence provided by the new information (b) against the old assumption (a); the latter (a) would be abandoned. This is the third type of contextual effect.

From the above, according to S. and W., it can be seen that incoming information can interact with a context of existing assumptions in one of three ways:-

- i) by combining with the context to yield new contextual implications.
- ii) by strengthening existing assumptions.
- iii) by contradicting and eliminating existing assumptions.

It is on the premise of the above mentioned "contextual effects" that S. and W.(1986) argue that the relevance of a proposition in a context is dependent on the number of the "contextual effects" it yields. They (ibid:122) define relevance in terms of "contextual effects" as follows:-

"An assumption is relevant in a context if and only if it has some contextual effect in that context".

The following is an example of the relevance of an assumption in a context.

Ex. (46) A. Are you going to London tomorrow ?

B. Train drivers are on strike.

The principle of relevance, according to S. and W., predicts that B's reply is relevant in a context like the following:

When train drivers are on strike, a person who travels to work by train will not be able to do so.

Therefore, B's reply is relevant to A if he has the above context in mind. B's answer is relevant because it connects up with the above context to yield the contextual implication:

(1) B is not going to London tomorrow.

S. and W. argue that the contextual effects of an assumption in a given context are not the only factors to be taken into account in assessing its degree of relevance. Since contextual effects are brought about by mental processes and these processes involve an expenditure of effort they feel justified in adding an extra condition to the previous definition. This condition has to do with **the principle of minimal effort**. Therefore, the degree of the relevance of an assumption is determined by two conditions as follows:

" Extent condition 1:

an assumption is relevant in a context to the extent that its contextual effects in this context are large.

Extent condition 2:

an assumption is relevant in a context to the extent that the effort required to process it in this context is small"(S. and W., 1986:125)..

S. and W. (ibid) point out that the degree or the amount of contextual effects triggered varies from one situation to another. Their point is that what is sufficient contextual effect varies from one situation to another. For example, a statement made in a seminar may elicit more contextual effects for an individual than if it were uttered in a casual conversation. Is it the case that an assumption may have the same contextual effects for different hearers or readers ?

S. and W.'s discussion of relevance, it seems to me, applies to one-to-one-communication. For example, the nature of the contextual effects a hearer or a reader arrives at depends on the degree of knowledge the speaker or writer has about the 'contextual assumptions' his/her addressees approach the text with. It seems fair to say that S. and W. are mainly concerned with communication with a single individual (i.e. a one-to-one situation); whereas in my case the data being used for this work (academic journal articles) are attempts to communicate with a large body of individuals.¹

An example from S. and W. (ibid:170) supporting our claim that their Relevance Theory is conceived within the idealization of one-to-one- communication is:-

Ex. (47)

"In the Stalin era, two friends in the west were arguing. Paul had decided to emigrate to Russia, which he saw as a land of justice and freedom. He would go and write back to Henry to let him know the beautiful truth. Henry tried to persuade him not to go: there was oppression and misery in Russia, he claimed, goods were scarce, and Paul's letters would be censored anyhow. Since Paul would not be moved Henry persuaded him to accept at least the following convention: if Paul wrote back in black ink, Henry would know he was sincere. If he wrote in purple ink, Henry would understand that Paul was not free to report the truth. Six months after Paul's departure, Henry received the following letter, written in black ink: 'Dear Henry, this is the country of justice and freedom. It is a worker's paradise. In shops you can find everything you need, with the sole exception of purple ink...' (S & W, 1986: 170).

¹. I owe this observation to Dr. R. D. Borsely.

In the above example, the communication between Paul and Henry succeeded because of their sharing the secret code (i.e. their shared background knowledge about the colour of the ink to be used and what it implies). If what Paul wrote was given to someone else who did not know the secret code, he would not be able to get at the intended contextual effects from the expression "with the sole exception of purple ink", not knowing the convention behind it. It is because both Paul (addressor) and Henry (addressee) share the convention that the communication succeeds.

In our case, an article writer can never have full knowledge of all the assumptions all his/her prospective readers share with him/her. For this reason, some writers resort to discursal strategies such as footnoting and insert in their FNs information which they believe to be relevant to a section of their readers. Then, S. and W.'s (ibid) definition of relevance is limited to one individual whom the addressor knows very well.

It seems from S. and W.'s (1986) book that whatever a speaker says in a one-to-one setting is supposed by him/her to be relevant to that particular hearer. They argue that any act of communication comes with a guarantee of optimal relevance: a guarantee that the contextual effects the speaker intends an utterance to have are sufficiently great to make it worth the hearer's while processing it, and that the stimulus

(i.e. proposition) is the least costly one in terms of processing effort that the speaker could have chosen to have these effects. This may not be the case in academic written discourse (one-to-many-communication) as this guarantee may be based on a misapprehension about the reader's pre-existing assumptions.

For instance, a writer may choose to express a certain proposition in a footnote because, to the best of his/her knowledge, its significance to the present context may be obvious (relevant) to some readers and may not be so for others. That is to say, a writer puts into a footnote compensatory (background) contextual information to make the matrix text information maximally/optimally accessible (relevant) to those who might not share the general contextual assumptions.

It seems that the difference between information that is 'context-specifying', and that which contributes to the new information is the information a writer thinks to be of **central** relevance to all readers is put in the matrix text, whereas what a writer thinks to be **marginal** (i.e. of relevance only to some) to the communicative aim of the discourse is presented in footnotes.

Having briefly discussed S & W's theory of relevance, let us now consider how far their framework will take us on the

road towards the analysis of our example (repeated below as example 48 for ease of reference).

Ex. (48)

(1) Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. (2) It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. (3) For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-106]

1. (1) We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. (2) There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. (3) See for example Suomi (n.d.); Karlsson (1983). [1:121]

We may start by copying out the following from S. and W.

(ibid:154)

"By producing an utterance, the speaker requests her hearer's attention. By requesting his attention, she suggests that her utterance is relevant enough to be worth his attention".

What is expressed in the above quotation applies to matrix text propositions and we may add that a footnote (which is assumingly meant to be 'read' by all, but only taken in by some readers those to whom it is applicable) is inserted when a

writer assumes that what he/she has just said in the matrix text is not relevant enough to all to be worth their attention.

On the basis of the above quotation and our expansion of it, we are led to believe that the footnote is worth at least some readers' attention. At this stage, we may argue that when a writer resorts to footnoting he/she attempts to cater for his/her readers' variable information levels. Now, in the light of S. and W.'s Relevance Theory, we may pose the following questions:-

What and how many 'contextual effects' does this footnote provide ?

Why is the information expressed in the footnote placed outside of the matrix text ?

To answer the first part of the first question, what 'contextual effects' the footnote provides, we have to consider the 'context' in whose light the footnote will be processed. S. and W. (1986:132ff) insightfully argue that the 'context' in which new information is processed differs from one individual to another. On the basis of this view, the type of 'contextual effect' a class of readers may obtain will differ, depending on the 'contextual assumptions' different classes of readers approach the text with.

But, what are these 'contextual assumptions'? For S. and W. (ibid:132ff) 'contextual assumptions' denote all sets of readers' or hearers' pre-existing assumptions and assumptions derived from observation of the environment. They also state that the interpretation of an utterance or text segment may constitute an immediately given context in which the next utterance may be processed. On the basis of this, the type of 'contextual effect' the footnote will have is mainly dependent on the readers' contextual assumptions as follows: For one class of readers, the assumption might have been formed on reading the last sentence of the extract, (For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally) that Finnish phonotactic rules are very strict and have no exceptions.

When this class of readers read the footnote, the assumption formed will be modified in some way. That is, the information given in the footnote, according to S. and W., will interact with the assumption they have already formed on reading the sentence tagged by the footnote to yield the new 'contextual implication' that these severe restrictions apply only to standard Finnish words, because slang words and borrowed words in Finnish violate these restrictions. Therefore, according to S. and W., this 'contextual implication' was neither derivable from the sentence tagged by

the footnote alone, nor from the footnote on its own. It was only derivable through the union of both.

However, if (the information presented in) the footnote was left out, some other class of readers, those who already have the 'contextual assumption' that Finnish phonotactic rules have exceptions, might doubt the authors' statement and wish to refute it. But, on being presented with the footnote, their old assumption, that Finnish phonotactic rules have exceptions, will be confirmed.

From the above, it can be argued that this footnote constrains the reader's interpretation of the sentence tagged by it, by making a specific contextual assumption immediately accessible to a class of readers. The following remark by S. and W. (1986a:16) substantiates this claim.

"A speaker who intends an utterance to be interpreted in a particular way must also expect the hearer to be able to supply a context which allows that interpretation to be recovered. A mismatch between the context envisaged by the speaker and the one actually used by the hearer may result in a misunderstanding".

From the above quotation it may be gathered that a writer's decision to resort to footnoting is triggered by her estimation that some readers do not have the appropriate 'context' (i.e. contextual assumption) for the intended

interpretation of a proposition. That is to say, a footnote serves to present a class of readers with the right context in whose light a proposition should be interpreted.

Therefore, if the information in the footnote was not presented, there would be two problems. First, the first class of readers would be given the wrong information that Finnish phonotactic rules are very strict and have no exceptions. The second class of readers would disagree with the writers and probably accuse them of inaccuracy. These two positions represent the outcome of any mismatch between the context envisaged by the writer and that accessible to or accessed by his/her readers. Therefore, we may argue that footnotes make accessible to the reader information required for the desired interpretation, on the part of the text writer, of a proposition or a lexical item. Thus, it may be argued that the prime function of some footnotes is to anchor a proposition to its context, narrowing down the range of possibilities associated with it. Therefore a footnote may be claimed to save some readers processing a proposition in a 'costly' context.

Now to answer the second part of the first question: how many 'contextual effects' can a reader get from the contextualization of p (the footnote) in c (the context that triggered its use) ? Again, we have to know what 'contextual assumptions' readers approach the text with. For example, if a class of reader is already familiar with the information in the

footnote, then the FN will have less 'contextual effects' for them. If the other class of readers is not familiar with the information in the footnote, then the footnote will have more contextual effects for them as follows:

(1) the contextualization of the first two sentences of the footnote (p) in the context that triggered its use (c) will yield the new contextual implication (q), that Finnish phonotactic rules have exceptions in slang Finnish words and in borrowed words; and

(2) if the first two sentences of the footnote are taken as providing the context in whose light the third sentence of the footnote will be processed, then this class of reader will be able to derive another contextual implication represented in the proof given in the form of directing them to sources dealing with this phenomenon for more details.

However, we may pose the following question: Does each proposition (i.e. micro-proposition) in a footnote (in a multi-sentence footnote) have its own contextual effect ? Or is it only the footnote (i.e. the macro-proposition) as a whole that has a contextual effect ? If it is the case that each proposition the footnote contains has its own contextual effect, then it will be possible to count the number of contextual effects a multi-sentence footnote has as we tried to with Widdowson's approach above. So far, it seems that the footnote in question has the same amount of contextual effects

for both groups of readers. The only difference between the two groups is that the footnote provides new contextual implications for the first group and activates and confirms the contextual assumptions of the second group of readers.

Now we turn our attention to the second question why is the information presented in the footnote placed outside of the matrix text ? S. and W.(1986) offer the following suggestion . A question S. & W. (p.158) raise is:-

"To whom is the stimulus [taken here to refer to the footnote] presumed to be relevant when there are no definite addressees"?

In their answer they say "The communicator is ... communicating her presumption of relevance to whoever is willing to entertain it. The underlined part of their answer is suggestive, in that it makes it clear that some of those who are being addressed may "entertain" the stimulus (i.e. find it relevant) and some others may not. This again supports our claim that footnotes are offered to fill in whatever 'contextual (background) assumptions' individual readers may lack in a certain aspect. As S. and W. (ibid:158) have pointed out, "the principle of relevance does not say that communicators necessarily produce optimally relevant stimuli", in other words, it does not guarantee the success of an act of communication; but rather lays down the conditions for successful communication.

The information offered in some footnotes may be called 'compensatory'¹, in the sense that it makes the relevance of a proposition in the matrix text more obvious to some readers, who are relatively at a disadvantage. This way the writers are communicating their presumption of the relevance of the footnote to whoever is going to entertain it. Put differently, the footnote is a device for addressing sections of one's possible readership much as does the conventional rubric "to whom it may concern,"² used in testimonial letters. From the above discussion, our footnote must have been seen by the article writers to be relevant to a class of their readership otherwise they would not interrupt their readers' reading process and put them to a gratuitous processing effort (see Chapter Five).

It is a known fact that readers approach texts with different purposes in mind: some read texts to learn about a specific phenomenon; whereas others read for the sake of finding a topic for their research. The following footnote, together with the extract it accompanies, is an illustration of this point.

¹•This term is not meant to imply that FNs make up for an inadequacy in the text, but to mean that the FN makes up for any lack of 'contextual assumptions' on the part of some readers.

²•I owe this observation to Dr. Carl James.

Ex. (49)

The stress pattern is, however, never altered . Main word stress falls on the same syllable as that of the original word. The clusters which are subject to simplification always belong to the stressed syllable³. [1:106]

³.It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant. [1:121]

In terms of Relevance Theory, the footnote in the above example has two different contextual effects depending on the context(s) in whose light it is going to be processed. First, it is relevant to readers who want to learn about the effect of changing the stress pattern on the phenomenon under consideration; in that it makes clear to them that what they are looking for is not being dealt with. Second, it is relevant to a researcher who might be looking for a topic for his/her research. This type of footnote gives us an indication of the indeterminacy of prospective readership on the part of the writers and their expectations of a wider readership (see 1B.2.2. for details).

In this Chapter, we have examined some approaches to the analysis of discourse searching for a suitable one or a combination of ideas to the analysis of our data. It seems to have emerged that S. and W.'s Relevance Theory could be used as a basis for the classification of footnotes in terms of the 'effects' the text producer intended them to have on his/her audience. The next chapter elaborates on this point and offers

a classification of FNs in terms of the effects article writers may have intended them to have on their audience.

CHAPTER THREE
TYPES OF FOOTNOTES

SECTION A

3A.0. INTRODUCTION

As stated in Ch. 2, footnotes may be effectively classified in terms of the "effects" which the writer could reasonably have intended them to have on his/her audience. The term "effects" here refers to the reason or purpose for which a FN is employed by a writer and its potential utility from the writer's point of view for a class of his/her audience. Since we assumed that every FN should have an effect (or in some cases more than one or a set of compatible effects) we have attempted (see below) to provide plausible reasons why writers use FNs. For the identification of any effect a FN had we relied upon our intuitive judgment and any functional and semantic clues we could see between the contents of the FN and the stretch from the matrix text it referred to.

The sub-text (the antecedent) that is tagged by the FN had to be taken into account as the effect of a FN could not be easily identified without considering the part of the matrix text that initiated the use of the FN. This sub-text represents the context in whose light the effect intended by the FN could reasonably be identified. On the basis of these considerations, the following types of FNs have been identified:-

3A.1.0. TYPES OF FNS

3A.1.1. REFERENTIAL FOOTNOTES (ESSENTIAL CONNECTION FNS)

This type of FNs is mainly used to refer readers of the present text to other texts that are believed by the writer to have a bearing on the text or part of the text he/she is currently writing. Why is this type of FN used at all ? It is the observed practice in all sorts of academic writing that writers have to acknowledge the links, whenever possible, between what they write and what is already documented in associated literature. Swales (1981) suggests that this is done to serve two purposes:

- (1) to make an appeal to the readership by asserting the importance of the topic the present writer is tackling; and
- (2) to give a more descriptive survey of current knowledge including reference to previous research.

A third reason we suggest for the inclusion of references to previous research may be that writers wish to show how their current research fits into the general body of the subject and argue the claims of others (i.e. they are cotextualising their own research). Writers could conceivably do this by incorporating all the relevant information from earlier writings into their own thus making it entirely self-contained, but at the price of being patently wholly unoriginal, or as we say euphemistically 'derivative' (i.e. derived from others).

However, this is seldom possible in practice.

Alternatively, it seems to be the common practice in nearly all academic writing for writers to try to avoid complicating their mainline writing and making it overlengthy by making reference to related works and indicating their bearing on their own work in FNs. An example of a referential FN is:-

Ex. (50)

No clitics can intervene between the two NPs in question. Since *się* can occur only after major constituents, the ungrammaticality of (37) can be construed as piece of evidence for the claim that the NP-z-NP string constitutes a single constituent.⁵(36) Janek *się* z Ewa *spotkał* na *plazy*.
nom. recipr-acc. with nstr. met-3sg. on beach
'John met with Eve on the beach.'
(37)*Janek *się* z Ewa *spotkał* na *plazy*.
nom. recipr-acc. with instr. met-pl. on beach [3:389]

⁵ For a discussion of some constraints on the placement of *się*, see Toman (1981). [3:411]

The above FN refers the reader to the work of Toman for more details about the constraints on the placement of the Polish reflexive pronoun *się*. The constraints on the placement of *się* are not the topic for the above extract. *Się* has only been brought in as evidence for the claim the writer has made in that part of the matrix text (what we call the antecedent). Following up the source given in the FN rests entirely with the reader. That is to say, if a reader wishes to know about the 'constraints on *się*', then he/she is at liberty to go to the source for details.

The effect the above FN might have been intended to have on the reader is to reinforce his/her belief in the claim expressed in the matrix text. This type of FN may be taken as an indication of the writer's co-operation with his/her readers. In other words, the writer is indirectly saying to his/her readers "as I am constrained by time and space factors and can not discuss the constraints on sie here, I am referring you to the source from which you can, if necessary, get details about the item tagged by the FN". Of course, there was no obligation on the writer to provide his/her readers with the source given in the FN above.

Sometimes, some writers show more co-operation with their readers by presenting a brief synopsis of the work they refer their readers to. Through presenting such a synopsis, writers may, in fact, be saving some of their readers the time and trouble of following up the source(s) given in a FN. This is done because the synopsis will give readers an indication of what the work referred to is about and thus help readers decide whether to follow it up or not. This type of FN seems to widen the readers' freedom to choose to go to source or not. Take the following example:-

EX. (51)

(3) Janek z Ewa poszli na spacer.
nom. with intr. went- 3pl. for walk
'John and Eve went for a walk'.
I will argue in this paper, that (3) is indeed
a coordinate construction.¹ While doing so, I
will compare properties of the quasi-
comitative construction with those of the

ordinary construction and those of the comitative construction.[3:383]

1. In this regard, my assumptions about the structure of sentences like (3) differ significantly from those of Nichols et al. (1980), who assume in their analysis of comitative constructions in Russian that the comitative pp is a posthead modifier in the subject and claim that the choice between singular and plural agreement is affected by the topicality of the subject NP. More specifically, they claim that 'when the subject controller is topic, maximal agreement- that is, plural morphology is preferred for animate nouns... when the subject is nontopic, minimal agreement- that is, singular- is equal in preference to maximal agreement ...'(1980 :775). Topicality is not a clue to the agreement alternation in Polish as there does not seem to be any preference for (3) over (i) below among native speakers of Polish.

(i) Na spacer poszli Janek z Ewa
for walk went-3pl. nom. with instr.

'It was John and Eve who went for a walk.' (3:411)

The above FN draws the readers' attention to a distant or 'negative' link between the present author's analysis of comitative constructions in Polish and the analysis of the same constructions in Russian by Nichols et al. In other words, the FN provides a 'matching contrast relation' (Winter, 1977 and chapter 2 of this thesis) between the two analyses referred to : the author's text and the other author's analysis respectively. The penultimate sentence in the FN and the example following it give evidence of the author's claim that the two analyses differ significantly.

From the above examples, it has become obvious that referential FNs are not only meant to acknowledge the existence of other works on the same issue that is being discussed, but also show how the results reached in the referring paper fit in with the results obtained in the papers referred to. For instance, in the following example, unlike example (51) above,

the FN exhibits a 'matching compatibility' relation (Winter, 1986 & see Ch. 2 of this thesis) between the author's present work and another work in the field:-

Ex. (52)

The distribution of the values of the feature GR is governed by the following set of CCRs.⁸
[3:392)

8. Note that the (sic) our treatment of grammatical relations and subcategorization is along the lines of HPSG as advocated by Pollard (1985) and Sag (1987), which necessitates revision of the relevant FCRs that limit subcategorizing categories to lexical categories. Accordingly, one might posit a CCR which states that if the subcategorizing category is not lexical (BAR 0) then it is a VP[+subject]. (i) FCR n: [SUB CAT &, BAR 0] [+V,- N,[+SUBJECT] (3:412)

The above FN not only shows 'matching compatibility' between the author's line of argument and that advocated by Pollard (1985) and Sag (1987), but also marks the writer's deduction of a new rule from Pollard and Sag's work which is expressed in the penultimate sentence of the FN.

The number of times an article is cited is taken as an index to that article's quality. The quality of the research produced by a country, an institution, or an individual was measured by the number of citations cited. This sort of practice is on the increase in the United States especially as there is evidence (Cole and Cole, 1971) that high individual citation counts correlate well with other recognized indicators of quality such as prizes, election to learned societies and capacity to obtain research grants (for more details see Chubin and Moitra, 1975; Swales, 1986 and Becher, 1989).

Referential FNs are not the same as documentation FNs which are very frequently adopted in Literary, Legislative and Historical articles. The latter type (i.e. documentation FNs) is mainly employed for the attribution of specific facts/opinions as well as exact quotations to their originators. This type is infrequent in our corpus and whenever used is realized in parentheses within the matrix text. This practice is followed (from among many reasons) to spare writers the accusation of plagiarism and to enable readers to follow up sources. Plagiarism is " the use of another person's ideas or expressions" (Achtert and Gibaldi,1985:4) in one's writing without acknowledging the source. The most blatant form of plagiarism is reproducing someone else's sentences, more or less verbatim, and presenting them as one's own.

Other forms of plagiarism include paraphrasing someone else's idea as one's own and failing to cite the source for a borrowed method or approach. Since the penalties for plagiarism can be severe, writers, at all stages of research, must guard against possible charges of plagiarism by keeping careful notes that draw a line between their own thoughts and ideas culled from others. Accurate documentation allows readers to go to main sources and "to evaluate the strength of" one's "argument by seeing its foundation"(Flower,1989:268).

Both Referential and Documentation FNs share the rhetorical feature of being dependent on the bibliography for

their full utility. Take the following example of a referential FN:

Ex. (53) ⁵For a discussion of some constraints on the placement of sie, see Toman (1981). [3:411]

There is a link between the above FN and the list of references given at the end of the article from which this FN is copied. This link is made manifest in the fact that if the reader is interested in following up Toman's (1981) he has to consult the bibliography to get full details of Toman's work.

3A.1.1.1. THE REALIZATION OF REFERENTIAL FNS

The verb forms used in referential FNs tend to be mainly imperative, present active or passive, or to involve a modal (see Ch. 6 for details). The following are two examples:

Ex. (54) For more details, see

Ex. (55) An interesting discussion of ... can be found in

The verb form in example (54) is active imperative. Although the imperative form of the verb "see" is used, following up the source or sources given rests entirely with the reader. Example (55) is, as far as the verb form is concerned, different from example (54), since the mood of the verb phrase is that of the present passive.

It is worth noting that all verbs used in referential FNs are transitive since they require an object, for in a referential FN a writer can not say "see" and stop, but has to provide an object for the verb used. It is also observed that a large number of referential FNs are headed with the prepositional phrases "for more details" or "for a discussion"(see 6.2. and 6.5. for more detail). It is not always the case that referential FNs are so clearly signalled for some of them could be identified through the verb forms used and the propositional content of the FN itself. Take the following example:

Ex. (56)

1. In this regard my assumptions about ... differ significantly from those of Nicholas et al (1980). [3:411]

The above FN is identified as referential because the verb "differ" signals matching contrast between the analysis the present writer is offering and the analysis provided by Nichols et al. Now we turn to the second type of FNs.

3A.1.2. EVALUATIVE-REFERENTIAL FOOTNOTES

Some referential FNs not only refer the reader to other sources, but also evaluate the source or sources referred to. This type of FN I call evaluative referential FNs. In such FNs writers make a judgment or come to a decision after assessing the content of what is being referred to and setting this against knowledge gained from previous experience or new analyses. An evaluative referential FN may provide positive or

negative evaluation. Take the following example:-

Ex. (57)

Another set of facts that seems to indicate that quasi-comitatives are in fact coordinate structures involves control of reflexives. Consider the following triplets of sentences.⁴ [3:386]

⁴. An interesting discussion of the distribution of both types of Polish reflexives can be found in Kardela(1982).(3:411)

In this FN the writer is positively commenting on the work of Kardela by describing it as 'interesting'. However, this is not necessarily an endorsement of the work's validity. Sometimes there is no one-to-one correspondence between a FN and its function. For instance, a FN may carry one function and another FN may perform two or three functions. Take the following example of a FN realizing an evaluative function and a referential function simultaneously:-

Ex. (58)

A further distinction between the two types of modifiers which is relevant for us here is that restrictive modifiers may occur within NPs as postnominal modifiers only if the determiner is definite, while adjectival PPs may modify both definite and indefinite NPs:

(35) a. He brought me every/the glass on the table.

* He brought me some/(a) few glasses on the table.

b. He brought me the/every glass with a gold rim.

He brought me some/a few glasses with gold rims.⁹ [5:1012]

⁹. The judgments are clear with respect to NPs in object position, but mixed when the NPs are in subject position. Rothstein and Reed discuss this, giving an explanation in terms of the existential presupposition of subject (usually topic) NPs. (5:1018)

3A.1.2.1. REALIZATION OF EVALUATIVE REFERENTIAL FNS

In addition to the clues given above for the identification of a referential FN, an evaluative referential FN should contain words and phrases such as "interesting discussion", "illuminating", "insightful", "loosely/poorly presented discussion", etc.

3A.1.3 COUNTER-ATTACK FNS

In such footnotes writers bring in counter-examples either raised to them before submitting the final draft of their articles or which they anticipated their readers might use against them and analyze them in terms of the results they have reached and offer a justification. Take the following example:

Ex. (59)

... when it came to evaluations of the /str/ items, the only difference between the groups was that the English-speaking group showed stronger preferences for /sr/ than the Swedes, but the tendency is the same. How can we explain the differences between the groups ? May be the English speakers do not regard /sr/ to be a very strange combination, since a similar initial cluster exists in English (but not in Swedish): /ʃr/ shrewd. Or perhaps these types of cluster reductions actually occur in the casual speech of native speakers of English ? Initial /sr/ might be regarded as acceptable simply because one has encountered it several times before.⁴ [1:113]

⁴.It has been pointed out to us that initial [sr] may occur in casual pronunciations of a word such as syringe (pronounced [srindz]). It should be noted, however, that this reduction is an instance of unstressed vowel deletion, and not of stop deletion. The phonological status of [sr] in for example [srindz] and of [sr] in our experimental stimuli (for example [sro:] in straw) is thus quite different, the former cluster being a result of cluster formation and the latter of cluster simplification. (1:121)

In the above FN and specifically in the first sentence, the writers put forward what they believe may be used as an explanation for the occurrence of initial /sr/ in casual speech and the other two sentences of the FN refute the example as a phenomenon different from the one the writers are dealing with. Not all counter-examples are brought to the writer's attention by outsiders (usually reviewers of articles submitted to journals and colleagues) . Sometimes, as the FN below shows, counter-examples are invoked by the author him/ her-self:-

Ex. (60)

In object position too, these NPs are not acceptable unless a predicate which denotes a property of sets is added, as in (45a) and 45b), or if the verb (or the verb+[NP,NP]) can be construed as denoting a property of sets:

- (45) a. I met no two students* (wearing the same color shirt).
 b. She visited every two students*(who lived in the same house).
 c. He gave every two prisoners a loaf of bread.¹³ [1016]

13. The apparent counterexample to this is NPs with two determiners where the first is the or a possessive like John's. Here, the predicate VP does not have to denote a property of sets, as (i)

- (i) a. The two boys left (together).
 b. Bill visited John's two friends.

Furthermore, the two boys can only denote a set whose single member is a set of two boys; it cannot have the interpretation 'all the sets of two boys left'. I assume that both issues are connected to the inherent collectivity of the. The evidence for this is that when an NP-internal predicate is added which forces a distributive reading, the distribution is over groups of individuals and not individuals, and full NP denotes sets of sets of sets. Thus we have the following contrasts:

- (ii) a. The two candles on each side of the door burned out.
 b.?? Two candles on each side of the door burned out.
 c. The six presidents of each country made the decision.
 d.?? Six presidents of each country made the decision.

The (b) example is ungrammatical or of dubious grammaticality for many speakers (see note 9), but there is nonetheless a contrast between possible interpretations. Thus in (iia) there are four candles, two on each side of the door, all of which burned out,

whereas the most natural interpretation of (b) is that there are two candles, one on each side of the door, which both burned out. Similarly, in (iic) the subject NP picks out a set of sets of six presidents, each set from a different country and 'made the decision' is predicated of this set of sets of six. In (iid) there are only six presidents and they come one from each country represented. (5:1018)

Such footnotes are intended to increase the reader's readiness to accept the writer's argument in the mainline text. A writer, through attending to and 'answering' what others have raised as counter-examples, is, like a lawyer in a court room, blocking all the gaps that others may use to attack him/her. In other words, the author is assuming the 'Devil's advocate' role, it seems, by disarming potential counter-attacks before they are ever launched.

3A.1.3.1. THE REALIZATION OF COUNTER-ATTACK FNs

The verb form employed in counter-attack FNs, especially those raised by outsiders, is always the present perfect passive (see example (59) above) with introductory 'it' (e.g. It has been pointed out to us) replacing the unnamed source of the counter-example presented to the current writer. The noun phrase "The apparent counter example to this" in example (60) above clearly marks the FN as a counter-attack example. When the counter-example is brought by the writer himself the present active is used instead.

3.1.4. 'FURTHER RESEARCH' FOOTNOTES

It seems that some article writers have adopted the

academic practice characteristic of writing degree theses and suggest other aspects of the phenomenon they are dealing with as areas for further research. As a writer can not deal with all aspects of a phenomenon, he/she specifies the aspects he/she will be tackling. When, in spite of this precaution, another aspect of the phenomenon being discussed crops up he/she, if there is to the best of his/her knowledge, nothing citable (for FN reference) on this particular aspect, puts it forward as a suggestion for future research. In such FNs a writer is claiming not to know the issue footnoted as well as that nobody else knows either; therefore the necessary research needs to be done. Indirectly, the writer is claiming to know that there is no relevant 'literature' on this point.

Further Research FNs may be taken as an indication of the wide readership a writer may be catering for. An example of a further research FN is:

Ex. (61)

For every item on the test tape, the listener first hears the original, unmanipulated Swedish/English word followed by two altered versions of it. The stress pattern is never altered. Main word stress falls on the same syllable as that of the original word. The clusters which are subject to simplification always belong to the stressed syllable.³
[1:110]

³.It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant. (1:121)

The above footnote is not only relevant to potential researchers in search of a research topic, but also to other readers in that it cancels the expectation readers may have that the phenomenon referred to in the FN will be covered in the matrix text. This type of FN may be given the title 'avoidance' footnotes. That is to say, it is an avoidance strategy that some writers resort to to spare themselves discussion of an aspect of a phenomenon that they know nothing about. Put differently, a writer is making an expert claim of ignorance.

3A.1.4.1. THE REALIZATION OF 'FURTHER RESEARCH' FNs

Almost all further research FNs include a future reference expressed either through the use of the present simple or modals. The following are examples:

Ex. (62) It would be interesting to investigate....

Ex. (63) It remains to be shown....

3A.1.5 'ELABORATION' FOOTNOTES

There is a type of FNs that provides more details of a point or points discussed in the matrix text. They present information on an issue tangentially related to the point that is being dealt with. In the matrix text writers give the necessary minimum information about a certain point and then give in the FN some extra information that they believe is

relevant to what they say in the main text and that some of their readers may find useful. Take the following example:

Ex. (64)

- a. beyt ha-morahouse the-teacher
'the teacher's house'
- b. maxazot sekspir plays Shakespeare
'Shakespeare's plays'
- c. ba al ha-rofa
husband the-doctor
'the doctor's husband'

The first thing to note is that CSs (construct states) are strictly N-initial; although the definite article ha- always surfaces as a proclitic on the head noun in definite non-CS DPs, it must appear postnominally attached to the genitive phrase in a CS.⁴ (7:915)

⁴. If the genitive phrase in a CS is a proper name or referential pronoun, no definite article surfaces, presumably because both are inherently [+definite]. Note also that a pronominal possessor in a CS is always realized as an enclitic on the head noun and not a separate word for example beyt-a 'her house'. [7:927]

In the matrix text in the above example, the author deals with the position of the Hebrew definite article (ha) in non-definite inanimate construct states. The FN provides the reader with information about another issue (i.e. no definite article is needed when the genitive phrase in a CS is a proper name or referential pronoun) which is triggered by talking about the definite article in inanimate construct states dealt with in the text. The decision of what to elaborate and what not to elaborate is probably triggered by how informative the matrix text is to a multiple audience. In other words, writers elaborate or give details in FNs on points made in the

mainstream text assuming that what is already given in the matrix text may not be enough for some of their readers.

3A.1.5.1. THE REALIZATION OF 'ELABORATION' FNs

Elaboration FNs are identified on the basis of the following clues:

(1) the point or item elaborated on in a FN occupies the front position (i.e. subject position) in the sentence. Here is an example:

Ex. (65)

⁶•This definition presupposes that syntactic categories (or, if they present other categories as well, 'signs'; Rollard 1985) have a fixed structure in the sense that they are always made up of a limited set of attributes. For complex CAT these are VAL, DIR and ARG. Complex CAT which dominate additional attributes as well are not well formed, according to the definition in (28). As one reviewer pointed out, such considerations are not merely of linguistic interest; using a fixed structure might allow for more efficient unification algorithms. [4:44-45]

(2) some elaboration FNs give details of specific tests or methods used to verify a phenomenon. Take the following example:

Ex. (66)

⁴•Chi-square tests were employed for the statistical evaluation of the data; significance levels are .01 throughout. [2:840]

(3) some elaboration FNs are lexically signalled or start with introductory 'there' which, in my opinion, signals addition. The example below illustrates this point:

Ex. (67)

10. There is an additional irrelevant reading where *ha yalda sel ha mora* is a constituent, that is, the *sel* phrase is adjoined to the genitive phrase rather than the matrix DP. On this reading (32) would mean 'the picture of the teacher's daughter'. [7:928]

(4) some other elaboration FNs start off with the conjunction 'if' meaning 'when'. A FN headed with the conjunction 'if' is classified as an elaboration FN since 'if' may be taken as a signal for more details of an exceptional case. Take the following example:

Ex. (68)

4. If the genitive phrase in a CS is a proper name or referential pronoun, no definite article surfaces, presumably because both are inherently [+definite]. Note also that a pronominal possessor in a CS is always realized as an enclitic on the head noun and not as a separate word, for example *beyt-a* 'her house'. [7:927]

It should be noted that for the identification of elaboration FNs, the reader has got to rely much on the propositional content of the FNs themselves rather than on lexical clues alone as some FNs are not clearly signalled through lexis.

3A.1.6. 'DEFINITION' FOOTNOTES

In some footnotes writers define a lexical item or items used in the matrix text. Some lexical items are defined because writers use them in an idiosyncratic way, that is, use them to mean something different from their conventional meaning. Definitions are offered to ensure that readers share an identical frame of reference with the writer. Take the following example:

Ex. (69)

This approach to genitive case assignment makes it an exceptional phenomenon in two obvious respects: first nouns appear to be the only lexical heads that license case assignment to an argument in their SPECS.² (7:910)

2. I use the term SPEC to denote a position which is immediately dominated by the maximal projection of a syntactic category. In other words, SPEC is merely a node label. It is not synonymous with the term specifier that includes articles, quantifiers, and possessors. [7:926]

Although the exact meaning of the term 'SPEC' becomes clear on reading the rest of the article, the author chooses to allocate a specific meaning to it immediately after introducing it. The author probably did this to make sure that readers would not confuse it with the term 'specifiers'. The effect that this type of FN is intended to have on the reader is to make him/her fully aware that the definition given in the FN provides the framework for interpreting the term 'SPECS' used in the matrix text.

This type of FNs carries out a similar function to the type of gloss Widdowson (1978:82) calls "prompting glossaries". Widdowson (ibid) gives the following characterization of "prompting glossaries":-

"These are explanations which are linked to particular problems as the reader actually encounters them in context. They usually appear after the passage and it is assumed that the reader will refer to them whenever he comes up against a difficulty. Occasionally, however, prompting glosses appear as footnotes or in the margins alongside the passage itself"(p.82)

However, there is a significant difference between definition FNs and Widdowson's "prompting glossaries": the latter define words/phrases "which are judged to be outside the learner's current competence and which would otherwise, therefore, pose a comprehending problem"(Widdowson,ibid:82). Definition FNs, however, define lexical items whose definitions as linguistic elements in the language code are within the reader's current competence, but are used to mean something different from that which the readers know. This practice is really unfortunate since using fairly well established terminology idiosyncratically may confuse readers. We may conclude this section by saying that definitions, various kinds of glosses, etc. are some of the techniques used for "lexical familiarization" (Williams, 1981).

3A.1.6.1. THE REALIZATION OF 'DEFINITION' FNS

From the above example and other examples in our data, one can observe that definitions of lexical items are expressed in the simple present active or passive. Almost all Definition FNs contain a clause such as " I use the term SPEC to denote...." or "The term scope is used in the sense....", that makes explicit the rhetorical function of the FN. It is also noticed that the item being defined is used as the starting point of the definition.

3A.1.7. 'CONCESSIVE' FOOTNOTES

In a concessive FN the writer mentions exceptions to a generalization presented in the antecedent.. Take the following example:-

Ex. (70)

It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ (1:105-106)

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

The FN, together with the antecedent it accompanies, could be explained as follows:

(1) The writer has positive regard for the proposition presented in the antecedent.

(2) The writer is not disputing the proposition presented in FN

(3) The effect of the FN:

Reader's endorsement of the proposition presented in the antecedent is reinforced.. This positive regard on the reader's part may be further increased if the reader follows up the sources given as evidence for what the writer said in the FN.

3A.1.7.1. THE REALIZATION OF 'CONCESSIVE' FNs

The only clues we relied on in the identification of concessive FNs were:

(1) it is always possible to insert the adverb 'however' that marks a concession at the start of a concessive FN without rendering it ungrammatical as in the example below:

Ex. (71) 11. However, use of these derived nominals is stylistically highly marked. [7:928)

(2) the semantics of the FN itself gives a clear indication of what its function is.

3A.1.8. 'NOTATION' FOOTNOTES

Although it is the common practice for academic writers to introduce and define any symbols they use at the start of what they write, in our corpus we found three cases of symbols and abbreviations being explained in footnotes. The following is an example:

Ex. (72) In some ITCs, the filler is clearly the focal element; in (11), for instance, it is contrastive information:
(11) A: it can't be limited by the time factor
B: Well // it's //money you know that LIMITS you //3 (2:828)

3. Transcription symbols:
- tone unit boundaries: //...//
 - pauses (increasing length): '.'; ' _'; ' _ _'; ' _ _ _'
 - nucleus: CAPS
 - tones: fall (\); rise (/); level (_); fall-rise (\ /); rise-fall (/ \)
 - onset: //

- stress (nonnuclear): 'or"
- subordinate tone units: ...
- speaker identity: A, B, ... (surreptitious)
- a, b, ... (nonsurreptitious) [2:840]

The writer of the article from which this example is taken knows that some of his readers, those who are not familiar with the meanings of the symbols used throughout his text, will not comprehend the matrix text without first becoming familiar with the conventions presented in the FN. Therefore, the effect of the FN is to increase the ability of some readers to comprehend an element in the mainline text. The FN here is facilitative; it gives a key. Perhaps, the writer has included this FN because of his knowledge that writers in his field use different symbols to denote one and the same thing and also because of the fact that readers do not approach a text with equal background knowledge and because in linguistics at least, there is a lamentable lack of uniformity or standardization of conventions. This type of FNs is different from definition FNs in that they give the reader access to the data by revealing to him/her how it is encoded, whereas definition FNs ascribe meanings to terms.

3A.1.8.1. THE REALIZATION OF 'NOTATION' FNs

As is clear from the example given above notation FNs are realized by giving the symbols and what they mean in terms of a verbal gloss.

3A.1.9 'EVALUATIVE' FOOTNOTES

Evaluation is a generic term for the subjective and objective judgments of the writer or speaker. It is used in the sense of an attitudinal marker. For instance, a writer may indicate his/her attitude towards a proposition made by him/her-self or by others. On this basis evaluation may be classified into two types as follows:-



'Self evaluation' denotes a writer's personal evaluation of a thesis made by him/her-self or by others; whereas 'other(s) evaluation' refers to a case when a writer invokes someone else's evaluation of a thesis or a phenomenon. The following are examples of the two types respectively:-

Ex. (73)

The VP agrees with NP and the V agrees with the VP. Hence, the V agrees with the NP. The agreement between the VP and the NP is a consequence of the CAP. The agreement between the V and the VP is a consequence of the head-feature convention(HFC). Either as a condition on rules or as a condition on trees, this requires a head to have all the features of its mother unless otherwise specified.³ (6:370)

3. This is something of an oversimplification since it is assumed within GPSG that there are features which do not obey the HFC. In the present context, however, this is of no importance. [6:381]

Ex. (74)

The most natural thing seems to be to consider the functors in (14) as nonheads, and thus as a special kind of modifiers, called 'specifier'. The refined definition of modifier, and that of specifier, is given in

(15):

(15) a. MODIFIER

A Functor of the form $x[F]/x[F]$ is a modifier

b. SPECIFIER

A Functor, of the form $x[F]/x[F]$ is a specifier.⁴ (4:27)

⁴. One reviewer pointed out that this makes it less clear that modifiers are still endotypic, and thus nonheads. Giving modifiers a headlike status might be nice for determiners and complementizers (see Hudson 1987) but can hardly be defended in the case of AP and PP specifiers. [4:44]

3A.1.9.1. THE REALIZATION OF EVALUATIVE FNs

The same clues used for the identification of Evaluative Referential FNs (see 3A.1.2.1. above) may be used for the identification of Evaluative FNs. Evaluative FNs often include a text reference item such as 'this' or 'that' and a qualifying or modifying adjective or noun such as 'nice', 'less clear', 'hardly', oversimplification, etc.

3A.1.10. ENDOPHORIC (ANAPHORIC & CATAPHORIC 'CROSS-REFERENCING')

FOOTNOTES

This type of FNs is used to provide a simple cross-referencing system between the parts of the discourse. They are used for the purposes of making smooth the connections between sections of the discourse. Such FNs are infrequent in our corpus as most cross-referencing cases are realized through the use of parenthetical 'text connectives' (see Kopple, 1985). Kopple (ibid) argues that "text-connectives" are used "to guide readers as smoothly as possible through our texts and to help them construct appropriate representations of them in memory" (p.83). He lists the following subcategories as examples of his

category of text-connectives:

(1) words and phrases that indicate sequences (first, next, in the third place) as well as those that indicate some kind of logical or temporal relationship (however, nevertheless, as a consequence, at the same time).

(2) reminders about material presented earlier in texts (as I noted in chapter one ; which is reminiscent of Montgomery' (1977) recall aside) and announcements of material appearing later in texts (as we shall see in the next section). Also included in this category are statements of what material one is on the verge of presenting (what I wish to do now is develop the idea that).

Endophoric cross-referencing FNs seem to establish purely text-cohering relationships between text chunks (a text chunk denotes elements of the discourse, be they a sentence (or two), a whole paragraph, a section, or subsection). They orient the reader to a specific place that he/she has already read or will be reading and thus avoid writers unnecessary and inelegant repetition. In a word, they demonstrate the interdependence of the elements of the discourse.

Cross-referencing footnotes, as used in our corpus, can be categorized as follows:



"Cataphoric" (Halliday and Hasan, 1976) refers forward (i.e. is anticipating) and "anaphoric" (ibid) refers backward to

something previously mentioned. An example of a cataphoric cross-referencing FN is:-

Ex. (75)

The schemata for the two basic sorts of coordinate construction in Polish in the CCR format are shown in (51) and (52), respectively, where H and X are minimally specified categories.⁹ (3:393)

⁹. Examples of coordinate structures illustrating the use of each of the conjunctions specified in the above schemata are given in the Appendix. [3:412]

The above FN directs the reader to where he/she can find examples of the types of conjunctions dealt with. Probably, this particular FN is describable in terms of Grice's (1975) 'maxim of quantity' as making up for any would be 'under-informativity' on the part of some writers. In other words, what is given in the matrix text may not be intelligible or informative enough for some readers, so they are given access to the examples presented in the FN. It is worthwhile noting that some readers are good at understanding theoretical discussion whereas others are good at understanding concrete examples and vice versa. Here is an example of an anaphoric FN:

Ex. (76)

The verbs of this class are subcategorized for an internal topic and assign it dative case, in the same way that direct objects are assigned cases.¹¹ [10:199)

¹¹. See also discussion of (13d). [10:212]

In this FN the reader is referred to an earlier discussion in the matrix text. Although, no adverb of place is employed in

this FN to tell the reader where in the text he/she can find the exmple referred to; it is through the number of the exmple referred to and the location, in the text, of the part of the matrix text reader was reading before exiting to the FN that he/she will be able to infer where to go.

3A.1.10.1. THE REALIZATION OF ENDOPHORIC CROSS REFERENCING FNS

Endophoric cross-referencing FNs, whether they refer forward or backward, are marked through the use of a textual place reference (e.g. see appendix..., see section... above, or below) and adverbs of place.

3A.1.11 'AFTERTHOUGHT' FOOTNOTES

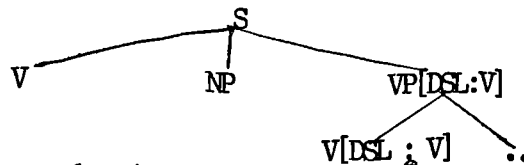
Although the term 'afterthought' refers to something that comes to one's mind or attention later (a kind of esprit d'escalier), it does not imply that this thing is secondary or of little importance. An afterthought FN may be as important as any other FN but not as important as something included in the matrix text. In such FNs, writers express something that has come to their attention just a short time after or before they finished what they were working on. Afterthought FNs are always the last FNs in the list of FNs and their indices, as far as our corpus is concerned, always occur towards the very end of the article. The following is an instance of this type of FN:-

Ex. (77)

IT seems to me then, that complex ID rules and the assumptions in (32) are probably supported not just by Welsh data but by a variety of languages.⁸ (6:380)

8. Since I completed this paper, it has come to my attention that an alternative way of analyzing verb-subject sentences as having NP VP structure is advanced in Jacobson (1987). Jacobson proposes that certain types of bounded dependency involve a feature DSL (double-slash) which, like the feature SLASH used in the analysis of unbounded dependencies, indicates that a constituent contains a gap of some kind. Within this framework, verb-subject sentences can be analyzed as having the following structure:

(i)



Jacobson notes that it is quite easy within this approach to insure that subjects precede objects, whereas it is not clear how to insure this if both are daughters of S, as they are in the approach developed here. Things are not so simple, however. While most complementations have to follow the subject in Welsh, a PP expressing possession can precede the subject. Thus, both the following are possible:

- (ii) a. Mae ceffyl gan Emrys.
 is horse with Emrys
 ' Emrys has a horse'.
 b. Mae gan Emrys geffyl.

This is rather problematic for Jacobson's approach, since it means that some instances of VP[DSL :V] can precede the subject although most can not. Within the approach developed here, however, it simply means that certain PPs can precede the subject and thus is no problem at all. [6:381]

The above FN, as is obvious from the clause 'since I completed this paper' and also from the clause 'it has come to my attention', is an afterthought. It brings to the reader's attention an attempt at analyzing the same phenomenon the author of the present article is concerned with. The author, in this 'global' FN, brings in another author's approach to the same phenomenon and challenges it. The clause 'this is rather problematic for Jacobson's approach' represents a negative evaluation by the present writer of Jacobson's approach, i.e. he sees the new insight as a challenge to Jacobson.

This FN, unlike others, is called 'global' in the sense that it compares the whole of the approach towards the phenomenon discussed by the present writer with Jacobson's. The effects such a FN is intended to have on the reader may be twofold:

- (i) To increase reader's readiness to accept the present writer's own approach, and
- (ii) To spare the present author the accusation of being unaware of other recent attempts tackling the same issue he is discussing.

Such FNs may be taken as an indication of a writer not wanting to bother to rewrite the part of the article that the afterthought FN is attached to and embedding the information presented in such FNs in the matrix text or if necessary rewriting the whole article.

3A.1.11.1. THE REALIZATION OF AFTERTHOUGHT FNs

An afterthought FN is mainly identified through the verb forms employed. For instance, in the above FN the author starts off with the simple past "Since I completed" and this implies that what is coming next was not known to the author before the completion of the article. This is made manifest through the use of the active present perfect "It has come to my attention...." which indicates the late knowledge by the author about the issue discussed in the FN.

3A.1.12 'ACKNOWLEDGMENT' FOOTNOTES

In this type of footnotes writers acknowledge the help (whether financial or academic) they had from institutions, sponsors or individuals. Also given in such FNs is the correspondence address at which the author can be contacted and a clause stating the writer's responsibility for any errors found in the article. All the articles used for this study have one footnote of this type. Such FNs seem to emanate from an academic convention that writers should include the things referred to above in this type of FN. Take the following example:

Ex. (78)

* This work has been supported by HSER. We are grateful to Prof. Tore Janson, Gothenburg university, for his invaluable help and supervision. We would also like to thank the anonymous reviewers of Linguistics for their comments on an earlier version of this article. Correspondence address: Department of Linguistics, University of Stockholm, S-106 91 Stockholm, Sweden. (1:121)

3A.1.12.1. THE REALIZATION OF ACKNOWLEDGMENT FNs

It is almost impossible for anyone who is familiar with academic writing to fail to identify acknowledgment FNs (see 6.1.0 - 6.1.4) as such for the following reasons:

- (1) Acknowledgment FNs are distinguished from other FNs through being marked by an asterisk (*) and not an Arabic number.
- (2) The communicative functions realized through acknowledgment FNs are always made explicit through the declarative clauses used. For example, the following declarative clauses are recurrent in acknowledgment FNs:

Ex. (79)

* We are grateful to Prof. Tore Janson, Gothenburg University, for his invaluable help and supervision. [1:121]

Ex. (80)

* We would like to thank the anonymous reviewers of Linguistics for their comments on an earlier version of this article. [1:121]

Ex. (81) 2. I am grateful to [2:840]

It is noticed that verb "BE" is by far the most commonly used verb in acknowledgment FNs.

3A.2. The Frequency of the different functions of FNs

In the 10 articles which represent the data for this work, there are 113 footnotes. Elaboration FNs, as shown below, are by far the most frequent type (44%) and referential FNs (36%) follow them. The preponderance of these two types, compared with the rest is due to the fact that, it is a must in academic writing (see 3A.1.1) that writers should present their works and account for their results in terms of previous works and should elaborate on points that they believe may be troublesome for some readers. The frequency of the different functions of FNs varies from one article to the other. For instance, elaboration FNs are highly frequent (22%) in article no. 1 compared with the rest of the articles.

The above classification of the functions of FNs is exhaustive and based on a careful examination of the FNs used in the articles chosen for this work.

3A.3 SIMPLICITY VERSUS COMPLEXITY OF FNS

The terms 'simple' FN and 'complex' FN are used here to characterize FNs in terms of the number of functions they realize. For example, if a FN carries out one function (e.g. referential), then it is described as a 'simple' FN, whereas if a FN realizes two functions or more, then it is called a 'complex' FN. As we stated before, a FN may realize more than one function. The most common combinations of functions are:-

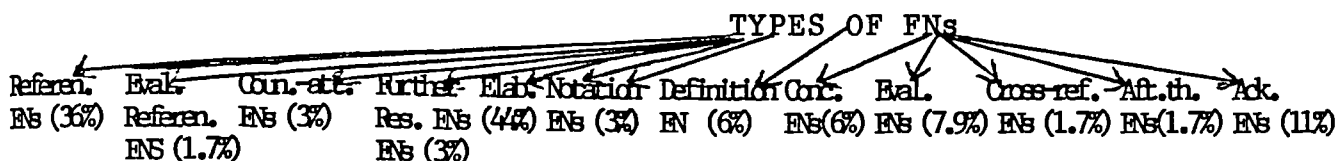
elaboration + referential (11%)

It is no wonder that the most common combination of FNs' functions is that of Elaboration + Referential. Since a writer elaborating on a point in a FN is limited by space and time considerations and can not cover all aspects of the point discussed; therefore he/she has to refer the reader to sources where he/she can get more details if he/she wishes. There are other combinations of functions, but they are not as frequent as elaboration + referential. Some of these combinations are listed below in descending order in terms of their frequency:

evaluative + referential	(3%)
elaboration + evaluation	(2%)
referential + elaboration + evaluative	(1.7%)
acknowledgment + notation	(0.8%)
referential + acknowledgment	(0.8%)
definitional + referential	(0.8%)
elaboration + further research + referential	(0.8%)

definitional + elaboration + referential + referential (0.8%)
 referential + further research (0.8%)
 elaboration + cross-referencing (0.8%)

In the above sections, we have tackled the following types of FNs (the frequencies of which are indicated in parentheses).



3A.4. AN ABANDONED ATTEMPT

In the year 1987, when I started my research, 16 articles from each of the following academic disciplines were chosen as data for this study: Law, History, Finance, Psychology and Linguistics. The main objective behind the choice of these disciplines was to investigate how the functions and structures of FNs would differ from one discipline to another. However, a decision was made to abandon the other disciplines and to restrict the study to linguistics articles for the following reasons:

- (1) It was extremely difficult to find specialist informants from the disciplines chosen who were prepared to help in verifying the FNs' functions identified.
- (2) It was found that there were great differences between the functions of FNs from one academic discipline to the other

to the extent that each discipline required a different functional classification.

In the preceding discussion, we have made an attempt to provide plausible reasons, on the basis of the textual evidence and our judgment, why writers use FNs such as those identified above. Now, we move to consider FNs from the writer's actual standpoint. More specifically, look into the criteria on which writers base their footnoting decisions.

SECTION B

3B.0. FOOTNOTES AND THE WRITER

The aim of this section is twofold. First, it attempts to find out what help writers get, from books on academic writing, on when and when not to employ FNs. Second, it reports on an investigation carried out to uncover and understand the writer's underlying cognitive processes that make him/her decide that a certain bit of a text should go into a FN.

3B.1. ACADEMIC WRITING AND FOOTNOTES

Examining books on teaching academic writing, we found (e.g. Nystrand (1986), Jordan (1989)) that no advice was given to the would be competent writers of the future on why and for what purpose FNs may be used. The only exception to these books were Williams (1982) and Flower (1989), who advise students to document any idea, paraphrase or quotation by means of FNs to guard themselves against plagiarism. However, this is only one

of the functions of FNs. No other functions of FNs were referred to by these writers.

It was only in style manuals that we could find details on the functions FNs may be used to realize. Achtert and Gibaldi (1985:182) classify footnotes in terms of their functions into:

(1)"content notes offering the reader comments, explanation, or information that the text can not accommodate. (2) Bibliographic notes containing either several sources or evaluative comments on sources" (p.182).

They elaborate on the second type and leave the reader/writer to decide for him/herself when and when not to use 'content notes'. Turabian (1967:26) says that footnotes serve four main functions and lists them as follows without giving any further specific details.

- (1) for documentation;
- (2) for commenting on and qualifying textual items;
- (3) for cross-referencing; and
- (4) for acknowledgments.

Turabian makes it clear that the material to be included in footnotes is what a writer "feels would disrupt the flow of thought if introduced into the text"(p.26). However, this is not enough, since there are no objective criteria in the light of which writers would be able to decide on what could and what could not be put in a footnote. Therefore, because of the lack

of guidelines in books on writing and in style manuals that future writers could use to decide on what information could/should go into FNs, an investigation was conducted to uncover the underlying assumptions writers base their footnoting decision on. The following section reports on this.

3B.2.0. THE EXPERIMENT

3B.2.1. DATA

To understand the thought processes behind a writer's decision on what bits of information should go in a footnote, a popular science text (from New Scientist, 14 July, 1988, p.38) consisting of 853 words was chosen for this investigation. This particular text (see Appendix 2A) was selected because we thought its contents would be understandable to all the lecturers involved in this investigation. Lecturers and not any other population were selected because they are often engaged in writing the sort of articles used for the present study. Before the investigation was carried out, an apriori prediction concerning the bits that we thought could be relegated to footnotes was made

3B.2.2. SUBJECTS

20 lecturers from the Linguistics and the English Departments at U.W.B. were given the text and were asked to imagine that they had written the text and submitted it for publication in a journal but that the editor had sent it back to them and required that the text should be shortened by

taking out bits and putting them into footnotes. It was made clear to them that they were free to transfer as much of the text to footnotes as they wished.

The subjects were asked to indicate (using a highlighter pen) the stretches they thought could 'safely' go into FNs. Also, they were told, in advance, that they would be recorded on tape while verbalizing their thoughts, some of which, it was hoped, would be pertinent to the on-going decisions concerning what to footnote and what not to.

3B.2.3. PROCEDURES

An appointment was made with each lecturer. During the meeting the text was handed to the subject and the subject was given enough time (ranging from 5 to 10 minutes) to read the instructions (see Appendix 2B) and the text before the 'think aloud' protocol (Ericsson and Simon, 1987) started. Although a tape recorder was used, the investigator had to be present, primarily to maximize the verbalizations by reminding the subjects to speak when they lapsed into silence and to ask them about the criteria on which they based their decisions in case they forgot to mention these.

3B.2.4. Results

It can be seen from Appendix (2A) that 8 (underlined) stretches of the text had been singled out by a majority of the subjects as ideal candidates for footnotes. Other bits of the

text were marked by some subjects as material that should go into a footnote. However, we limited ourselves to 8 stretches only on the basis of the number of subjects who agreed on a certain bit of the text as being suitable for a footnote. In other words, if the number of subjects who agreed that a specific bit of the text should go into a footnote was less than 8 (i.e. 40% consensus) out of the total number of subjects, then this bit was not considered.

Before discussing the 8 stretches we limited ourselves to, we would like to discuss one stretch of the text on which the subjects differed whether it should stay in the text or be relegated to a footnote. This bit of text is the instantiation, marked with double horizontal lines in Appendix (2A). The majority of the subjects remarked that it should stay in the matrix text. One subject put it as follows:

"I personally would want some examples of what sort of serious illnesses as part of the essential structure of the text" and added that "for a popular journal... the more specific examples you can give the better, it makes the article more concrete more real to put that down below, the real examples are not important would go against for me what a journal like the 'New Scientist' is all about so I am going to leave that one in".

Only 2 subjects argued that this stretch could be put into a FN and their justification for this was that they wanted to be consistent. In other words, because those two subjects had relegated stretch 5 (see Appendix 2A) into a FN, then they

decided that this particular stretch we are discussing should go into a FN too.

The criterion the subjects based their judgments on differed from one stretch of the text to the other. For example, the 18 subjects who agreed that the first marked stretch in the text, "Nauru is a tiny island near the equator with 5500 inhabitants", should go into a footnote remarked that this stretch is "not terribly important to the argument". However, they conceded that it could be put in a footnote to give background knowledge to those readers who might want to know where exactly Nauru is and how many inhabitants it has.

So, the decision that this particular stretch should go into a footnote was mainly based on the subjects' assumptions that the information it provides is peripheral. As for stretches 2, 3, 7 and 8, 19 subjects out of the total decided that they should go into footnotes. When asked about the criteria they had based their decisions on, the answer was "it is common practice, it is a matter of convention". Some of them commented that giving bibliographic details of sources is meant to help those readers who might wish to get more details or check the point made in the text.

11 subjects commented that stretch 4 was not very well thought out on the part of the article writer as it is implied by the sentence before it and, therefore, they decided to move

it into a FN though some subjects remarked that it should be completely removed from the text. As regards stretch no. 5, 8 subjects marked it as ideal for a Fn. Their decision was based on the assumption that most readers who approach this type of article may already know what insulin is. However, as we predicted, some of the subjects commented that some readers might already be familiar with the term 'insulin' itself but not with its definition; and therefore decided to put the definition in a FN to cater for this class of readers who might not know what insulin is. One subject remarked that "insulin is a fairly well known concept or item that people are generally familiar with what insulin is about so perhaps this elaboration was not strictly necessary" and therefore it could go into a FN.

As for stretch no. 6, 15 subjects expressed their doubt about its relevance and suggested that it could be taken out of the text completely. However, on second thought, they said that it could be put in a FN to shed light on the other possible implications of the research on diabetes.

From the above discussion, it is fairly obvious that the subjects as potential writers, had based their judgments of what material should go into a FN on the following criteria:

1. Conventional practices that they are familiar with from their own reading.
2. The assumption that some of their readers might already be familiar with the meaning of a term that is being used in an

article, or book (i.e. their assumptions about readers' background knowledge).

3. Whether the material to be footnoted could be inferred from the text or not. If it could, then there is no need for it to be in the main text. Stretch no. 4 is an example.

4. On the basis of semantic relevance to the theme of the article. That is to say, if a stretch of the text is not relevant to the contents of the article but has some indirect bearing on an item in the article, stretch 1 is a typical example of this, then it may be put in a FN. This notion of semantic relevance is based on the subjects' intuitions.

To conclude this section, it was noticed that the majority of subjects relegated to FNs not only stretches giving bibliographic details of the sources quoted, but also stretches of the text that are providing background information, definitions of common terms (e.g. insulin) and elaboration stretches as well. Now, we conclude this Chapter by shifting the discussion from the functions of FNs and the criteria writers base their footnoting decisions on to a study of how the transition is made from the matrix text exit sentence to the FN and from the FN to the matrix text re-entry sentence. In other words, the next Chapter examines how cohesion and coherence relations are established between M.T.E.S., FN and M.T.RE.S..

CHAPTER FOUR

COHESION, COHERENCE AND THEMATIC PROGRESSION

4.0 INTRODUCTION

Cohesive devices are crucial in writing, for they turn separate clauses, sentences, and paragraphs into connected prose, signalling the relationships between sentences, and making explicit the thread of meaning the writer is trying to communicate in texts made up of contiguous sentences. Numerous cohesive devices exist for connecting propositions in writing continuous prose. According to Halliday and Hasan (1976) cohesion is displayed in the ties that exist within text between a presupposed item and a presupposing item. For example, in the sentences Roger makes good meals. Last Monday he cooked spaghetti. The pronoun ' he ' in the second sentence is the presupposing item and 'Roger' in the first sentence is the presupposed item. This is as far as continuous prose is concerned. But, will we be able to account for the relations between FNs and the matrix texts they accompany in terms of such devices ? This is the main concern of this Chapter.

In the following sections an attempt is made to find out how cohesion and coherence is achieved between matrix text exit sentences (M.T.E.Ss), FNs and matrix text re-entry sentences (M.T.RE.Ss). In this Chapter the issue of whether FNs present 'new' or 'old' information is also taken up. First, we start

with an investigation of how cohesion and coherence is maintained between M.T.E.Ss, FNs and M.T.RE.Ss.

4.1 THE CONCEPTS OF COHESION AND COHERENCE

Halliday and Hasan claim that text derives 'texture' from cohesive ties. They also suggest that :

"The concept of ties makes it possible to analyze a text in terms of its cohesive properties and give a systematic account of its pattern of texture" (1976:4).

H. and H. present a taxonomy of various types of cohesive ties (dealt with in detail in Chapter Two of this thesis) in four main groups:

- (1) reference, including antecedent-anaphoric relation, the definite article the, and demonstrative pronouns;
- (2) substitution, including such various pronoun-like forms as one, do, so, etc., and several kinds of ellipsis,
- (3) conjunction, involving words like and, but, yet, etc., and
- (4) lexical cohesion, which has to do with repeated occurrences of the same or related lexical items.

That Halliday and Hasan view these cohesion relations, as well as texture in general, as linguistic relations can be seen at several points in their discussion:

"What we are investigating in this book are the resources that English has for creating

texture. If a passage of English containing more than one sentence is perceived as a text, there will be certain linguistic features present in that passage which can be identified as contributing to its total unity and giving it texture"(1976:2).

Thus they are claiming that texture is created by the writer using the linguistic resources of the language as a tool. That is to say "Cohesion is part of the system of a language"(1976:5). H. and H.'s main point is that mere coherence of content is insufficient to make a text a text; rather, that there must be some additional linguistic property, such as cohesive ties, that contributes to the texture of a text. Coherence is then treated as something found in texts, signalled exclusively by means of grammatical, lexical or semantic features. This view of coherence has been criticized by a number of discourse analysts (e.g. White and Faigley, 1981; Carrell, 1982, etc.) because it ignores the fact that a coherent discourse is one that is consistent in content, purpose, voice and style.

Widdowson (1978:29) gives the following example which exhibits no cohesive links between the sentences involved; and still forms a coherent sequence:

- Ex. (82) A. That 's the telephone.
 B. I 'm in the bath.
 A. O. K.

Widdowson suggests that it is only by recognising the action performed by each of these utterances within the conventional sequencing of action that we can accept this sequence as coherent discourse. The conventional sequencing may be presented as follows:-

A requests B to perform action
B states reason why he can not comply
with request
A undertakes to perform action.

He then draws the conclusion that cohesion is best defined as " the overt, linguistically signalled relationship between propositions" (1978:3) or parts of propositions. Coherence, on the other hand, is defined as "the relationship between illocutionary acts".

Our second example, which is provided by Enkvist (1978:110), shows the inadequacy of cohesive ties across sentences as a guarantee of coherence.

Ex. (83)

"I bought a Ford. A car in which president Wilson rode down the Champs Elysees was black. Black English has been widely discussed. The discussion between the presidents ended last week. A week has seven days. Every day I feed my cat. Cats have four legs. The cat is on the mat. Mat has three letters"(Enkvist, 1978:110).

Enkvist points out that there is cohesion between the

successive contiguous pairs of sentences above because of the Ford-car, black- Black, my cat-cats types of connections; but one would prefer not to call the sum of these fabricated sentences a coherent text. The above discussion shows two cases:

- (1) coherence being achieved without the presence of cohesion markers (see Widdowson's example above),
- (2) cohesion without coherence (see Enkvist's example above).

If we modify Widdowson's example, we get a third case of both cohesion with coherence as follows:

- Ex. (84) A. That's the telephone.
B. Since I'm in the bath, therefore please get it.
A. O.K. stay there I'll answer it.

According to de Beaugrande and Dressler (1981) cohesion and coherence are two of the seven standards that a text must meet if it is to be regarded as a text. They suggest that cohesion "concerns the ways in which the components of the surface text, i.e. the actual words we hear or see, are mutually connected within a sequence"(p.3). Coherence , on the other hand, concerns the ways in which the components of the textual world, i.e. the configuration of concepts and relations which underlie the surface text, are mutually assessible and relevant"(p.4)

This definition, amongst many others (i.e. Coulthard, 1977) draws a distinction between connectivity underlying the surface text (i.e.conceptual connectivity) and connectivity at the surface (i.e.formal connectivity) . But there is more to a coherent text than the mutual coherence of senses. The continuity of senses is supported by human experience and knowledge of the organization of concepts and events in the real world. Thus, the identification of relations between propositions is supported by such mental activities as inferencing. For this reason Hoey (forthcoming) rightly argues that:

"Cohesion is a property of the text, and that coherence is a facet of the reader's evaluation of a text. In other words, cohesion is objective, capable in principle of automatic recognition, while coherence is subjective and judgements concerning it may vary from reader to reader..." (Hoey, forthcoming).

Having drawn attention to the distinction between the very often confused and confusing terms, the investigation that follows is mainly concerned with accounting for the cohesive links and the 'topical relevance' (measured in terms of what is being talked about; that is to say in terms of 'topic similarity or continuity') that link footnotes to the points they relate to in the matrix text.

4.2. FOOTNOTES AND THE MATRIX TEXT

All discourse analysts who have tackled the notions of

coherence and cohesion, have discussed them with reference to adjacent pairs of sentences (e.g. H. and H.(1976), Hoey (1979), Brown and Yule (1983) and de Beaugrande and Dressler (1981)) an example of which is:

Ex. (85) He was arrested on his way to the church.

Therefore, he could not attend the funeral.,
or adjacent pairs of utterances (e.g.Widdowson (1978) and Coulthard (1977) an example of which is

Ex. (86) A. How are you feeling ?

B. Fine thanks.

B. And you ?.

As far as adjacent pairs of sentences are concerned, the fact that they come next to each other shows they are connected, quite apart from cohesive ties. However, in our case footnotes are always positioned either at the bottom of page or end of article. That is to say they are not physically adjacent to the sentences tagged by them. But, does this mean they are not cohesively related to the point(s) they pertain to ?

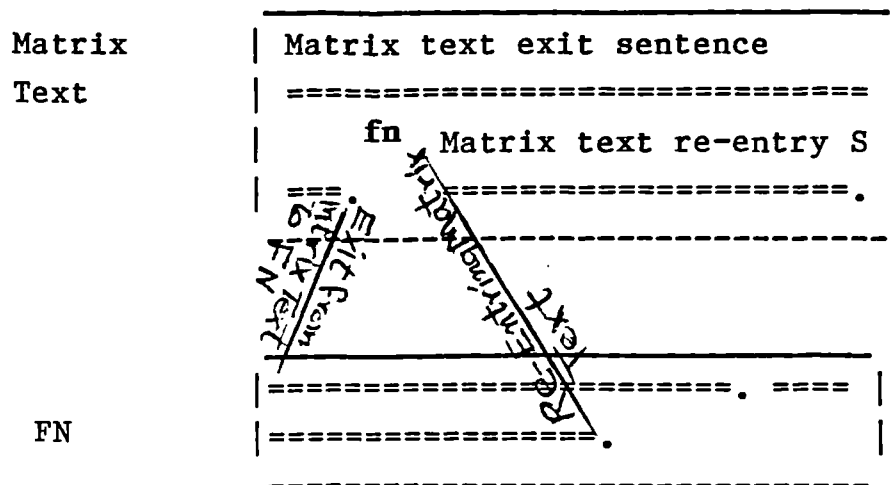
Surely not, for they are linked to the point(s) they accompany by the Arabic index number in the text. However, without the presence of the Arabic number that makes the transition between some footnotes and the matrix text exit

sentences they are bound to, the degree of relatedness between a footnote and a point in the matrix text is not as clearly signalled as it is between adjacent sentences. Furthermore, the fact that two sentences are placed immediately one after the other might be a good enough indication, for the reader, of their relatedness. But, does the fact that a FN is distanced from the matrix text make the writer mark it strongly for cohesion to compensate for its distancing from the matrix text ? This question takes the form of a hypothesis to be addressed later in this chapter.

4.3.0. THE RELATIONSHIPS BETWEEN M.T.E.S. AND FN, M.T.E.S. AND M.T. RE. S. AND BETWEEN FN. AND M.T. RE. S.

It is important to investigate the links that may exist between M.T.E.Ss, FNs and M.T.RE.Ss because the reader needs not only to exit from the matrix text into the FN, but also, after processing the FN, needs to re-enter smoothly (see diagram below) into the matrix text.

Diagram (4)



Our task here is threefold:

- (1) Investigating the relationship between M.T.E.S. and FN;
- (2) Investigating the relationship between M.T.E.S. and M.T.RE. S.; and
- (3) Investigating the relationship between FN and M.T. RE. S.

Task no. 1 is addressed first.

4.3.1. THE RELATIONSHIP BETWEEN M.T.E. S. AND FN.

This section investigates the cohesion and coherence relationships between M.T.E.S. (i.e. the sentence tagged by the footnote) and the FN. All FNs in our corpus exhibit cohesion as well as coherence relations with their M.T.E. Ss. Take the following example:-

Ex. (87)

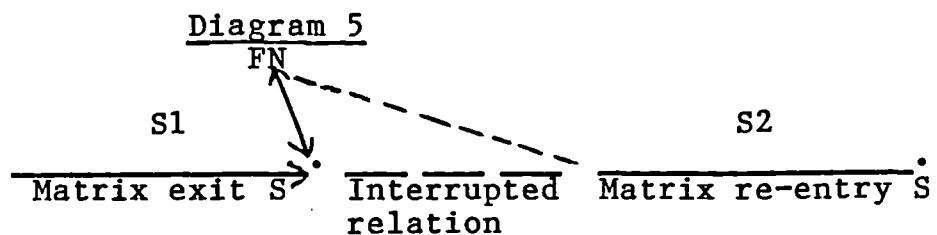
Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for.⁽¹⁾ For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ [1:105-106]

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suom (n.d.); Karlsson (1983). [1:121]

The above FN exhibits cohesion as well as coherence relationships with the M.T.E. S. These cohesion and coherence relationships are represented in the following ways:-

- (1) the Arabic number that marks the position of the displaced FN in the matrix text. This is by far the strongest indicator of the relationship between the M.T.E. S and the FN. It is so because of the established convention that Arabic superscripts are used in matrix texts to mark the place of a FN and signal the exiting from the matrix text to the FN;
- (2) the use of the lexical items 'restrictions', 'restriction', 'Finnish' and 'Finnish' in both the M.T.E. S and the FN; and
- (3) the topical relevance (i.e. what is being talked about) between the M.T.E. S and the FN. This topical relevance is shown in the anaphoric noun phrase 'this restriction' that refers back to what has been mentioned in M.T.E. S.

The relationship between the M.T.E S and the FN may be diagrammatically illustrated as follows:-



In the above diagram S1 (i.e. M.T.E.S) has cohesion and coherence relations with both the FN and the M.T.RE. S (i.e. the sentence that comes immediately after the FN's index).

These relations are indicated by the direction of the arrows. The broken line between S1 and S2 denotes the disruptive effect of the FN on the relation between the two sentences (see ch.5 for a full account of the adverse effects of FNs on discourse processing). The dotted line between the FN and the M.T.RE. S (i.e. sentence 2) indicates the non-presence of any relation between the FN and S2 and the dots mark the end of S1, S2 and the FN.

4.3.2. THE RELATIONSHIP BETWEEN M.T. E. S. AND M.T.RE.S.

Examining the relationships between the sentence tagged by the FN (i.e. M.T.E.S.) and the sentence immediately after (i.e. M.T.RE.S.) it, we observed that in the majority of cases there is cohesion and coherence between S1 and S2. The following example is typical and will suffice to illustrate this point:-

Ex. (88)

Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. (1) For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹ (FOOTNOTE 1) (2) Such language-specific differences in phonotactic rules imply that when a word is borrowed by a language with less complex consonantal structures, from a language with more complex structures, some sort of simplification of

the borrowed word should take place. [1:105-106]

It can be noticed that S2 has cohesion and coherence relations not only with S1 but also with the other two sentences before S1. The relation between Ss 1 and 2 is made explicit by virtue of the anaphoric phrase 'Such language-specific differences in phonotactic rules' at the beginning of S2. However, the relation is conceptually interrupted because of the fact that the reader has to exit from matrix text to read the FN and re-enter matrix text again. This may be diagrammatically presented as in diagram (5) above.

There are a few cases where there is lack of cohesion and coherence between S1 and S2. Take the following example:-

Ex. (89)

The test material consists of 60 randomly ordered items. These items are grouped, as will be seen from the tables of results below, in different categories depending on cluster type to be manipulated and types of contrasting simplifications. For every item on the test tape, the listener first hears the original, unmanipulated Swedish/English word followed by two altered versions of it. The stress pattern is never altered. Main word stress falls on the same syllable as that of the original word. (1) The clusters which are subject to simplification always belong to the stressed syllable.³ (FOOTNOTE 3) (In the examples to follow, the manipulated stimuli are represented in broad phonological transcription. Inserted vowels, being realized as a reduced schwa-vowel, are transcribed as /ə/.) (2) For instance, the listener hears the word *stor* /stu:r/, then /əstu:r/ and /sətu:r/, that is, two different kinds of vowel addition. [1:110]

The above example demonstrates lack of cohesion and coherence between S1 and S2 and this some may believe to be a consequence of the parenthetical insertion separating S1 from S2. This is not so since S2 has cohesion and coherence relations not with the matrix text exit S but with the sentence starting with 'For every item on the test tape'. There is, indeed, a relationship of statement-instantiation between this sentence and the matrix text re-entry S and this is made explicit through the use of the adverbial adjunct, 'For instance', at the start of the matrix text re-entry S. It seems to me that it would be better if the article writers placed the matrix text re-entry S immediately after the S starting with 'For every item on the test tape'. The lack of cohesion and coherence between M.T.E.S and M.T.RE.S in the above example is, I believe, due to poor organization of the matrix text on the writers' part.

We noticed that matrix text exit Ss occurring at the end of paragraphs, unlike such sentences within the same paragraph, do not have strong cohesion relations with matrix text re-entry Ss. See the example below:-

Ex. (90)

Our conclusion is that the decisive preference for the CC C type of vowel addition could be a reflection of a synchronic feature of certain speech styles in English and Swedish: optional vowel epenthesis before postconsonantal liquids and glides. In Swedish, our intuition suggests that the class of segments subjected to this variable rule comprises all sonorants, including /v/ and /j/. (1) This would account

for the fact that items such as those beginning with /sp j- / were also favored by the Swedish subjects.¹ [FN6] [1:116]

New Paragraph

(2) The difference in the above hierarchies is that while the Swedes prefer addition before the cluster over addition after /s/ (For example, /əstrəŋ/ is better than /strəŋ/ , it is the other way round for the English-speaking group. [1:116]

The M.T.RE.S. (i.e.S2) does not have a direct relationship with the M.T.E.S. (i.e.S2) but relates to the whole of the discussion in the preceding two paragraphs. This, I believe, is so because the paragraph that contains the M.T.RE.S. is summarizing the previous discussion before moving to a discussion of another aspect of the topic (dealt with) in the following paragraph.

4.3.3. THE RELATIONSHIP BETWEEN THE FN. AND THE M.T.RE.S.

As far as the cohesion and coherence relations between FNs and M.T.RE.Ss are concerned, we could hardly find any cohesion relations between the two. Perhaps this is due to the fact that FNs are physically placed outside of the matrix text and, probably, for this reason writers do not bother to make smooth the transition from the FN to M.T.RE.S. The only signal of the transition from the FN to the M.T.RE.S is the full-stop terminating a FN. This lack of cohesion relations between FNs and M.T.RE.S is not confined to FNs occurring at the end of sentences but also applies to FNs occurring in sentence medial position. However, we found coherence relations between

M.T.RE.Ss represented in the semantic similarity between the contents of the FN and the M.T.RE.S..

When a FN index occurs in sentence medial position, the FN does not show cohesion relations with the part of the sentence (i.e. M.T.RE.S.) that follows the FN marker (i.e. the Arabic number). The following is an example:-

Ex. (91)

The reduction is favored because it may occur in informal speech styles. However, such assumptions must be supported by relevant evidence,⁸ [1:120] [FN8]⁸. Ultimately, the occurrence of different types of phonological processes needs to be explained, not merely observed. According to Zwicky (1972:608), casual speech processes seem to be constrained to be phonetically natural, serving either EASE (of articulation) or BREVITY, thus being teleological in nature (see Stampe, 1973:passim) and ultimately motivated by the physical character of speech. The picture is obscured, however, by the fact that casual speech processes are seldom exceptionless. They fail to apply maximally, in that they may be conditioned by a variety of factors other than phonetic-phonological ones. See Zwicky (1972) for examples and discussion. [1:122] [End of FN] but facts about phonological processes in informal speech styles are not easily found.

In the above example, the FN exhibits cohesion and coherence relations with the main clause (M.T.E.Clause) and there is coherence but not cohesion between the FN and the coordinated clause; that is, the matrix text re-entry clause.

4.4. READERS' AWARENESS OF COHESION AND COHERENCE
RELATIONSHIPS BETWEEN FNS AND THE POINTS THEY
RELATE TO IN MATRIX TEXTS

Having investigated the cohesion and coherence

relationships between M.T.E.S., FN and M. T.RE.S., we decided to conduct an experiment to find out:

(1) how aware readers are of such cohesion and coherence relationships between FNs and the points they relate to in matrix text;

(2) What signals or clues readers would count on when asked to relocate a FN's index at its original place in matrix text and

(3) How reliable these signals or clues are ?

Before the investigation was carried out, a pilot analysis was conducted in an attempt to find out what factors would aid our subjects (see below) in the relocation task. First, we describe the experimental design.

4.4. 0. THE FN RELOCATION

4.4.1. EXPERIMENT

4.4.1.1. MATERIALS

One article was chosen for this investigation, viz :

Maria, Wingstedt and Richard, Schulman (1988) 'Listeners' judgments of simplifications of consonant clusters', Linguistics, Vol. 26, pp.105-123. [article no.1 in Appendix (1)

The subjects (see below) had not read this article before. I retyped the article to avoid the possibility of the subjects guessing the location of a FN's index from the blank space left behind if the index was wiped out. 15 copies were made of the article which was chosen on the basis of its simple topic. That

is, we avoided articles that we thought may be outside of the subjects' background knowledge. The copies made of the article used for the investigation were treated as follows. The FNs were typed at the bottom of the pages instead of being left in their original place at the end of the article and thus it was apparent for the subjects that a FN that appeared on a certain page belonged to some point on that same page. No change was made to the FNs' original order.

4.4.1.2. SUBJECTS

The copies were given to postgraduate and undergraduate students from the Linguistics Dept. at UWB. Only students from the Linguistics Dept. were chosen so as to ensure the availability of some knowledge of linguistics (i.e. content schemata) on the subjects' part, and which in turn would enable them to access the contents of the article. It should be pointed out that 8 of the 15 subjects were non-native speakers with advanced competence in English from a variety of backgrounds and the other 7 were native speakers. Native and non-native students (unpaid volunteers) were used to test the null-hypothesis that there would not be any significant difference between the two groups in the degree of their successes or failures in performing the task assigned to them because both groups were subject specialists.

4.4.1.3. PROCEDURES

The subjects were given a copy each and were given clear

instructions (see Appendix 3A) to read the article and try to attribute each FN to the word, clause, sentence or paragraph it is supposed to be associated with. They were asked to do the task in their spare time and it was made clear to them that they were not being examined. The attribution was to be done by placing a number corresponding to that of the footnote in the text where they thought the FN should be. Also, the subjects were asked to name any clues that might have helped them make the connection for all FNs or each one if possible.

It is important to note here that before the subjects were given the test material, we carried out a preliminary analysis to find out what clues the subjects would count on in the relocation task. In the next section we report on the results of this preliminary analysis and then compare them with the results obtained from the actual investigation.

4.4.2. THE RESULTS OF THE PRELIMINARY ANALYSIS

The aim of the preliminary analysis was to find out what would make it easy or difficult for a subject to index a footnote to what we call the point of optimum coherence in the matrix text and hypothesized that there are two groups of factors involved in the task of relocating a footnote index in the matrix text. These are:

(i) schematic factors

Schematic factors refer to the subjects' pre-existing

(ii) coherence & cohesion factors

1. lexical repetition in footnote and the text. The repeated

knowledge of academic practices (formal schema).

For example, it is the practice that writers acknowledge the financial support they obtain from certain sponsors, be these institutions or individuals. Also, academic writers are required by academic conventions to refer anything they quote to its source.

lexical items should retain

their sense to be treated as markers of cohesion

2. meaning similarity which is judged by the conceptual associations between propositions.

This relational coherence which is semantically identified is 'subjective' in that the realization of a connection between part of the matrix text and FN is dependent on readers' judgments and is not objectively determined.

It is no wonder that the repetition of lexical items may be used as an indication of meaning similarity. However, the repetition of lexical items is not the result of coherence but is the reflection of coherence. It is important to note that Halliday and Hasan's (1976) other categories of cohesive ties (i.e. reference, ellipsis, substitution and conjunctions) are not considered in this investigation as they are not as strong as lexical cohesion in spelling out the relationship between a point in the matrix text and a FN that refers to this particular point. For an illustration of this see FN 3 below.

On the basis of the above factors, in particular, the conventional factors, we assumed that the subjects would not experience any difficulty in relocating the asterisk (*), marking the acknowledgment footnote, at its original place in the matrix text. We had also predicted that there would be different degrees of facility in relocating the footnotes accompanying the article used for this investigation in the matrix text. Our predictions were as follows:

1) All the subjects would be able to place the index for footnote 1 at its original position in the matrix text. The reason for this prediction is the use of a key lexical item (i.e. Finnish) in the footnote and the sentence tagged by it in the matrix text (see below).

Ex. (92)

(1) Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. (2) It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. (3) For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹[FN1] (4) Such language-specific differences in phonotactic rules imply that when a word is borrowed by a language with less complex consonantal structures, from a language with more complex structures, some sort of simplification of the borrowed word should take place. (the superscript number marks the FN original location). [1:105-106]

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983). [1:121]

2) All subjects would correctly relocate footnote 2 at its exact location in the matrix text. They would benefit greatly from the repetition of the lexical items 'phonological transfer' and 'second language' in the footnote and the M.T.E.S.. Also, the content of the footnote would make the relocation task easy, as the information the footnote (see below) is presenting is an elaboration of the proposition made in the M.T.E.S. (see below).

Ex. (93)

To bypass the difficulties, the language learner may apply either or both of two basic types of simplification strategies: reduction or vowel addition. Which of these the speaker will adopt often depends on the phonotactics of his mother tongue. In other words, the simplification is an instance of phonological transfer from first to second language.² For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters. [1:106]

².As many studies of strategies in second-language learning indicate, there may be several factors other than L1 transfer influencing the types of phonological errors made by L2 learners. This fact has led some researchers to abandon the contrastive-analysis approach as a means of predicting such errors (for a discussion, see for example Broselow 1983). However, phonological transfer still appears to be a very important and well-represented simplification strategy in second-language learning, although predictions of specific types of learners' errors must evidently be probabilistic rather than deterministic (see Merr n.d.) [1:121]

3) It was hypothesized that all subjects would manage to place the index to footnote 3 in the part of the matrix text that the content of the footnote comments on. However, they would not be able to place the footnote's index at its original location as shown below:

Ex. (94)

(1)The stress pattern is never altered.^x (2) Main word stress falls on the same syllable as that of the original word.^x (3)The clusters which are subject to simplification always belong to the stressed syllable.^x ³ (In the examples to follow, the manipulated stimuli are represented in broad phonological transcription. Inserted vowels, being realized as a reduced schwa-vowel, are transcribed as /ə/.) For instance, the listener hears the word stor /stu:r/, then /əstu:r/ and /sətu:r/, that is, two different kinds of vowel addition. A corresponding example from the English test would be stout followed by /əstəwt/ and /səstəwt/. (sentences are numbered for ease of reference) [1:110]
³•It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant. [1:121]

The index to footnote 3 would be re-placed by the subjects in three different positions (marked in the above text by an x) as follows:

- (i) at the end of sentence 1,
- (ii) at the end of sentence 2; or
- (iii)in its original location at the end of sentence 3.

The reason for this is that the key lexical item (stress) is used in the three sentences referred to above. That is to

say, 'stress' occurs more than once and thus makes the relocation of the FN index at its original position more difficult. This is an instance of lexical repetition being a hindrance to the exact relocation of a FN marker. There was no doubt that a majority of the subjects would place the index at the end of sentence 3 basing their decision on the fact that S3 represents the closure of the discussion of the stress factor. This assumption was supported by the intuition that subjects would always prefer to locate the footnote index at the end of the S that they think completes the point dealt with in the footnote.

Note that if the lexical item 'stress', used in the FN, was replaced with the pronoun 'this' or any of the noun phrases 'this phenomena' or 'this aspect', the subjects would never be able to allocate FN 3 to any particular point in the matrix text. This incidentally justifies our earlier decision (see p. 171) to disregard H. & H.'s (1976) other categories of cohesive ties; namely, reference.

4) The index to footnote 4 would be located in several different positions depending on the subjects' preferences of where the index to a footnote should be placed. That is to say, if the subjects believed that the index should be placed immediately after mention of the issue in the matrix text that the footnote refers to, then they would insert the index at the

end of the sentence that is dealing with something similar to that that the footnote is addressing.

However, if they believe that the index should be located where the discussion of the topic referred to in the FN ends, then the index would be relocated at the end of the paragraph(s) that the content of the FN touches on. The following is an illustration of the possible positions (marked by an X) for the relocation of the FN index in the matrix text:

Ex. (95)

(1) Of the 12 items in the category represented in table 3, four begin with /str-/. (2) For these items, deletions of the stop, giving rise to initial /sr/ sequences, were clearly favored by both test groups.^x (3) In the Swedish group, the mean preference for this type of reduction is 65%.^x (4) In the English-speaking group, the mean preference for the corresponding four English items is even greater, 91%.^x (5) Thus, when it came to evaluations of the /str/ items, the only difference between the groups was that the English-speaking group showed stronger preferences for /sr/ than the Swedes, but the tendency is the same.^x (6) How can we explain the differences between the groups ?^x (7) May be the English speakers do not regard /sr/ to be a very strange combination, since a similar initial cluster exists in English (but not in Swedish): /ʃr/ shrewd.^x (8) Or perhaps these types of cluster reductions actually occur in the casual speech of native speakers of English ?^x (9) Initial /sr/ might be regarded as acceptable simply because one has encountered it several times before.^x (10) Why, in that case, would this type of reduction be more common in English than in Swedish ? (11) Certain phonetic differences in the pronunciation of /r/ in the two languages may be relevant. [1:113-114]

4. It has been pointed out to us that initial [sr] may occur in casual pronunciations of a word such as syringe (pronounced [srindz]). It should be noted, however, that this reduction is an instance of unstressed vowel deletion, and not of stop deletion. The phonological status of [sr] in for example [srindz] and of [sr] in our experimental stimuli (for example [sro:] in straw) is thus quite different, the former cluster being a result of cluster formation and the latter of cluster simplification. [1:121-122]

The key lexical item in the relocation task of Fn 4 is the phonetic symbols /sr/. As long as these phonetic symbols are not mentioned in S1 of the above extract from the matrix text, then it was hypothesized that no subject would insert the FN index at the end of this S. The subjects were expected to position the FN index at the end of Ss 2, 3, 4, 5, 6, 7, 8 or 9. However, the strongest possibility was that the subjects would insert the FN index in its original position at the end of S 9, where the discussion of initial /sr/ ended.

5) The index to FN 5 was expected to be placed at two different positions (marked by an X) as follows:

Ex. (96)

(1) Certain phonetic differences in the pronunciation of /r/ in the two languages may be relevant.^x (2) Perhaps English /r/ displays features which can contribute to enabling stop deletions to pass undetected by the listener.⁵ ^x (3) But in deleting the stop, clusters such as /skr/ and /str/ will merge, thus increasing the chance of ambiguous homonymy. [1:114]

⁵. It has been brought to our attention that in English, /r/ immediately following /t/ or /d/ is phonetically different from /r/ in other consonantal contexts (such as /kr/ and /pr/), being a fricative rather than an approximant. The varying acoustic features of /r/ might thus be expected to have consequences perceptually and perhaps influence listeners' evaluations of phonologically analogous omissions. We have not, however, specifically controlled our experiment stimuli for such possible influences and therefore

6) It was predicted that the majority of the subjects would place the index to FN6 at the end of S3 as it represents the completion of the discussion of the Swedish sonorants /v/ and /j/. However, some subjects would be tempted to insert the index at the end of S2, where the Swedish sonorants were introduced as shown below:

Ex. (97)

(1) Our conclusion is that the decisive preference for the CC C type of vowel addition could be a reflection of a synchronic feature of certain speech styles in English and Swedish: optional vowel epenthesis before postconsonantal liquids and glides. (2) In Swedish, our intuition suggests that the class of segments subjected to this variable rule comprises all sonorants, including /v/ and /j/.^x (3) This would account for the fact that items such as those beginning with /sp j-/ were also favored by the Swedish subjects.⁶ ^x The difference in the above hierarchies is that while the Swedes prefer addition before the cluster over addition after /s/ (For example, /əstrəŋ/ is better than /səstrəŋ/ , it is the other way round for the English-speaking group. [1:116])⁶. Based on purely phonetic criteria, the Swedish consonants /v/ and /j/ are usually classified as voiced fricatives. However, phonotactically they function in a way similar to sonorants in that they have a strong tendency to occur close to the vowel in a sequence of several consonants, for example in initial clusters of three consonants, where the third can only be a liquid or a voiced fricative. From such a functional perspective, /j/ could be regarded as even more sonorant than nasals, since initial /mjV-/ and /ŋjV-/ are permissible sequences in Swedish, while initial /jnV-/ and /jnV-/ are not. (Compare the hierarchy of sonorance as proposed by Otto Jespersen; see Hooper 1976:197, for a discussion.) Our estimation that DIPHTHONGIZATION of postconsonantal segments could apply to sonorants, including /v/ and /j/, in Swedish, is in accordance with such a functional analysis. [1:122]

7, 8 & 9) It was also predicted that all the subjects would insert the index for FN 7 (see below) in its original place at the terminal of S2. They were expected to benefit from the

lexical repetition of the near synonyms 'informal speech' in S2 in the matrix text and 'casual speech' in the FN. Also the use of the lexical item 'reduction' in S2 above and its frequent use in the FN would be of great help to the subjects in the relocation task. As regards Fn 8 (see below), it was predicted that the subjects would insert its index at the end of S3 and not in its original position, in the middle of S3. The subjects would benefit from the similarity between the content of the M.T.E.S. and S1 in FN 8. As for FN 9, it was hypothesized that the subjects would manage to relocate it at its original position at the terminal of S4. The similarity between the meaning of S4 and the FN (see below) would make the relocation task easy.

Ex. (98)

(1) In order to explain this preference, we therefore had to look elsewhere; one of our hypotheses regarded the possible occurrence of this type of simplification in the casual speech of speakers of English.⁽²⁾ The reduction is favored because it may occur in informal speech styles.⁷ (3) However, such assumptions must be supported by relevant evidence,⁸ but facts about phonological processes in informal speech styles are not easily found.^x (4) Deletions of segments in fast, casual speech of adult speakers is a neglected area of research in linguistics.⁹ (5) This is very unfortunate, since such processes should evidently be accounted for in any theory of linguistic behavior, particularly in phonological theory and in theories of sound change. [1:120]

⁷. We are not unaware of the fact that consonant-cluster reductions in casual speech need not be a matter of complete deletions of segments. There may also be a range of intermediate phonetic forms, where traces of a reduced consonant are found. The scope of the present study is, however, restricted to consonant-cluster simplification as a discrete, phonological phenomenon. The problem

of phonetically partial reductions is therefore not taken under consideration here. [1:122]

8. Ultimately, the occurrence of different types of phonological processes needs to be explained, not merely observed. According to Zwicky (1972:608), casual speech processes seem to be constrained to be phonetically natural, serving either EASE (of articulation) or BREVTY, thus being teleological in nature (see Stampe, 1973:passim) and ultimately motivated by the physical character of speech. The picture is obscured, however, by the fact that casual speech processes are seldom exceptionless. They fail to apply maximally, in that they may be conditioned by a variety of factors other than phonetic-phonological ones. See Zwicky (1972) for examples and discussion. [1:122]

9. In spite of laudable efforts by, for example Zwicky (1972), Dressler (1973, 1975), Stampe (1973), and others, extensive and systematic accounts of casual speech processes are as yet not at hand. [1:122]

10) As for FN 10, we assumed that the subjects might be tempted to insert its index at the end of the S tagged by FN 9. This we expected to be so, because the subjects might be taken in by the use of the lexical item 'fast' in the S tagged by FN 9 and the use of the same lexical item in FN 10. However, if the subjects carefully read and understood the meaning of FN 10, only then would they be able to place the index to FN 10 at the end of S4 in the matrix text quoted below. We assumed this to be so because FN 10 is a comment on the noun phrase 'in fast, every day speech' in S4.

Ex. (99)

(1) In our view, the ACTUATION of a sound change may be influenced by a number of factors. (2) We believe first-language acquisition -the process of transmission of a language from generation to generation- to be a very important one. (3) We also consider variation in the linguistic performance of adult speakers to be of great importance. (4) In fast, everyday speech¹⁰ there exists a potential for a restructuring of the

phonological system.^x [1:120]

¹⁰. As Zwicky (1972) points out, casual speech need not be fast but generally is. [1:122]

On the basis of the above predictions, we assumed that the subjects should rely mainly, in the relocation task, on the lexical repetition of some items in both the FN and the part of the matrix text that is tagged by the *it* and on the similarities between the content of a FN and a part of the matrix text. As stated above, a majority of the subjects would be able to relocate the FNs at their original positions, but they would not be confident enough that their relocation attempts were successful.

For this reason, each subject was given a confidence scale of four options (see appendix 3b) for each FN and was asked to tick one of the four options indicating how confident he/she was of the accuracy of his/her attempts. The four options on the confidence scale were given numerical values (very confident 3, confident 2, not very confident 1, not confident at all 0) to make it easy for us to measure the degree of confidence. Also, we calculated (see below) the correlations between confidence and accuracy to find out whether there would be any relationships between the subjects' accurate relocations

and their degree of confidence. Measuring the accuracy of the relocation task was based on a scale of four points as follows:-

Exactly right	In the right sentence but at the wrong place	In the sentence after/ before right position	Further away from right position
3	2	1	0

4.4.3. RESULTS OBTAINED FROM THE EXPERIMENT

All 15 subjects successfully relocated the asterisk (*) marking the acknowledgment footnote at its original place at the end of the article title. They mentioned that "it is common practice that such type of acknowledgment footnotes are always attached to the article title or to the author's name". However, they pointed out that in this article "the acknowledgment footnote should be attached to the article's title as the FN is mainly on the article itself" and their clues to forming this assumption were the noun phrase 'this work' and the second sentence of the acknowledgment FN. Some of them remarked that "if the FN was related to the authors' names, then its content would probably be different; in that it would provide some sort of an autobiography about the authors".

Conventional practices made the subjects think of two possible locations for the acknowledgment FN and the lexical clues were the decisive factor for where exactly the asterisk

marking the acknowledgment should go. The matter was different for FN 1. 12 subjects inserted the index for FN 1 at its original place at the end of sentence 3 . Those subjects were able to make the connection because they relied on the repetition of the lexical item 'Finnish' in both the FN and the M.T.E.S.. In spite of the fact that this same lexical item was used frequently on the same page where FN1 should go; the 12 subjects managed to exactly relocate the FN indicator at its original place because of the close semantic similarity between the FN and the M.T.E.S..

The other 3 subjects placed the FN's index in different locations: one inserted the index in the middle of the M.T.E.S. (S3) and the other 2 placed it four Ss away from its original position. The last two subjects probably depended only upon the use and repetition of certain lexical items in the FN and the text and did not presumably pay much attention to the content of the FN. Contrary to our prediction, 13 subjects were successful in relocating the index for FN 2 at its original place. The other two subjects put the FN indicator at the end of the S before the M.T.E.S.. Maybe this happened because the elaboration the FN provides touches on the content of this S and the one after.

It is worth noting that the S tagged by the FN is a reformulation of the S before it and therefore the FN maybe taken to be related to both sentences as they are conveying the

same message. The clue to the position of this FN index was more of a semantic nature than of a lexical nature. It was predicted that the index for FN 3 would be relocated at three different places as follows:

- 1) at the end of S1 where the lexical item 'stress' was first introduced;
- 2) at the end of S2 where the same lexical item was repeated;
and
- 3) at the end of S3 where the last mention of the lexical item 'stress' was made.

10 subjects inserted the FN's index at the end of S1, 2 at the end of S2 and 3 placed it at the terminal of S3. The only clue that the subjects benefited from was the use of the lexical item 'stress' in the three sentences referred to above and in the FN. The fact that the index was relocated at three different places had nothing to do with the clues; but was mainly dependent on the subjects' preferences. For example, some subjects might have thought that a FN marker should be placed at the end of the S where the item the FN elaborates or comments on was first introduced; whereas others might have preferred to place the FN indicator after the last mention of the lexical item or point that the FN touches on.

In accordance with our prediction, the majority of the subjects (11) relocated FN 4's index at its original place at the end of S9. Their main clue was the phonetic symbols /sr/

which have been the topic of the FN and the paragraph it elaborates on. However, 3 subjects inserted the index at the end of S8; that is one S before the original location. Only 1 subject put the FN marker at the end of S7 (see pp.176-177). As regards FN5, only 5 subjects managed to relocate its index at its original location at the end of S2.

As stated earlier, the main clue that the subjects relied on was the use of the /r/ sound in both the FN and the M.T.E.S.. As was the case with FN3, 9 subjects relocated the index for FN5 at the end of S1 where the /r/ sound, which the FN elaborates on, was first introduced. Only 1 subject placed the marker to FN5 at the end of S3, which is a comment on the two sentences preceding it. As predicted, 5 subjects placed the index for FN6 at its original location at the end of S3, which represents the end of the feature being discussed. But the rest of the subjects inserted the FN's index at the terminal of S2 where the phonetic symbols /v/ and /j/, the footnote elaborates on were first introduced. These phonetic symbols were the clues that guided the subjects to where the index should go. The difference in the locations of the index, as stated before was due to the subjects' own personal preferences.

Contrary to our prediction, only 4 subjects relocated the index for FN 7 at its original place at the end of S2. The other 11 subjects placed the index at the end of S1. It seems

that those who chose the first location (i.e. at the end of S1) depended mainly on the use of the noun phrase 'casual speech' in the FN and S1; whereas those who preferred the second location (i.e. at the end of S2) relied on the use of the near-synonymous noun phrases 'casual speech' in the FN and 'informal speech' in S2 and also on the use of the lexical item 'reduction' in S2 and its derivatives 'reductions', 'reduced' and 'partial reduction' in the FN. In other words, the first choice was based on one clue; whereas the second and the correct location was based on more than one clue.

As for FN 8, all the subjects, with the exception of one, relocated its index at the end of S3, and not at its original place at the middle of this S. The most likely interpretation for inserting the FN indicator at the end of S3 and not at the middle of the sentence was that the subjects probably thought that a FN coming at the end of a sentence is less costing in terms of "processing effort" (Sperber and Wilson, 1986). It was only 1 subject who placed the index for FN8 at the place of FN9. Probably this subject was misled by the distant similarity between the contents of FNs 8 and 9.

Concerning FN9, 12 subjects placed its indicator at its original location at the end of S4. Their clues were the use of the lexical items 'casual speech' in both the FN and S4 and the semantic similarity between the propositions made in S4 and the FN. As for the other 3 subjects; one placed the index at the

place of FN 10 and this happened ,maybe, because this subject was misled by the use of the lexical item 'fast' in S4 and the use of the same lexical item in FN10. The other two subjects placed the index for FN 9 far away from its original place.

As regards FN10, 8 subjects relocated its indicator, not at its original location at the middle of S4, but at the end of the S. The subjects actually used two lexical items as a clue to where the index should go. These clues were the lexical items 'fast' which was used in the FN and the S it refers to and the use of the near-synonyms 'everyday speech' in S4 and 'casual speech' in the FN. Only one subject placed the index for FN 10 at the place of FN9. This subject, probably, was taken in by the use of the lexical item 'fast' used in FN 9 and the use of the same lexical item in the S tagged by FN10.

Another subject could not place the index for FN10 anywhere and left it unmarked. It was only 3 subjects who successfully placed the FN indicator at its original place. It seems that these three particular subjects realized that the content of the FN was a direct comment on the prepositional phrase 'In fast, everyday speech', and therefore placed the FN indicator above the lexical item 'speech'. As for the other two subjects; one placed the index 6 Ss after its original location and the other one inserted the index 7 Ss after its proper position in the maintext. The similarities and dissimilarities between our predictions and the results the investigation

yielded can be presented in a table as follows:

Table 2

FNs	:predicted possible relocations: :(preliminary analysis)	:total no. of :subjects (15):	:results obtained from the investigation: :
Ack. FN	:all subjects were predicted to :re-insert its index at the :original place	: 15 : :	:all subjects inserted the asterisk for :the ack. FN at its original position :
FN 1	:all the subjects were predicted :to re-insert index at original :place	: 12 : 1 : 2	:re-inserted index at original place :inserted index in the middle of S 3 :placed index four Ss away from original:
FN 2	:all subjects were predicted to :place its index at original	: 13 : 2	:relocated index at original place :placed index one S before original
FN 3	:(1)at the end of S 1 :(2)= = = = 2 :(3)= = = = 3	: 10 : 2 : 3	:placed index at end of S 1 : = = = = = 2 : = = = = = 3
FN 4	:at the end of Ss 2, 3, 4, 5, :6, 7, 8, or 9 :	: 11 : 3 : 1	: = = = = = 9 : = = = = = 8 : = = = = = 7
FN 5	:at the end of either S1 or S 2.: :The latter position was more :likely	: 5 : 9 : 1	: = = = = = 2 : = = = = = 1 : = = = = = 3
FN 6	:at the end of S 3 was a strong :at the end of S 2 (weak)	: 5 : 10	: = = = = = 3 : = = = = = 2
FN 7	:all subjects were predicted to :relocate index at original	: 4 : 11	:at original place (end of S 2 :at end of S 1 (wrong place)
FN 8	:at end of S 3 not in middle :	: 14 : 1	:at end of S 3 :exact place in the middle of S 3
FN 9	:at end of S 4(original place) : :	: 12 : 1 : 2	:at end of S 4 :at place of FN 10 :far away from original position
FN 10	:at place of FN 9 or at end of :of S 4 : : : : :	: 8 : 1 : 1 : 3 : 1 : 1	:at end of S 4 :at place of FN 9 :left unmarked :at original place (middle of S 4) :6 Ss after original location :7 Ss after = =

Note:The equal marks used mean the same as the word(s)above them.

4.5. DISCUSSION AND CONCLUSION

As the above presentation shows, in the relocation task, some subjects (whose proportions differed from one FN to another) depended mainly on the use of lexical items in both the FN and the part of the text it was bound to; whereas others (the largest number of the subjects) used as clues lexical items in addition to the similarity of the FN's content to some part of the main text. When a lexical item was used in a FN and when that same lexical item was being frequently used in the mainline text; this made the relocation task a bit difficult for the subjects as was the case with FNs 3, 8 and 10. Had the FNs original order been changed; the relocation task would have become extremely difficult. It would be interesting if future research investigated this point.

The fact that the FNs' indices were removed, for the purposes of this investigation, made the subjects exert every effort they could and use any clue they could to relocate the FNs at the points they were related to in the main text. When it came to comparing the performance of the subjects, we found, as predicted, no significant difference in mean accuracy ($P=.541$) between native and non-native speakers of English. However, the significant differences in mean accuracy and confidence ($P= .000$, $P= .000$) were within the 11 footnotes (lumping together the two groups). Furthermore, there was no significant difference ($p=.909$) between the two groups in mean confidence over all the 11 FNs. The reason for this may be that

without the presence of the FN index no one would be quite certain about a FN index's exact position in the text.

What supports this argument is the fluctuating correlation for the 11 FNs between the accuracy and confidence (see Appendix 3C). The graph shows that some of the subjects who successfully relocated FNs 1 and 2, for instance, had a very low degree of confidence in the accuracy of their attempts. Contrary to this, those subjects who failed to relocate FNs 3 and 6 at their original positions in the main text had a high degree of confidence in the accuracy of their attempts. The correlation coefficient between confidence and accuracy for the 10 FNs, with the exclusion of the acknowledgment FN, were 0.288, -0.327, 0.075, 0.444, 0.000, 0.224, 0.127, -0.031, 0.015 and -.299 respectively. The mean and standard deviation correlations between confidence and accuracy over the 10 FNs were 0.0516 and 0.2410 respectively.

On the basis of the aforementioned, we may conclude that the cohesion and coherence relationships between FNs and the mainline text were of help to some subjects in the relocation task. However, it is always the mere presence of the FN index that makes someone assume that a certain FN belongs with a certain point in the matrix text. In other words, without the presence of the FN indicator (i.e. the Arabic number) no one can be fully confident that a FN belongs with a specific point

in the matrix text. The fluctuating correlations (see Appendix 3C) between accuracy and confidence supports this argument.

The results of this investigation show that some subjects were able to detect cohesion and coherence relations between parts of the matrix text and the FNs, whereas other subjects were less able to do so. Now, we move to consider the second question, Do FNs present 'old' or 'new' information ?, we posed earlier at the beginning of this Chapter.

4.6. INFORMATION STRUCTURE

When writers produce sentences, they seem to organize them in a way that recognizes that the reader does not know some of the information while other items of 'information' (non-informative) are known to them. This organization is what is known as Information Structure. The information structure of discourse was the subject of considerable research by such Prague School Linguists as Mathesius (1942), Firbas (1974) and Danes (1974), as well as in other works by Halliday (1967), Chafe (1976), Clark and Haviland (1977), Sperber and Wilson (1986) and many others.

Mathesius (1942) contrasted "the starting point of the utterance" or "that which is known or at least obvious in the given situation and from which the speaker proceeds with "the core of the utterance" which is "what the speaker states about

the starting point of the utterance" (cited in Danes,1974:106).

In his own words, Mathesius argues:

"... when observing different utterances we find that they are more or less clearly composed of two parts. One part expresses what is given by the context or what naturally presents itself, in short what is being commented upon. As we already know, this part is called the theme of the utterance. The second part contains new element of the utterance, i.e. what is being said about something; this part is called the rheme of the utterance"(p.156).

Mathesius calles the starting point the THEME of the sentence and the latter, remaining 'core' portion the ENUNCIATION. Mathesius argues that theme precedes the enunciation; that is to say, given information normally precedes new information. Mathesius'(1942) definition of 'theme' is based on two criteria: 'thing talked about' and 'old information'. Building on the work of Mathesius, Firbas (1974) writes:

"Regarding the semantic and grammatical sentence structure as a means that can function in different contexts and consequently display different perspectives, Mathesius distinguishes between the sentence as a pattern belonging to the language system and the sentence as part of the context, i.e. an utterance (a component of the discourse)" (Firbas, 1974:15).

Firbas sees 'theme' and 'rheme' as the contextual categories parallel to the syntactic categories 'subject' and 'predicate':

"...in accordance with the requirements of the context, the lexical units acquire specific meanings, and the sentence, which grammatically speaking consists of a subject and a predicate, splits up into a theme and a rheme"(ibid:14).

Firbas uses the notion of 'Communicative Dynamism (C.D.) (defined below) in defining the functional units of a sentence. For instance, the elements making up sentence (1) below can be represented in terms of their C. D. as shown in 1.A below:

Ex. (100) (1) Vicky wrote a book.

(1.A) THEME TRANSITION RHEME

Firbas' notion of 'theme' corresponds to the sentence element with the lowest degree of C. D. and 'rheme' corresponds to elements with the highest degree of C. D., whereas 'transition' covers the rest of a given sentence.

Communicative Dynamism is characterized as the degree of participation (contribution) of a given sentence element in the development of communication. Firbas takes into consideration the preceding context when characterizing themes of sentences. He draws a distinction between those elements which have already been mentioned in the text (i.e. context-dependent elements) and those elements which have not been previously mentioned (i.e. context-independent elements). According to Firbas (ibid) context-dependent elements are determined on the basis of textual context, situational context and the immediate communicative purpose. He argues that all context-dependent elements are thematic and vice versa. Thus, the development of

C.D. can not be understood in a linear way because apart from the above example, which follows the pattern:

THEME - TRANSITION - RHEME,

we also have sentences such as (2) below.

Ex. (101) (2) He threw her with a stone.

If this sentence is an answer to (3) below; then its thematic structure will be as represented in (4) below.

Ex. (102) (3) What did Peter do ?

(4) He (theme) threw (rheme) her (theme) with a
stone (rheme)

According to Firbas (ibid) individual constituents of themes, rhemes and transitions have their communicative value. Thus, if numbers 11, 12, 13, etc. indicate the communicative values of theme, 21, 22, 23, etc. of transition and 31, 32, 33, etc. of rheme, then the informational structure of sentence (5) below will be as represented in (6);

Ex. (103) (5) She does not like him.

(6) She¹¹ does²⁰ not³² like³¹ him¹².

However, Firbas does not give any clue as to the criteria that one should use in allocating communicative values to sentence constituents.

Firbas allows for a theme in sentence final position in sentences such as this below:

Ex. (104) A man came into the room.

In the above sentence a man, according to Firbas, has the highest degree of C.D. and into the room, being a context-

dependent phrase, has the lowest degree of C. D., so that the communication proceeds from rheme to theme in this sentence. Although all context-dependent elements are regarded as thematic, Firbas (ibid) concedes that in some cases theme does not have to be context-dependent. For example, in sentences such as:

Ex. (105) A man broke a door.

a man is new information and therefore contributes considerably to the development of discourse, but when compared with the rest of the sentence a man has the lowest degree of C.D. and that is why Firbas treats this noun phrase as thematic.

Danes (1974), like Firbas, argues that " given or known is that information which is derivable or recoverable from the context, situation and the common knowledge of the speaker and listener"(p.108). For Halliday (1967:204) a piece of information is 'new' not in the sense of not having been mentioned before but in the sense of its irrecoverability from the previous discourse. The following is an example of irrecoverable information.

Ex. (106) He wants to paint it black, but I think white
would be much better.

The pronoun 'it' in the above example is, according to Halliday, presenting new information as its referent is not recoverable from the previous discourse record.

Unlike Prague School Linguists, Chafe (1976) offers a definition of the notions of 'theme' and 'rheme' in cognitive terms, defining given information as "that knowledge which the speaker assumes to be in the learner's consciousness at the time of utterance"(Chafe,1976:30). Chafe employs the terms 'activated' and 'unactivated' elements of information. The activated elements are assumed by the speaker or writer to be present in the addressee's or reader's consciousness at the time of listening or reading; whereas unactivated elements of information are those about which the speaker or writer assumes that he/she introduces them into the hearer's or reader's conscious by what he says or writes.

This information does not have to be totally new to the listener or reader. That is to say, it may be recalled by what a speaker says or a writer writes from the listener's or reader's subconscious. The point is that, although may be known, the speaker or writer assumes it is not in the addressee's or reader's consciousness at the moment of speaking or writing. Others (Clark and Haviland, 1977) talk about 'givenness' in terms of the long-term 'shared knowledge' between speakers and hearers.

We shall argue here that the concept of 'givenness' as used in most of the literature is not operational for the following reasons:

(1) Firstly, it is not always the case that given information

comes before new information. That is to say, new information sometimes comes before given information as the following example illustrates:

Ex. (107) ON CHRISTMAS EVE it snowed.

We argue that 'On Christmas Eve' (spoken with stress) is the new information as it is an appropriate answer to the Wh-question:

Ex. (108) When did it snow ?

(2) Secondly, the theme-rheme dichotomy, like the topic-comment, focus-presupposition, old and new distinctions, is often treated in terms of the linguistic structures of sentences (i.e. subject-predicate). But not all sentences can be analyzed in any simple way as consisting of a subject and predicate (e.g. verb-subject-object sentences) and not all subjects can be viewed as 'themes' or 'topics' as in sentences like (1) and (2) below:

Ex. (109) (1) It is raining.

(2) It is likely that John likes Mary.

Furthermore, the theme-rheme dichotomy is concerned with relationships between the parts of sentences and not between sentences.

For the purposes of our study, we will not concern ourselves with where exactly the break between 'new' and 'old' information will come and will instead use S. and W.'s (1986) notions of 'foreground' and 'background' to account for the

relation between the footnote and the sentence it tags. Our justification for using S. and W.'s terms is that they, unlike others (e.g. Firbas, 1974 and Danes, 1974), apply the term 'foreground' and 'background' to the implications of utterances as a whole and not to single linguistic structures. S. and W.(ibid:217) define 'background information' and 'foreground information' as follows:

"...background information is information that contributes only indirectly to relevance, by reducing the processing effort required; it need be neither given nor presupposed. Foreground information is information that is relevant in its own right by having contextual effects; it need not be new.(my underlining)

Before embarking on applying S. and W.'s notions of 'foreground' and 'background', let us comment on the underlined statements in the above quotation. S. and W. in the above statement make it clear that 'background information', provides the assumptions that a writer assumes to be supposed to the reader but are unactivated at the time of reading and in whose light the interpretation of an utterance is made accessible. S. and W. argue that the context for interpretation/comprehension is not given but chosen (see S. and W.,1986:132ff and Ch.2 of this thesis). Thus, it may be argued that context-specifying FNs fix the context in whose light a reader should interpret elements of the discourse in the mainstream text. S. and W.'s argument that "background information need be neither given nor presupposed" is quite

true since a context-specifying FN, which strictly speaking provides information that may be already present in some readers' long term memory, will give rise to the information it provides to come into the forefront of the reader's attention.

S. and W.'s argument that foreground information "need not be new", it seems to me, is used to characterize some 'reminders'. They (ibid:137) argue that "reminders could never be relevant, since a reminder, ... , would merely be repeating information already included in the context". They go on to argue that "a reminder is relevant only in contexts which do not contain the information in question: its function is to make this information accessible at a smaller processing cost than would be needed to obtain it by successive extensions of the context".

From now on the terms 'foreground' and 'background' are used to characterize the implications yielded by the sentence tagged by the footnote and the footnote respectively. If we roughly classify FNs into: context-specifying FNs and elaboration FNs, we may notice that context-specifying FNs supply the context in the light of which a sentence or an utterance may be interpreted. This does not, however, mean that the information presented in context-specifying FNs is always given; that is to say, such contextual information may be new to some and given to others. Thus, a FN may have 'background implications' for some and 'foreground implications' for

others. If a FN was providing only 'foreground information' for all; then such information ought to be in the matrix text, not in a FN. Also, if a FN presents 'background information' which is known to everyone, this information should not be there as it would require extra processing effort on the part of the reader. The following is an example of a FN supplying the necessary context for the interpretation of a discourse element:

Ex. (110)

In this sense any does not evoke a readily definable quantity or scope ⁷, and so common examples like the following are often interpreted in the same way:... [9:449]
⁷.The term scope is used not in the sense of 'syntactic range' but rather to evoke the quantitative spread (all-inclusive, one or some intermediate quantity) of the quantifier in a given use. (9:475)

Footnote 7 is providing the context in whose light the lexical item 'scope' is to be interpreted. This FN is relevant to some readers as it will save them processing the term 'scope' in a context costly in terms of processing effort and thus, according to S. and W., reduces the processing effort required of the reader.

The above discussion suggests that the information encoded in FNs may be 'foreground information' for some readers but 'background information' for others. This point is supported by the evidence given in 5.4.1.4.. The discussion in this Chapter and the preceding Chapters has shown that FNs are helpful to some readers in that they make up for any lack of background

information on some readers' part. However, FNs are proved to have adverse effects on readers' reading comprehension. Such effects are the concern of the next Chapter.

CHAPTER FIVE

FOOTNOTES AND THE READER

5.0. INTRODUCTION

In the present study we have identified twelve types of FNs, according to the effects article writers intended them to have on their readers (see Ch. 3) and have investigated in some detail the Cohesion and Coherence relationships between M.T.E.Ss, FNs and M.T.RE.Ss (see Ch. 4). Also in Ch. Four we argued that the information offered in FNs maybe 'background information' or 'foreground information' depending on the assumptions readers approach a FN with. Now, we shall look into FNs from the viewpoint of the processor of academic written discourse and shall estimate the disruptive effects that FNs may have on the comprehension of this type of discourse. In addition to this, this Chapter addresses the following issues:

- (1) The utility of FNs to readers;
- (2) Readers' attitudes towards and their perception of FN;
and
- (3) The syntactic positions of FNs.

5.1.0. FOOTNOTES AND THE DISCOURSE PROCESSOR

This section is concerned with the reader's perception of the relations within and between sentences and the effects of FNs on these relations since FNs are essentially disruptive (in that, likely, they break the flow of a sentence by delaying its constituent elements and may also break the transition from one S to the next S). This disruptive effect of FNs on sentences

constituent elements depends on whether readers exit from a matrix text in mid-sentence or wait till its end before exiting to the FN (even if the FN index is located in mid-sentence). To illustrate the disruptive effect of FNs on the constituents of sentences we need, first, to define what a sentence is. The notion of sentence as used here is taken to be grammatically co-extensive with the independent clause and constituted by the following categories:-

(1) Subject Verb (Object) (Complement) (Adjunct)

where the brackets illustrate the optional elements.

First, relations between the constituents of a sentence (i.e. intra-sentential relations) and the effect of FNs on them will be considered in terms of interruptions that result in syntactic discontinuity between major constituents of the clause. This concerns the occurrence of a FN in the middle of a sentence making it discontinuous. Second, we shall account for the effect of FNs on relations between sentences. That is to say, when sentences are placed next to each other a certain relation (e.g. general-particular) which may or may not be overtly marked (e.g. by the words, for example, specifically, etc.) is thereby established between them and the occurrence of a FN at the terminal of a sentence is likely to break this relationship. It is important to mention here that the sense relationships between sentences still exist but may be lost sight of by the reader. In a word, we are concerned with the

structural interruption and disruption of 'Clause Relations' (Winter,1977).

This type of interruption (unlike parentheticals embedded in sentences in such a way that readers have no choice but to read) is potential and Optional as the decision whether to exploit the opportunity to digress is entirely the reader's. In other words, if the reader decides to interrupt his/her reading of the mainline text on encountering a FN signal and exits from matrix text to read the FN, only then does he/she run the risk of losing contact with the clause relations (which are vulnerable, being stored only for seconds in his/her short term memory (STM)).

5.1.1.THE IMPACT OF FNS ON THE SYNTACTIC CONSTITUENTS OF SENTENCES

First, we shall consider the first type (i.e. interruption of relations within the sentence). Take the following example:

Ex. (111)

(1) In order to explain this preference, we therefore had to look elsewhere; one of our hypotheses regarded the possible occurrence of this type of simplification in the casual speech of speakers of English. (2) The reduction is favored because it may occur in informal speech styles. (3) However, such assumptions must be supported by relevant evidence, but facts about phonological processes in informal speech styles are not easily found. (4) Deletions of segments in fast, casual speech of adult speakers is a neglected area of research in linguistics. [1:120]

8. Ultimately, the occurrence of different types of phonological processes needs to be explained, not merely observed. According to Zwicky (1972:608), casual speech processes seem to be constrained to be phonetically natural, serving either EASE (of articulation) or BREVITY, thus being teleological in nature (see Stampe, 1973: passim) and ultimately motivated by the physical character of speech. The picture is obscured, however, by the fact that casual speech processes are seldom exceptionless. They fail to apply maximally, in that they may be conditioned by a variety of factors other than phonetic-phonological ones. See Zwicky (1972) for examples and discussion. [1:122]

In the above example FN 8 comes between the coordinated parts of sentence 3, where it interrupts the normal sequence of the sentence, thereby creating syntactic discontinuity. It seems very likely that such discontinuities in syntax will, as shown below, cause serious psycholinguistic problems in processing such sentences. It would appear that the difficulty brought about by the discontinuity is at least partly explicable in terms of short term memory load in so far as the discontinuity requires the reader to hold in memory the first coordinated structure of sentence 3 (i.e. the part tagged by the FN) while he/she processes the intervening FN.

Furthermore, the interruption whose duration is determined by the time spent on reading the FN, might cause the reader to forget what the clause tagged by the FN was about and thus may necessitate his/her rereading it, depending on the length of the interrupting FN, to be able to relate it to what came before it and to relate it to the FN too. Although it is usually assumed that FNs and other similar structures (i.e. parentheticals, see 1A.5.0.-1A.5.4.) are used by writers/

authors to facilitate the reader's task, by giving him/her extra information gratuitously; such discorsal strategies create syntactic discontinuities and this in turn results in an increase in memory load and complexity, which complicate text processing. However, this extra processing may be justified for some readers in that they are given extra information that will, in turn, clarify things in mainline text for them and probably save them the trouble of having to go to other sources for clarification and elaboration.

5.1.2. THE COGNITIVE EFFECTS OF SYNTACTIC DISCONTINUITY ON DISCOURSE PROCESSORS (READERS)

The cognitive effects of syntactic discountinuity (which we assume to be the cause of a lack of syntactic connectivity, which creates reading problems) have been the subject of intensive research since the 1960s. Miller (1962), to the best of my knowledge, was probably the first to carry out experiments testing the hypothesis that syntactic discountinuity had adverse effects on text readers. He found that left and centre branching structures (the above FN is an example of the latter case) were harder to process than right branching constructions, and explained his finding in terms of the greater strain the former constructions impose on STM.

Also, Kimball (1973) suggested that listeners are subject to special constraints on their short-term memory, especially when faced with syntactically complex sentences, that is;

sentences containing discontinuous(extraneous) constituents. In the course of the present study, an experiment was carried out to test the effects of syntactic discontinuity on the processing of sentences.

5.2.0. THE HYPOTHESIS

The experiment was conducted to test the hypothesis that for readers of a text it will be more difficult to process and comprehend sentences containing FN-induced discontinuities than those sentences from which such discontinuities have been avoided by aligning the FN to the pre-existing syntax of the matrix.

5.2.1. SUBJECTS

22 overseas subjects of fairly advanced English doing postgraduate courses at UWB were enlisted for this experiment. They came from a variety of disciplines ranging from humanities, social sciences to pure sciences.

5.2.2. MATERIAL

The experimental material comprised 14 especially written context independent sentences containing fairly long parenthetical insertions simulating FNs (see Appendix 4a). In 7 of the sentences, the parenthetical insertions were embedded at the boundaries/interrupting the sentences constituent elements, thus rendering the sentences discontinuous. In the other remaining 7 sentences these parenthetical insertions

were embedded into the sentences structure so that there were no syntactic discontinuities.

We attempted to make the content of all the fourteen sentences as general as possible to avoid any processing difficulties which might be attributed to a lack of understanding of the contents of the sentences. The majority of the sentences comprising the experimental material were about topics like postgraduate courses, bank accounts, financial guarantees, English courses, etc., which we considered to be well within the understanding of the subjects.

We also attempted to make the two types of sentences (the ones with resultant discontinuous constituents and those without) as equal as possible in terms of their syntactic complexity and length (the average sentence length was 38 words). All the test items were then placed alternately so that the odd numbered sentences contained discontinuous constructions whereas the even numbered ones contained no discontinuities.

5.2.3. METHOD

To test the comprehension of the experimental material, a cloze technique was chosen. This we believed to be the most suitable method because it is generally considered to be a fairly reliable test of overall comprehension (see Almeida (1978) and it is easy to score. From each test item four

lexical words were deleted (see Appendix 4b). However, sufficient contextual clues were left to help subjects recall the missing words.

5.2.4. PROCEDURE

The subjects (all together) were exposed to one sentence at a time (in the order shown in Appendix 4a) for thirty five seconds by projecting it on a screen with an overhead projector. The subjects were subsequently asked to complete the cloze test item based on the sentence they were exposed to. They were instructed not to read the cloze test sentence (i.e. the sentence with the missing words) until they had been exposed to the full sentence on the screen. We achieved this by asking them to turn the test paper up-side-down until they had read the full sentence and until the time limit had elapsed. They were given one minute to complete each test item. We repeated the same procedure for each test item. The subjects' performance on the test was measured by giving points for each correct word replacement (for individual subject's responses see Appendix 4c) as it appeared in the original sentence (3 for original word, 2 for synonyms or an acceptable word, 1 for wrong word and 0 for non-responses.

5.2.5. RESULTS

Each subject's performance on the test was measured. we found that the average score on the sentences with interruptions was 42.5, whereas for sentences without

interruptions the average score rose to 56.45. To measure the level of significance, a 'T-Test' was applied. The value of 't' obtained was 7.78 corresponding to a significant probability of 0.000 (see Appendix (4d) for statistical details). It was also found that subjects who scored high on the even numbered test items also tended to score high on the odd numbered text items (for correlations, see Appendix (4d)). That is to say, subjects who were good comprehenders in the discontinuous condition were also (relatively) good in the non-discontinuous condition, and vice versa.

The results obtained seem to support the hypothesis that it was more difficult for the subjects to process and understand the sentences that comprised discontinuous constituents than those sentences in which such discontinuities did not occur because parenthetical material had been embedded into the host sentence's main grammatical structure. Now, we can turn to consider the disruptive effects FNs may have on the relations between adjacent sentences. Since in such cases sentence syntax is not affected, we shall consider the interruption of clause relations.

5.3.0. THE IMPACT OF FNS ON RELATIONS BETWEEN SENTENCES

If Winter's (1977) argument that the moment two sentences are put together they form a special relation is sound, then a

FN occurring between any two sentences may have a disruptive effect on the relation between these two sentences. In the following section we give examples of interrupted Clause Relation from our data.

5.3.1. EXAMPLES OF INTERRUPTED CLAUSE RELATIONS FROM OUR DATA

In the following sections we demonstrate that FNs may interrupt or suspend the establishment, in the reader's mind, of a C.R. through delaying the realization of the second member. Thus, in the case of an interruption of a clause relation by a FN that the reader responds to, the reader has to hold in short-term memory the first member of the relation while he/she processes the intervening extraneous structure and then proceeds to the second member of the relation. In short, the interruption postpones the second member of the relation as the following example shows:

Ex. (112)

Language learners whose mother tongue does not allow very complex combinations of consonants tend to have difficulties in handling Swedish phonotactics. To bypass the difficulties, the language learner may apply either or both of two basic types of simplification strategies: reduction or vowel addition. Which of these the speaker will adopt often depends on the phonotactics of his mother tongue. In other words, the simplification is an instance of phonological transfer from first to second language.² For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters. The Swedish word skola/sku:la/ 'school' may be realized as [ku:la].
[1:110]

².As many studies of strategies in second-language learning indicate, there may be several factors other than L1 transfer influencing the types of phonological errors made by L2 learners. This fact has led some researchers to abandon the contrastive-analysis approach as a means of predicting such errors (for a discussion, see for example Broselow 1983). However, phonological transfer still appears to be a very important and well-represented simplification strategy in second-language learning, although predictions of specific types of learners' errors must evidently be probabilistic rather than deterministic (see Menn n.d.).[1:121]

The above FN interrupts the generalization+instantiation relation between the matrix text exit sentence and the matrix text re-entry sentence. The interruption caused by the FN may have grave consequences for the reader as he/she has to hold in memory the first member of the relation while, at the same time, go to the end of the article to read the FN, and then resume his/her reading of the second member of the relation. As pointed out earlier, the interruption caused by the time spent on reading the FN might cause the reader to forget the first member of the relation and thus he/she might have to reread the first member of the relation and then proceeds to the second one. To investigate this point the following investigation was conducted.

5.3.2. EXPERIMENTAL HYPOTHESES

An experiment was conducted to test the following hypotheses: (i) that the reading of a FN will cause the reader to forget what the contribution was of the sentence tagged by the FN ('the antecedent'). (ii) that the length of the FN would have an adverse effect on the subjects' recall of the

information that the content questions addressed (see Appendix 5a).

In order to ensure that the inability of the subjects' to recall the specific point they were asked about was mainly due to the interruption caused by the FNs and was not due to lack of concentration or a weakness in their short-term memory, the same subjects were subjected to a second test (i.e. control experiment) under similar conditions to those under which the first test was conducted. This time the experimental material did not contain any FNs (see Appendix 5b). The subjects were presented with the extract containing the matrix textexit sentence, then the matrix text re-entry S and were asked the same content questions they were required to answer in the first test (see Appendix 5a).

5.3.2.1. SUBJECTS

10 subjects, all doing postgraduate courses in linguistics, were chosen for this investigation. In the second test (i.e. the control experiment) we had to use the same subjects used for the first test for the following reasons:

(1) to allow us to compare the same subjects' performance on the two tests; and

(2) because changing the subjects would have cast doubt on the results as the strength of short-term memory differs from a subject to another and we wanted to keep this variable constant in the two tests.

To minimise the eventuality of the subjects' recalling information from the first test we allowed a 2 week time gap between the two tests and the extracts were presented in reverse order.

5.3.2.2. MATERIAL

Experimental material consisted of 7 authentic extracts and 7 authentic FNs taken from article no. 1 from the articles chosen as data for this study (see Appendix 1, which is a list of titles). This particular article was chosen as source of material for this investigation since its contents were fairly well within the subjects' background knowledge. To test this assumption, the subjects were briefed on the subject matter of the extracts. Care was also taken to give the subjects enough 'CONTEXT' to enable them to understand the matrix text exit sentence, the FN, and the matrix text re-entry sentence. In other words, if the matrix exit sentence, for a full interpretation of its meaning, was dependent on one or two sentences before it, then these sentences were given as part of the extract. Therefore, the extracts differed in length; their average lengths being 93 words, 66 words and 26 words respectively (see Appendix 5a).

5.3.2.3. EXPERIMENTAL PROCEDURE

The subjects were told in advance what was required of them. They were (individually) exposed to the extract tagged by

the FN by projecting it on a screen with an overhead projector for either 25 , 20 or 15 seconds depending on the length of the extract. They were asked to read the extract and after the time limit allocated to each extract had elapsed the extract was covered and they were, then, exposed to the FN whose index appeared at the end of the penultimate sentence in the extract. They were given different time limits depending on the length of the FNs. When the time allocated to each FN expired they were exposed to the extract comprising the matrix text re-entry sentence and then with the entire text hidden they were asked a content question on an anaphoric referential item in the matrix text re-entry sentence (see Appendix 5a).

For instance, when a matrix text re-entry sentence read; 'This is very unfortunate', they were asked the question: 'What does the underlined clause refer to ?' The aim of the question was to test whether the subjects could remember what they had read before embarking on reading the FN and knew what the underlined segment referred to without having recourse to their antecedents. When a matrix text re-entry sentence repeated the 'rheme' of the sentence before it, this rheme (which is in fact the matrix text re-entry sentence's theme) was made very general to make it necessary that the subjects should refer to the previous sentence for its interpretation. For example, the original matrix text re-entry S in example 1 in the test read as follows: "Such language-specific differences in phonotactic rules imply that...". In the test, the underlined noun phrase

was pruned of detail and made dependent for its interpretation on the sentences before it, as follows: "Such differences". Of course the fact that the original reference was more detailed might suggest that the writer was trying to help the reader overcome the problem of the interfering FN.

The subjects' performance on the test was scored by giving 2 for each fully correct answer, 1 for an incomplete answer (an answer that gave the general point but not the specific points the questions addressed) and 0 for wrong and missing answers. So the maximum possible score was 14 for any one person and 20 for any one item.

5.3.2.4. RESULTS

After the first test was conducted, each subject's performance on the test was measured over the 7 extracts and the FNs that accompanied them. There was a significant difference ($P = .0159$) between the 7 FNs in terms of the interruption they caused for the clause relation. This can be explained by the fact that there was a high negative correlation (-0.758) between the lengths of the FNs and the subjects' responses to the questions. In other words, as we predicted, the longer the FN the less the subjects' recall of the information presented before the FN was and vice versa.

To test the validity of the second hypothesis, that the reading of a FN may cause the reader to forget what the

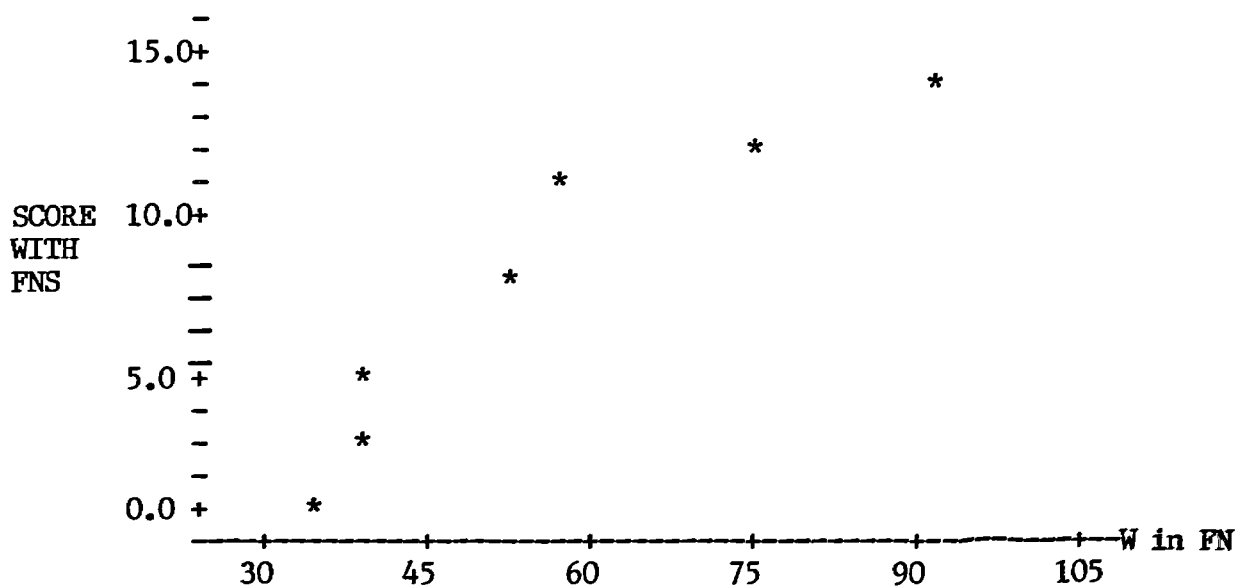
contribution of the sentence tagged by the FN had been, each subject's performance over the 7 questions on the first test (see Appendix 5a) was compared with his performance on the second test (the control experiment). A significant difference was found between their scores on the two tests. The values of 'p' for the changes on the 7 items separately, with the exclusion of question 3, in the two tests were 0.019, 0.011, 0.022, 0.052, 0.052 and 0.081 respectively. On question 3 there was no difference at all between the subjects' performance in the two tests. The reason for this seems to be that the matrix text re-entry sentence did not refer back to the matrix text exit S (i.e. the sentence tagged by the FN) but to the sentence before it (see Appendix 5a). This made it difficult for the subjects to answer question 3 on both tests. The borderline significance of the difference between the subjects' performance on questions 5, 6 and 7 on both tests was probably due to the length of the extract before the FN. That is, the larger the extract (in terms of the number of words) before the FN, the more difficult it was for the subjects to remember what it was about and vice versa.

For example, the non-significant difference ($P=0.081$) between the subjects' performance on question 7 in the two tests was due to the fact that the FN was very short (43 words) and the extract before the FN consisted of only 18 words. This made it easy for the subjects to remember what the matrix text exit sentence was on. The correlation between the length of the

extracts containing the matrix text exit S and the subjects' recall of the information presented in these extracts in non-FN condition was again high; -0.778.

As predicted there was a high negative correlation (-0.769) between the length of the FNs and the recalling of the information presented in the extracts before them, as the following diagram illustrates:

Diagram 8



Correlation between length of FNs and the recalling of information presented before them.

The results, thus, appear to support our hypothesis that it was fairly difficult for the subjects to answer the questions related to the extract preceding a FN for the following reasons:

- (1) the moment the reader embarks on reading a FN his/her attention shifts from what was before the FN to the FN and this causes the reader to forget what he/she was reading before the FN. However, some subjects could remember the general point of the text before the FN but not the specific details the questions addressed;
- (2) the increase in recall of information on the control experiment was significant for a number of items and this was due to the fact that the interruptions caused by the FNs had been removed; and
- (3) the length of the subtext before the FN together with the length of the FN played a role in the recalling of what was before the FN.. The shorter the subtext and the FN the higher was the recall.

It may be argued, on the grounds of the above analysis, that clause relations are responsible for much of the cohesion and coherence of texts. Disrupting them, therefore, has grave implications for the overall comprehension of texts. There is a price to pay, in terms of disruptions and resulting loss of efficiency, for accepting the invitation that a FN offers the reader. However, some readers may not mind to have their reading interrupted by the insertion of FNs as long as

they benefit from the information offered in these FN. In other words, the price may be seen as fair.

5.4.0. UTILITY OF FNS TO DISCOURSE READERS

Earlier on in this Chapter (see 5.1.2-5.3.2.4) evidence has been provided that FNs have a disruptive effect on readers' reading process. However, this is the negative side of the coin. But, is there a corresponding positive side ?

On the basis of the results obtained from the investigation conducted to find out what criteria writers base their footnoting decisions on (see 3B.2.0.-3B.2.4.), it was decided to conduct another investigation to find answers to the following hypotheses:

- (1) that not all readers really need the information offered in FNs.
- (2) that writers' choices of what in the text to elaborate on in FNs match with their readers' needs.

To verify these hypotheses an experiment, whose details are given below, was carried out.

5.4.1. EXPERIMENT

5.4.1.1 Data:

The results obtained from our inquiry into the writer's decision (see 3B.2.4.) of what information go into FNs were used as data. Three stretches that our subjects (see 3B.2.4.)

agreed could safely go into FNs were chosen for this experiment. Only three stretches were selected to make the text (see Appendix 6a) as short as possible (148 words) to spare the subjects time and to encourage them to participate.

5.4.1.2. SUBJECTS:

Fifty unpaid subjects (25 of whom were native speakers of English) participated in this investigation. As the text given to the subjects was intended for the general public (the text is an extract from the New Scientist magazine 14th July 1988,p.38) care was taken to have subjects from all walks of life (i.e. university lecturers, postgraduate and undergraduate students and laymen).

5.4.1.3 PROCEDURES:

The subjects were (individually) presented with a copy of the text without the FNs and were given clear instructions (see Appendix 6a) to read it and mark the point or points in the text where they felt they needed more information. In addition to this, when the subjects did not mark a point in the text that was marked by the writers, they were given the same text with three questions (see Appendix 6b) related to the points footnoted. If they could answer the questions, only then were we certain that nothing in the text was troublesome for them. The subjects' answers were taken as an indication that the information given in the FNs was background information to them. However, if the subjects could not answer the questions

posed to them this meant that the information offered in the FNs was foreground information to them.

5.4.1.4. RESULTS:

The results showed that the majority of the non-native subjects (NNSs) (70%) marked exactly those points marked by our writers as needing FNs. The results for NSs, showed that there was no difference between them and the NNSs as far as FN 1 was concerned (see Appendix 6a). 24 NSs and 23 NNSs needed more information on the lexical item Nauru. However, there was a significant difference between both groups on other points. 12 NNS needed more information on the lexical item gangrene ; whereas non of the other group asked for such information. Also notice that 11 NSs, compared to 18 NNSs, needed more elaboration on type 2, or non-insulin-dependent, diabetes.

The differences between the two groups, NSs/NNSs, in terms of the points they asked for more information on, may be attributed to the fact that gangrene and diabetes are more common in Western societies than they are in third world countries, or it may be that Westerners are more knowledgeable about such things.

However the conclusions that can be drawn from this experiment are:

(1) Writers, most of the time, make the right assumptions about their readers' background knowledge. The evidence for this

was that majority of subjects stated that they needed more details on the very same points chosen by our writers (see 3B.2.4.). This suggests that FNs are extremely useful to those readers who do not know the information offered in them. Also the information given in FNs is useful to those who know it because it confirms their prior assumptions.

(2) The information given in FNs was not foreground information to all our subjects. The proof for this was that some subjects did not need more information on the points actually footnoted. This supports our decision to account partially for the employment of FNs in terms of a writer's prospective multiple audience (see 1B.2.2.). If all the subjects had marked the very points our writers chose to footnote, then this would have implied that the information presented in FNs was foreground to all and this would represent a violation of the basics of writing in that if a piece of information is totally new to all readers it should be in the matrix text, not in a FN. The mere presence of a FN implies that the information it contains is assumed by the writer to be known to some but not to all of his/her readers. In the following sections, we look into the factors that prompt readers to consult FNs.

5.5.0. DECIDING WHETHER TO EXPLOIT THE FN

5.5.1 EXPERIMENTAL PROCEDURES AND QUESTIONS

A minor experiment was conducted on 25 subjects (native and non-native speakers of English) to find out what made readers exit from main text to read FNs: (1) Was it the FN's index that

made them exit from matrix text to FN ?; (2) was it a comprehension difficulty in the text that forced them to go to FNs ?; or was it a combination of both ?

To find answers to these questions, the same text used for the experiment reported on above was employed. However the text this time was accompanied by three FNs defining and elaborating on lexical items in the matrix text. The subjects were given 5 questions (see Appendix 6c) to answer after having read the text. While the subjects were (individually) doing the reading I was watching the movements of their eyes and heads to check whether they consulted the FNs on encountering their indices (the Arabic numbers) or whether they disregarded the FNs' indices and went on reading the main text.

5.5.2. RESULTS

Examining the subjects' answers to the questions and the notes taken by me, it was found out that the major factor that made them consult the FNs was not the index (the Arabic number that marks the location of the FN in the matrix text) to the FNs (16%) but was the readers' purposes (i.e. seeking definitions, elaborations, etc). The authors of textbooks or articles seem to make references (by means of a superscript Arabic number) in the matrix text to the FNs because they want readers to look at the FNs at particular stages in the text. Although the results of the investigation suggest that reader's consultation of FNs does not necessarily coincide in frequency with that prescribed by the author via the FN index, it is by no means excluded that

readers' purposes are derived from the main text. In other words, the main text may drive the readers to the FNs but not necessarily through the FN index.

Also, there is evidence that some readers (32%) exited from matrix text to FN because of both comprehension failure encountered in the main text and text-reference to FNs. As one subject put it:

"Once I face a problem understanding something in the text and see a FN index attached to this thing I expect some clarification to be given in the FN".

It was our belief that readers would exit from matrix text to read a FN on encountering its index in the main text. However, the evidence provided by this investigation suggests that it was readers' purposes (40%) that influenced their exiting from matrix text to FNs. This suggests that when readers exit from matrix text to FNs they do this out of a purpose (i.e. seeking definitions for unfamiliar lexical items, needing more information, requiring details of a quoted source, etc.).

Now, we shift the discussion to a study of the frequency of FNs in different academic disciplines and readers' attitudes towards FNs.

5.6.0. THE FREQUENCY OF FOOTNOTES IN DIFFERENT ACADEMIC DISCIPLINES AND READERS' ATTITUDES TOWARDS THEM

This section aims to study the following issues:

- (i) how frequent FNs are in the different academic disciplines;
- (ii) how often they are read;
- (iii) whether they are read right through from start to end;
- (iv) what makes readers decide to read FNs or skip them;
- (v) whether they are found useful;
- (vi) what is that that makes a FN useful; and
- (vii) which location of FNs (i.e. at the bottom of page or end of article) readers prefer.

5.6.1. ELICITING ANSWERS

5.5.3.1.1. METHOD

To find answers to the above questions, a questionnaire (see Appendix 7) of 8 items was given to 63 subjects from different disciplines. The first two questions were intended to find out what course each subject was doing and how often he/she came across FNs when reading books or articles in his/her specialization. To confirm or disconfirm the subjects' answers to Q. 2, the number of footnotes in some articles from the disciplines the students belonged to were counted and we found that footnotes are relatively rare in pure science articles in comparison with the social sciences and humanities. Questions 3 and 4 inquired about how often the subjects read FNs and whether they read them right through from start to finish. Questions 6 and 7 asked the subjects whether they found FNs useful and what was that that made a FN useful to them. The

last question was designed to find out what location of FNs was preferred by the subjects and for what reasons.

5.6..1.2. ANALYZING THE DATA

The 63 subjects (undergraduate and postgraduate native and non-native speakers of English) who answered the questionnaire were from the following disciplines:- English Literature, Linguistics, History, Economics, Agriculture, Forestry, Engineering, Mathematics, Computer Science, Psychology, Philosophy, Physics, Chemistry, Education, Biblical Studies, Music and Welsh. Since we had 17 disciplines and the number of subjects we could get from each discipline was not big; we classified the 17 disciplines into two main categories as follows:-

- (1) Social Sciences and Humanities, and
- (2) Pure Science

The first category includes English Literature, Linguistics, History, Economics, Psychology, Philosophy, Education, Biblical Studies, Welsh and Music; whereas the second category covers Agriculture, Forestry, Engineering, Mathematics, Physics, Chemistry and Computer Science. The answers to the question were treated in the light of this distinction.

Since questions 2, 3, 4 and 6 were made up of a scale of 5 options; these 5 options were given numerical values as

follows:-

4		3		2		1		0
Always		Often		Sometimes		Occasionally		Never

to make easy the statistical analysis of the responses. In the following sections, we deal with each question separately and towards the end an attempt is made to find out whether there are any correlations between the four questions (2, 3, 4 & 6).

The responses to Q.2, How often do you come across FNs when reading books or articles in your specialization ?, on the questionnaire (see Appendix 7) were as follows:-

(1) Social Sciences and Humanities	Mean
	3.21
(2) Pure Science	1.500

There was a significant difference ($p= 0.0000$) between the two groups in meeting FNs across the disciplines. This result was not much of a surprise for us as the nature of the two categories of disciplines discussed here plays a role in the number of items to be footnoted and how they should be footnoted. For example, it is always the practice in Pure Science texts to use Arabic numbers that refer the reader to the source, in the list of references, from which an idea or a quotation is borrowed. This practice, indeed, keeps FNs to a minimum.

As far as question 3 was concerned, (How often do you read FNs ?) there was a significant difference ($P= 0.0047$) between the subjects belonging to the two categories of disciplines in their frequency of reading FNs. This significant difference in reading maybe attributed to the fact that the number of FNs in Pure Science is always small and this, perhaps, encourages readers to read all of them. As for Q.4, there was no significant difference ($P= 0.28$) between the subjects from the different disciplines in reading a FN right through from start to end. As regards the usefulness of FNs (Q.6) for the subjects in the different disciplines, there was no significant difference ($P= 0.61$).

Calculating the correlations between the four questions discussed above, it was found that there was a correlation of .407 between reading a FN in its entirety and its usefulness. On the basis of the above results, it maybe argued that reading the whole of a FN depends entirely on the subjects' perception of its usefulness. In other words, a subject may embark on reading a FN and then, on the basis of usefulness judgment, continue reading it or abandon reading it.

This judgment of 'usefulness' was quite obvious in the subjects' responses to question 7. All subjects agreed that a FN was useful to them when it clarified or explained ambiguities (i.e. a lexical item or an idea) in mainline text and when it gave the source of a point, idea or quotation which

was of interest to the subjects. This response maybe further explained in terms of the subjects' answers to Q.5 on the questionnaire. Asking the subjects 'what makes them dicide to read a FN or skip it ?', they gave the following two responses:-

- (1) "When I feel I need more details on the point the FN is attached to", and
- (2) "When I come across anything in the text that is unknown to me I go to the FN hoping to find something on that element I could not understand in the main text.

These two answers, indeed, support our arguments that some Fns are intended to make up for any under-informativity for some readers (see 1B.6.2.4.) and others are used to clarify potentially troublesome elements of the discourse (see 3A.1.6. and 3A.1.8.). As far as Q.8 was concerned, all the subjects unanimously chose A (i.e. FNs printed at the bottom of page). Their justification for this choice was, as expected, that FNs printed at the bottom of the page "are handier, more convenient and less distracting". It is worthwhile noting that some subjects commented that when FNs are printed at the end of the article, chapter or book they may not bother to read them.

5.7.0. SYNTACTIC POSITIONS OF FNS

We have empirically proved (see 5.2.5.)that FNs occurring in sentence-medial position create syntactic discontinuities which in turn result in processing difficulties. From the total number of FNs (113 FNs) used in our corpus, only 9% occupied

sentence medial positions compared to 90% occurring in sentence final positions. This may be taken to suggest that writers make a consistent effort to place FNs sentence finally. By placing FNs in sentences final positions the writer is probably lessening (but not necessarily abolishing) the adverse psychological effects of syntactic discontinuities so created on the processing of the sentences within which FNs occur. From our investigation, there is evidence ($P= 0.0059$) that FNs occurring in sentence medial position are more disruptive than FNs occurring in sentence final position as the diagram below illustrates:

Diagram 9

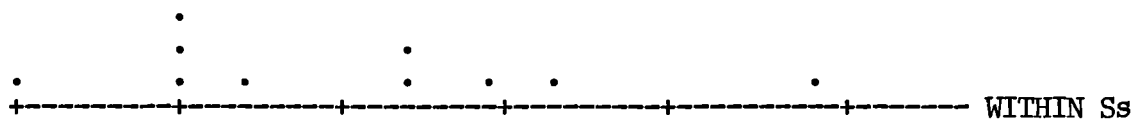
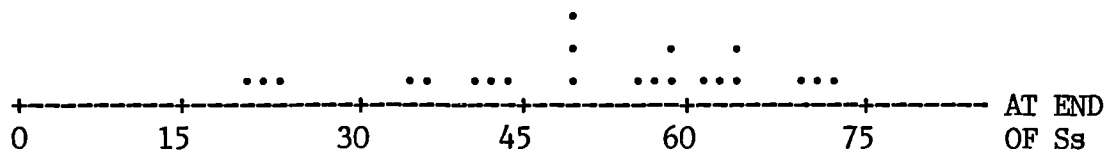


Diagram 10



The means for the recall of information from texts containing FNs within sentences and texts with FNs at end of sentences were 28.57 and 50.05 respectively.

To round off this Chapter, a word of caution is in order. It should be borne in mind that the results reported here (on the frequency of FNs and readers' reading of FNs) are

based on the claims made by the subjects when answering the questionnaire and not in an actual situation of reading FNs. Therefore, it is unwise to assume that all subjects reported their perceptions of and attitudes to FNs equally faithfully. However, the experimental evidence (see 5.4.0-5.5.2.) supports the results obtained from the questionnaire. Now, we turn our attention to some of the formal features that are found to be recurrent in FNs.

CHAPTER SIX

LINGUISTIC FEATURES OF FOOTNOTES

6.0 INTRODUCTION

So far we have mainly concentrated on the functional characteristics of FNs, the criteria writers base their footnoting decision on, readers' uptake of FNs, the disruptive effect Fns have on text processing and the utility of FNs to readers. In our functional characterization of FNs (see 3A.1.-3A.12.1.) it was pointed out that certain phrases/expressions could be used as clues for the identification of the functions. Such phrases/expressions are elaborated on in this Chapter. Also in Chapter 3, we mentioned in passing that in some FNs writers employ non-factive verbs and modals to distance themselves from what is said. Therefore in the present Chapter we deal in detail with the different devices used to indicate writers' involvement in or detachment from what they write. The reason for doing so is to see the similarities/differences between FNs and mainstream texts as far as 'hedging' is concerned. Also discussed in this Chapter, is the frequent use of proper names in FNs. It should be made clear from the start that some of the features studied in this Chapter are peculiar to FNs whereas other features are shared by FNs and other texts-types.

However, from the analysis of the formal features of FNs (see 1A.3. and below) it was found out that, with the exception of referential and acknowledgement FNs, all FNs exhibit formal

features reported to be common in academic text-types (Barber, 1962; Tarone et al, 1981; Adams Smith, 1984 and Butler, 1990) as the discussion below shows. We hypothesized that if all the types of FNs identified (3A.1.1.-3A.1.12.1.) had salient formal features, then members from the relevant discourse community would not have any difficulty identifying whole FNs when deprived of their outstanding features and jumbled up with extracts from matrix text.

6.1.0. To test this hypothesis, an investigation was conducted as follows.

6.1.1. MATERIALS

7 FNs, representing some of the types identified in Ch. 3, and 3 non-FN excerpts from main texts (see Appendix 8) were chosen for this investigation.

6.1.2 PROCEDURES

The FNs and the extracts were numbered 1-10. The subjects were told that some of the excerpts given to them were FNs whereas others were extracts from main texts. They were told that their task was to mark the extracts they identified as FNs by inserting the abbreviation 'FN' next to them and to mark the extracts they identified as non-FNs by labelling them 'TEXT'. The subjects were individually interviewed and requested to name any clues that had helped them identify the distinction between a FN and a text extract.

6.1.3 SUBJECTS

20 postgraduate students from the Linguistic and Literature Departments, U.W.B. were recruited for this investigation. Only postgraduate students were chosen because we believe that they are familiar with the genre of FNs and therefore would be the most suitable subjects for this investigation.

6.1.4 RESULTS AND DISCUSSION

The results of the investigation were as follows:

Table 3

Extracts	No. of subjects identifying extracts as text	No. of subjects identifying extracts as FNs
1 (text)	20	_____
2 (text)	18	2
3 (fn)	19	1
4 (fn)	19	1
5 (text)	20	_____
6 (fn)	11	9
7 (fn)	_____	20
8 (fn)	12	8
9 (fn)	_____	20
10 (fn)	_____	20

Note: the word in parentheses identifies the type of the extract.

The above results show that all the subjects correctly identified extract 1 as an excerpt from a matrix text. The subjects were able to do so because, according to them, this

particular extract did not exhibit any of the salient features (e.g. proper names, publication dates) of FNs. However, the presence of proper names and publication dates are not always clear-cut criteria for the distinction between a part of a text and a FN. For instance, in spite of the fact that extract 2 contains a proper name, a date of publication and a page number, a majority of the subjects (90%) identified it as part of a matrix text.

When the subjects were individually asked to give reasons for labelling this extract as text they reported that "it looks and reads more as part of a matrix text rather than as a FN". This, perhaps, may be taken to support our argument that once FNs (all the types identified in Ch. 3 with the exception of referential and acknowledgment FNs) are deprived of their outstanding features (see 1A.3) it becomes fairly difficult to identify them from non-FN excerpts.

It was also for this reason that all the subjects but 2 incorrectly identified extracts 3 and 4 as parts of a matrix text. The two subjects who labelled these two extracts as FN were probably helped by the proper names and dates of publication mentioned in these two stretches. None of the subjects faced any difficulty identifying extract no. 5 as part of a matrix text. However, they were not able to provide any justification for their decision. As far as extract no. 6 is concerned, 11 subjects (55%) identified it as text whereas 9

subjects (45%) identified it as FN. It is worth noting that the subjects commented that this extract could be part of a matrix text and could be a FN.

From this it was deduced that the subjects were not confident of their identification attempt. It is important to note that the subjects' identification attempts (for stretches 1, 2, 3, 4, 5 and 6) were based on their knowledge of some of the formal characteristics of FNs; in particular, proper names. But the matter was different for stretches 7, 9 and 10. The subjects confidently and unanimously agreed that these three stretches (7, 9 and 10) are typical FNs. When requested to justify their decisions, they stated that these three stretches in particular realize functions (refer readers to other sources for more details and acknowledge the author's indebtedness to others) typical of those FNs perform and added that the linguistic structures employed (e.g. 'I am grateful to', 'for a discussion ... see...', 'an interesting discussion of... can be found in Kardela (1982)', etc.) are typical of FNs. It is noticeable here that the subjects based their identification on both formal and functional characteristics of FNs.

From the above discussion it may be concluded that it was not difficult for members of the discourse community to identify the two types of FNs we classified as acknowledgment and referential FNs. But it was hard for them to identify elaboration FNs when jumbled up with extracts from a matrix

text. The reason for this may be that such FNs are identifiable only within their institutional environment (i.e. the text they are bound to). Had the subjects been given the FN excerpts with their Arabic indices and with their original smaller type face, their task would probably have become much more easier.

Since we could not identify any structural pattern peculiar to FNs (referential and acknowledgment FNs are excluded because they, more or less, have their specific structural pattern) it was decided to study the structures characteristic of referential and acknowledgment FNs and to find out what formal features other types of FNs share with other text-types that make them identifiable as text rather than as FNs. It is because of the absence of any characterizing features of such FNs that the majority of the subjects identified excerpts 3 (95%), 4 (95%) and 8 (60%) as text excerpts rather than as FNs. The results obtained from this investigation supports our argument that FNs, with the exception of referential and acknowledgement FNs) are not formally different from the matrix texts they accompany.

In the following sections, we shall attempt to find out what formal features reported elsewhere in ESP (English for Specific Purposes) research to be common in academic text-types are also common in FNs. Also discussed below are some of the salient features of referential and acknowledgement FNs. The main features studied in this chapter are:

- (1) Formulaic expressions;
- (2) Cohesive devices employed within FNs;
- (3) Hedging devices and the employment of proper names;
- (4) Active and passive constructions;
- (5) Past and present participles; and
- (6) Verbal elements of modality (i.e. modal auxiliaries).

6.2. FORMULAIC (SET) EXPRESSIONS IN FNs

In our functional classification of FNs in Ch. 3, we found out that some FNs acknowledge the help or support writers received from others whereas other FNs (namely, referential FNs) refer readers to other sources for more details. When writers thank others, acknowledge the help they received from them or direct their readers to other sources for more details; this is mainly realized through the use of 'set expressions' or what are known as 'formulaic expressions'. Such expressions are called formulaic because of the high predictability of their syntactic patterns and lexical items. It is the aim of the following section to study the use and syntactic pattern of formulaic expressions in FNs.

6.2.1 THE SYNTAX OF FORMULAIC EXPRESSIONS

Formulaic expressions are not uniform in their syntactic patterns; some start with a nominalized form of a verb such as 'Thanks are due to', introductory 'It' as in 'It has come to our attention', prepositional phrases such as 'For a discussion

of ... see' or first person singular/plural pronouns as in the examples below:-

- Ex. (113) I am indebted to... for comments....
- Ex. (114) I am very grateful to... for helpful discussions.
- Ex. (115) We would like to thank... for constructive criticism.

Some formulaic expressions open with the specifier 'Many', which is probably used to show a writer's degree of indebtedness to others. The following is an example:

Ex. (116) Many thanks also to ... for helpful discussions.

Examining acknowledgment FNs in terms of their constituent elements, we find they have the following structure:

Addressor	+ Verbal Elements Optional Aux+(intensifier) Adj. or Aux+V+to- V	+ Addressee	+ Justification for thanks giving
I		+ always the first & surname of the addressee	for comments for helpful discussion for constructive criticism

This pattern is by far the most common to acknowledgment FNs. This standardized pattern supports our argument (see 1A.3) that this type of FNs qualifies for genre status. As far as referential FNs are concerned, it is observed that the majority start with a prepositional phrase (e.g. for more details). When this happens the imperative form of the verb (most often 'SEE') is predicted to come after. Take this example:

Ex. (117) For more details, see....

Although the 'speech act' conveyed by 'For more details, see...' could as well be conveyed by 'see... for more details', it is the former construction that is commonly used in the corpus. We also noticed that comparative adjectives, 'for more details', 'for further discussion', are frequently employed in referential FNs. Like acknowledgment FNs, referential FNs exhibit a standardized structure as follows:

Reason	+Idea discussed in the source+Understood element referred to	+Verb+Source
Optional For(more) details	(Optional) point reader is referred to :If wanting details	Page NO. Optional 'See':Berman(1987:10)

It is observed that when formulaic expressions begin with first person pronouns ('I' and 'WE') introductory 'IT', nouns (e.g. Thanks) or modified nouns (e.g. Many Thanks), we can predict the occurrence of the preposition 'to' followed by names of institutions or individuals that are being thanked and this is being followed by another preposition (always 'for') after which comes the reason for which these institutions or individuals are being thanked. These are examples:

- Ex. (118) I am indebted to ... for comments, suggestions and corrections.
 Ex. (119) It has been pointed out to us ...
 Ex. (120) Many thanks also to ... for helpful discussions.

Table 4

SYNTACTIC PATTERNS OF FORMULAIC EXPRESSIONS AND THEIR FREQUENCY IN FNS

1.	Pro	Be	Adj	Prep	NP	PP	(29%)	Communicative Purpose
	e.g. I am indebted to Gerald Gazder for helpful comments.							Elaborated Thanks Giving
2.	NP	Be	Adj	NP			(14%)	Short Thanks Giving
	e.g. Thanks are due to							
3.	PP			V	NP		(25%)	Referential
	e.g. For more details, see Berman (1987).							
4.	Pro	VG			Comp.		(14%)	Drawing attention
	e.g. It has been pointed out to us that							
5.	Pro	Aux	V	Inf	V	NP	PP	(14%)
	e.g. I should like to thank Gerald Gazder for comments on an earlier version of this paper.							Elaborated Thanks Giving

Note. Pro=pronoun; Adj=adjective; PP=prepositional phrase; NP=noun phrase; Adv=adverb and Aux=auxiliary verb.

Some might argue that if an expression becomes formulaic it loses its effectiveness and becomes meaningless. However, we may argue that if a writer received help or support from individuals or institutions and did not acknowledge this help or support, this, in turn, might anger those concerned and jeopardize the writer's chances of getting help from those individuals or institutions again. The significance of identifying the structural features of such expressions is discussed in Ch. 7 in the section entitled 'Pedagogical Implications'. Now we move to a study of the types of cohesive devices employed within FNs.

6.3. COHESIVE DEVICES EMPLOYED WITHIN FNS

In Chapter 4 we considered the cohesion and coherence relations (as defined in Ch. 4) between matrix text exit sentence, FN and matrix text re-entry sentence in an attempt to

see how such relationships are signalled and readers' awareness of these relations. In this section we examine the intra- and inter-sentential cohesion relationships within and between the sentences that comprise a FN. The aim is to find out the most recurrent cohesive devices in FNs and how comparable the findings are with those findings reported of other text-types..

6.3.1. INTRA-AND INTER-SENTENTIAL COHESIVE DEVICES EMPLOYED IN FNs

Examining such intra-and inter-sentential cohesive devices in FNs reveals that cohesion within sentences is mainly achieved by 'reference items (17%) and conjunctive items (80%). But, it is observed that cohesion between sentences is mainly realized through the employment of conjunctive items (38%), lexical repetition (29%) and reference (25%). Examining the cohesive devices employed in some matrix texts from our corpus, it was found that the cohesive devices employed are not actually different from those used in FNs. This perhaps supports our argument (see 6.1) that some FNs are not formally different from matrix texts.

We also noticed that in some FNs (namely, Acknowledgment FNs) cohesion is sometimes achieved through 'Contiguity' (6%). The term 'contiguity' denotes a sentence occurring immediately after another sentence and because of this these two sentences are treated as cohesive. Take the following example:-

Ex. (121) *We would also like to thank the anonymous

reviewers of *Linguistics* for their comment on an earlier version of this article. (2) Correspondence address: Department of Linguistics, University of Stockholm, S-106 91 Stockholm, Sweden.

[1:121]

Sentence 2 in the above example will be taken by readers to be coherent with the sentence preceding it mainly because it occurs within the FN.

The following discussion is mainly concerned with the types of lexical devices and conjunctive items employed to achieve cohesion within and between the sentences a FN consists of. The reason for focusing on lexical cohesion and conjunctive items is that cohesion in FNs is the product of lexical reiteration (29%) and conjunctive items (38%). First we discuss lexical reiteration.

6.3.1.1. LEXICAL COHESION

Halliday and Hasan (1976:274ff) identify two broad subclasses of LEXICAL COHESION: Reiteration and Collocation. Reiteration covers a range of ways in which one lexical item may be understood to conjure up the sense of an earlier item. A reiterated item may be a repetition, a synonym or near-synonym, or a superordinate (i.e. a general word of an earlier item) and that the reiterated item is in most cases, accompanied by the anaphoric determiner 'THE'. Now, we will examine some FNs to find out what types of reiteration (i.e. exact word, synonym or near-synonym or superordinate) are commonly employed.

We identified differences and similarities between the articles used for this study in the use of reiteration. In other words, some writers preferred to use 'verbatim' repetition whereas others used a combination of the types referred to above. Here is an example of lexical cohesion being achieved between sentences 1 and 2 through the repetition of exact items (Finnish) and the employment of near synonyms (phonotactic patterns and consonant clusters).

Ex. (122) ¹We are aware of the fact that this restriction is not without exception, but refers to the canonical phonotactic patterns in Finnish. (2) There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure condition.(3) See for example Suomi (n.d.); Karlsson (1983).[1:121]

The reiteration of the lexical item 'Finnish' achieves the cohesion relation between the first two sentences. The cohesion relation between the second sentence and the penultimate sentence is realized through the adverbial adjunct 'for example'. As such adjuncts are infrequent in our data they will not be considered here. Cohesion within the first sentence is realized by the use of the conjunctive item 'but' and the ellipted pronoun (it) before the finite verb 'refers'.

Some instances of lexical reiteration by synonyms or near synonyms were found. Here is an example:

Ex. (123) ⁴Keenan and Stavi (1986) point out that the meaning of 'many' involves an implicit comparison, but they do not construct an interpretation which represents this comparative element. Westerstahl (1984) proposes a framework in which the interpretation of every determiner involves a context set which restricts the

argument of the determiner function to an appropriate subset of its N' set. My use of contextually defined comparison sets in the interpretation of 'many', and my reference to context sets in section 3 in characterizing the interpretation of unmodified bare NPs in the postcopular position of existential 'there' sentences is in the spirit of Westerstahl's approach. [8:997-998]

The underlined lexical items are near-synonyms. That lexical cohesion through the use of synonyms or near-synonyms is fairly frequent in our data corroborates H. and H.'s (1976) and Hoey's (forthcoming) argument that lexical cohesion is by far the most common cohesive device. The most common type of lexical reiteration is that of using a superordinate accompanied by the demonstrative 'this'. Take this example:

Ex. (124)

³It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant.

The hyperonym 'this parameter' refers back to a type of parameter, namely: 'stress'. When a general word is used to reiterate an item, this general word, as far as our data is concerned, is always accompanied by the anaphoric demonstrative 'this' which Halliday and Hasan (1976) describe as an alternative to the definite article 'the'.

The use of hyperonyms to re-establish the reference to an entity is by far the most commonly used type of lexical cohesion in our data. It should be noted here that lexical repetition is not the only means by which cohesion is achieved since we identified other devices (namely, conjunctions 38%)

that carry out a cohesive function. In the next sections, we investigate the functions realized through the use of the conjunctive items 'however' and 'therefore' which were found to be quite frequent in our data.

6.3.2.0. CONJUNCTIVE ITEMS IN FNs

Halliday and Hasan (1976) classify the conjunctive items 'however' and 'therefore' as carrying out 'adversative' and 'causal' functions respectively. According to them (ibid:252) the basic meaning of the adversative relation is "contrary to expectation". Like Halliday and Hasan, Quirk et al (1985) treat the conjunctive item 'however' as 'adversative', but differ from Halliday and Hasan (who assign one function, causal, to 'therefore') in that they assign two functions to 'therefore: summative and resultative . The following sections investigate the functions of the conjunctive items 'however' and 'therefore' in FNs.

An examination of the data revealed that the conjunctive adjunct 'however' is employed for the following functions:

- (1) Transitional (38%) signalling a change of topic
- (2) Dismissive (19%) leaving aside the discussion of an issue
- (3) Adversative (40%) indicating an opposition of a prior point of view.

There follow examples of the above functions respectively:

6.3.2.1 TRANSITIONAL 'HOWEVER'

In the following example 'however' signals a change of topic in the sentence it occurs in and relates this sentence not to the one preceding it but to the sentence before the one preceding it (i.e. to sentence 1).

Ex. (125) 2.(1) As many studies of strategies in second-language learning indicate, there may be several factors other than L1 transfer influencing the types of phonological errors made by L2 learners. (2) This fact has led some researchers to abandon the contrastive-analysis approach as a means of predicting such errors (for a discussion, see for example Broselow 1983)). (3) However, phonological transfer still appears to be a very important and well-represented simplification strategy in second-language learning, although predictions of specific types of learner' errors must evidently be probabilistic rather than deterministic (see Merr n.d.). [1:121]

It is worthwhile to note that 'however' in the above example could be replaced with anyway, which is, according to Halliday and Hasan (1976:265), a resumptive item, not leading to any change in the writer's stand.

6.3.2.2 DISMISSIVE 'HOWEVER'

The term 'dismissive' here means putting aside the discussion of a point or an issue. Here is a typical example of this function:

Ex. (126) 3•It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant. [1:121]

6.3.2.3 ADVERSATIVE 'HOWEVER'

The use of adversative 'however' indicates a contrast

between the proposition preceding it and the proposition that follows. Take this example:

Ex. (127) ⁴•It has been pointed out to us that initial [sr] may occur in casual pronunciations of a word such as syringe (pronounced [srindz]). It should be noted, however, that this reduction is an instance of unstressed vowel deletion, and not of stop deletion. [1:121]

It is noticed that the conjunctive adjunct 'however' can occur in sentence final position especially when preceded by a comment. Here is an example:

Ex.(128) ⁸•Jacobson notes that it is quite easy within this approach to insure that subjects precede objects, whereas it is not clear how to insure this if both are daughters of S, as they are in the approach developed here. Things are not so simple, however. [6:381]

'However' occurring in sentence final position is different from 'however' in sentence initial or medial position. When 'however' occurs in sentence final position the contrast or the 'denial of expectation' occurs in the sentence following the one hosting 'however' and not in the host-sentence.

The significance of studying the cohesive functions of the conjunctive adjunct 'however' in FNs stems from the fact that the mere use of 'however' makes readers expect a contrast (adversative 'however'), a dismissal of an issue (dismissive 'however') or a change of topic (transitional 'however'). Now we turn to the cohesive functions of 'therefore' in our corpus.

6.3.3. THE FUNCTIONS OF THE CONJUNCTIVE ADJUNCT 'THEREFORE' IN
FNs

Almost all grammarians (e.g. Quirk et al, 1985) and discourse analysts (e.g. Halliday and Hasan, 1976) agree that the conjunctive item 'therefore' mainly realizes either a resultative or a causal function. Those who treat 'therefore' as resultative probably describe it in terms of what follows it (always a result) and those who treat it as causal, probably, look at what comes before it (always a cause or reason). There is a significant difference between the conjunctive items 'however' and 'therefore' in that the latter can be preceded by the co-ordinating conjunction and without making the sentence hosting 'therefore' ungrammatical. This is not possible with 'however' as is shown in the following example:-

Ex. (129) ³•It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. * And however, in the present experiment, we chose for methodological reasons to keep this parameter constant. [1:121] (We inserted And in the above example to prove the point made above)

By contrast, the use of AND before 'therefore', when occurring in sentence initial position, does not affect the semantics of the host sentence but more significantly makes the causal relation more explicit. Take this example in which And is originally employed by the FN writer:

Ex. (130) ³•There is an equivalent issue in a theory postulating only one level of syntactic representation, and therefore no WH movement (see Gazdar et al. 1985, for example). [10:210]

When 'therefore' comes in sentence medial position it is always preceded by a cause and followed by a result as the example below illustrates:

Ex. (131) ⁶•Three FICs are incomplete, that is, have no overt clause; therefore, no syntactic function can be assigned to the gaps. [2:840]

When it occurs in sentence initial position this indicates that the cause is given in the preceding sentence and that the result is given in the sentence hosting 'therefore'. We found only one case of 'therefore' realizing a summative function is detected in our data:

Ex. (132) ³•The bound form is also used when a clitic is suffixed to the noun, as in *beit-i* 'my house' or *parat-o* 'his cow'. In addition, when the definite article is present, it follows the head noun in both compounds and CSs. And therefore, I assume that similarities in the surface forms are a consequence of the application of the same PF rules to different S- structure representations. [7:927]

The functions of the conjunctive items 'however' and 'therefore' in FNs are not different from their functions in mainstream texts. However, the significance of studying them stems from the fact that FNs, as far as our corpus is concerned, elaborate on points presented in the matrix text and this elaboration happens, sometimes, in the form of bringing into the discussion opposing viewpoints. It is probably the presentation of these opposing viewpoints that may require of writers the employment of 'however' to express either their agreement or disagreement to the ideas presented. Here is an example:

Ex.(133)

8. Jacobson notes that it is quite easy within this approach to insure that subjects precede objects, whereas it is not clear how to insure this if both are daughters of S, as they are in the approach developed here. Things are not so simple, however. While most complements have to follow the subject in Welsh a PP expressing possession can precede the subject. [6:381]

The conjunctive adjunct 'therefore' is used in FNs when writers are discussing others' opposing viewpoints and come out with a different result or used to justify a certain outcome. The above discussion shows that cohesion between the sentences that comprise a FN is realized through the same devices used in matrix texts. In other words, the above mentioned cohesion devices are not restricted to FNs. The significance of studying the conjunctive adjuncts 'however' and 'therefore' in FNs for teaching materials is discussed in Ch. 7 in the sections entitled PEDAGOGICAL IMPLICATIONS.

'However' and 'therefore' make explicit the writer's stand from an opposing viewpoint or idea. However, some writers express their stand from something in a less explicit manner through the use of hedging devices. It is these hedging devices that we will turn to in the next section.

6.4.0. HEDGING IN FOOTNOTES

The majority of FNs provide additional information, give references and present opposing ideas to those the writer presents or to those that other writers suggest or claim. A writer's elaboration on an opposing idea in a FN may require him/her to use certain expressions to indicate the

tentativeness of others' claims or his/her reluctance to appear to be endorsing a statement. Such expressions are referred to in the literature as hedging devices. In what follows the literature on hedging is surveyed and tested on our data.

A number of words, verbs and phrases are made use of in writing and speech as a deliberate strategy of vagueness or fuzziness of expression. Lakoff (1973:472) used the term HEDGE to refer to those words whose function "is to make things fuzzy or less fuzzy" and produces a list of adverbs and phrases such as 'literally', 'virtually', 'mostly', etc., 'more or less', 'loosely speaking', etc. employed in natural language as hedges. Lakoff's argument is that the truth value of a proposition can be measured on a scale.

He argues that it is hard to predict at what value on the scale an utterance becomes true or false and contends that this difficulty of assigning an absolute truth or falsity value to a proposition is expressed in speech through hedges. Lakoff's notion has been widely investigated. For instance, Brown and Levinson (1978) studied hedges in the framework of Speech Act Theory. Their study resulted in a taxonomy of what they feel are commissive, assertive, explicitive, etc. hedges on the one hand, and manner, quantity, quality, relevance hedges on the other. Mayers (1987) tried Brown and Levinson's model on texts drawn from written scientific articles and noticed that hedging is a politeness strategy marking a claim or any other statement

as provisional, pending acceptance in the literature and approval by the discourse community readers.

Loewenberg (1982:196) uses the term 'hedge' to refer to parenthetical, adjectival or adverbial expressions that qualify, by restricting or extending, what is said in the utterances in which they occur and examines the pragmatic use of some of the language forms found in Lakoff's list, such as 'literally', 'really', 'actually', etc. She contends that these forms are used in discourse for emphasis or strengthening. Fraser (1980) examined the functional use of some of Lakoff's hedges and observed that they have a mitigating effect in that they soften the force of a proposition.

Prince et al (1982), who based their work on Lakoff's study (1973) and who examined the use of hedges in the professional context of paediatrician-paediatrician talk, identify two main types of hedges: APPROXIMATORS, which introduce fuzziness within the propositional content either by adapting a term to a non-prototypical situation, or by indicating that some term is a rounded off representation of some figure. On the other hand, SHIELDS correlate with fuzziness in the relationship between the propositional content and the speaker, in other words, to a fuzziness in the speaker's commitment to the truth of the proposition conveyed. The latter type of hedge implies that the speaker is uncertain about what he/she says because he/she speaks from

knowledge or beliefs acquired via plausible reasoning or that he/she has indirect knowledge and so is attributing the belief to a particular other.

Rounds (n.d.) uses Prince et al's taxonomy in the context of academic writing and points out that shields are a strategy used by academics to soften their claims, since their academic integrity rests on the accuracy of the claims they make about their findings. It has also been argued (Tadros,1985:28) that "a writer is personally committed to the opinions and ideas of his text so long as he does not specifically detach himself from the embedded propositions expressed".

Skelton (1988), commenting on Prince et al's (1982) two types of hedges, argues that the approximator/shield distinction probably works only in the abstract, since in real language use what is classified as an approximator may well function as a shield. He, for this reason, chooses to make a distinction between proposition (the claim) and the comment (the softening of the claim).

6.4.1.0. HEDGING DEVICES IN FNS

6.4.1.1 VERB (PHRASE) FORM AND ADVERBS

Hedging in our data is marked through the type of verb (phrase) employed. Tadros (1985) draws attention to the verb form used and its semantic connotation. She makes a distinction between 'factive' and 'non-factive' verbs. According to her

"factives, whether negative or affirmative, (e.g. show, realize, prove, know etc. unless otherwise indicated) presuppose the truth of the proposition embedded in their complement clause". She goes on to argue that "when non-factives occur ... - claim, suggest, think, say, assume, believe - nothing is presupposed about the embedded propositions and hence the writer is not committed to their truth". Here are some examples of hedges from our corpus with varying degrees of writers' commitment.

Ex. (134)

5. It has been brought to our attention that in English, /r/ immediately following /t/ or /d/ is phonetically different from /r/ in other consonantal contexts (such as /kr/ and /pr/), being a fricative rather than an approximant. The varying acoustic features of /r/ might thus be expected to have consequences perceptually and perhaps influence listeners' evaluations of phonologically analogous omission. We have not, however, specifically controlled our experimental stimuli for such possible influences and therefore can not address this issue any further.(1:121-122)

In the above FN, the point made is attributed to an unnamed source, as is obvious from the clause 'It has been brought to our attention', and then the article writers go on presenting, in the second sentence of the FN, the exact point put to them. It should be noted that the underlined hedging verb phrase and the adverb 'perhaps' in the second sentence of the FN are being employed by the writers in reporting the point raised to them to detach themselves from (i.e. indicate their stance towards) the proposition they are expressing. It is until the end of the second sentence that the article writers are still not committed to the argument. It is perhaps the use of the first

person plural pronoun 'we' at the start of the last sentence of the FN that marks the writers' involvement in the argument.

The writers' involvement does not, contrary to Tadros'(1985) argument, take the form of an evaluation of the point presented to them, but is a straightforward answer that the point raised was not investigated. However, Tadros' argument still holds for some FNs. Take the following example:-

Ex.(135)

1. In this regard, my assumptions about the structure of sentences like (3) differ significantly from those of Nichols et al (1980), who assume in their analysis of comitative constructions in Russian that the comitative PP is a posthead modifier in the subject and claim that the choice between singular and plural agreement is affected by the topicality of the subject NP. More specifically they claim that 'when the subject controller is topic maximal agreement- that is, plural morphology- is preferred for animate nouns.... When the subject is nontopic, minimal agreement- that is, singular- is equal in preference to maximal agreement...' (1980:775). Topicality is not a clue to the agreement alternation in Polish as there does not seem to be any preference for (3) over (i) below among native speakers of Polish.

(i) Na spacer poszli Janek z Ewa
For walk went- 3pl. nom with instr.

'It was John and Eve who went for a walk'.

[3:411]

In this example, the writer reports through the use of non-factive verbs the way Nichols et al analyzed comitative constructions in Polish. The use of such verbs, according to Tadros (1981), implies the writer's non-commitment to the truth of what is being reported. The writer's involvement is made manifest in the evaluation presented in the penultimate sentence of the FN in which the writer denies the truth of the claims made by Nichols et al and provides a base for his

evaluation represented in the judgments of Polish native speakers of examples of the structures concerned. Worth noting here is the use of the verb 'seem' in the last sentence of the FN, which is an indication of the writer's attitude towards the reason given for refuting Nichols et al's claim. Perhaps the writer is guarding himself against any new evidence to the contrary of what he is saying and thus has decided to express the tentativeness of his evidence through the verb used.

6.4.1.2. PREPOSITIONAL PHRASES

Adverbs and verbs are not the only devices employed to hedge a writer's or a speaker's proposition. Some prepositional phrases are also used to soften the strength of a proposition. The following is an example:-

Ex. (136)

11. To the best of my knowledge, no one has ever argued that Z is a conjunction in the construction under consideration. So the NNCH is a straw man I set up here, as, at least at first blush, this analysis seems quite compatible with the GPSG approach to the syntax of coordination and can not be apriori ruled out. (3:412)

The underlined prepositional phrase which literally means 'as far as I know' is perhaps employed to spare the writer the criticism of being ignorant of what is in his field if it appeared later that someone else before him has treated 'Z' as a conjunction in the constructions the writer is concerned with. To conclude this section, the crux of the preceding discussion is that a writer is fully committed to the propositions expressed in the text as long as he/she does not

show his/her detachment from what he/she does not want to be held responsible for.

6.4.1.3. ATTRIBUTION AS AN ASPECT OF HEDGING

Attribution is here defined as a reporting function in which the reported item (i.e. idea, thought or instrument) is attributed to a source or attributee whose point of view it represents and who is held responsible for its truth value. In other words, it is a means through which a writer distances him/her-self from the expressed views of others. The consensus in studies dealing with attribution (Hoey, 1983; Tadros, 1981; and Stubbs, 1987) is that they all maintain the idea of truth value of proposition and the way in which the writer/speaker seems to be committed to or detached from it.

Tadros (1981), exemplifying with texts drawn from an economics textbook, holds that attribution is characteristic of reporting in discourse. Attribution is used both to signal authorial detachment from a propositional content (truth value of a proposition) and to predict the writer's own involvement in the discourse, for example by Rebuttal. Hoey (1983:103) looking at problem-solution patterns in scientific discourse and advertisements, contends that attribution suggests that the response (solution) is not the author's own, and also that it is a means of assigning responsibility for the response.

Prince et al (1982) see attribution in physician-physician discourse as a hedging strategy whereby the speaker, having reservations about the truth value of a proposition, also distances himself from the belief in it, due to lack of direct knowledge. As an example, they argue that an attributed statement such as according to Dr. Smith implies "not necessarily to the speaker "(Prince et al,ibid:92).

The view that attribution is a strategy of hedging is also shared by Al-Shabab (1986) who, analyzing broadcast news texts, sees attribution as a means whereby the news editor not only shifts the responsibility for the truth value of a proposition to a specified or unspecified source but also disassociates the broadcasting authority from indications of a partisan view point.

6.4.1.3.1. MARKERS OF ATTRIBUTION

Since we define attribution as a reporting function in which a reported item (i.e. the idea, thought or instrument) is attributed to a source or attributee; we have investigated the link between the use of personal pronouns 'I', 'WE', 'HE', 'THEY', the indefinite pronoun 'ONE' and attribution. Our assumption is that the use of such pronouns may be taken as an indication of a writer's commitment or detachment from the proposition expressed.

6.4.2 ATTRIBUTION AND PERSON DEIXIS

The first person pronoun 'I' is used in our corpus when the writer wants to claim credit for something in the discourse. Here is an example:

EX. (137)

11. To the best of my knowledge, no one has ever argued that Z is a conjunction in the construction under consideration. So the NNCH is a straw man I set up here, as, at least at first blush, this analysis seems quite compatible with the GPSG approach to the syntax of coordination and can not be apriori ruled out. (3:412)

In the above FN, the first person pronoun 'I' refers to the author himself. This pronoun is always used when the writer attributes something to himself and considers himself to be responsible for it. The same argument holds for the use of the first person plural pronoun 'WE' whose use is common in formal academic writing by a single author as in this thesis. As far as third person pronouns 'HE', 'SHE', 'THEY' are concerned they are used frequently in reporting and attributing ideas to others. In the majority of cases, as far as our corpus is concerned, such pronouns are replaced by proper names, and pronouns are only used to refer anaphorically to a proper name that has been mentioned before in the text.

The use of proper names in FNs outnumbers their use in mainstream text. To compare the frequency of proper names in FNs and in mainstream text, we randomly chose some articles from our corpus (articles 1, 3, 5, 7 and 9, see Appendix 1) and counted the number of words in all the FNs in each individual

article and also the number of times a proper name was mentioned. Then an extract, from each of the above articles, of equal length (in terms of the number of words) was chosen and the frequency of proper names in each of these extracts was counted. It was found out that the percentages for the frequencies of proper names in FNs and mainstream texts from the randomly chosen articles were (57%, 1.8%), (63%, 1.7%), (90%, 3.6%), (15%, 0.9%) and (74%, 0%) respectively.

The preponderance of proper names in FNs is probably due to the fact that one of their main functions is to provide bibliographic details of sources quoted in the mainstream text, direct the reader to other related sources or elaborate on other writers' points of view that have been touched on in the matrix text.

The use of the indefinite pronoun 'one' is significant in that its use, we believe, is neutral. That is to say, its use puts the writer on the borderline between involvement and detachment. Take the following example:

EX.(138) ⁸•Note that the (sic) our treatment of grammatical relations and subcategorization is along the lines of HPS as advocated by Pollard (1985) and Sag (1987), which necessitates revision of the relevant FCRs that subcategorizing categories to lexical categories. Accordingly, one might posit a CR which states that if the subcategorizing category is not lexical (BAR = 0] [+ v, - N, [+ SUBJECT].[3:412]

It is not only through the above mentioned devices that writers

indicate either their detachment from or involvement in what they write, but this may as well be achieved through the employment of passive constructions.

6.5 PASSIVE AND ACTIVE CONSTRUCTIONS IN FNS

In our corpus (113 FNs), we found that passive constructions are more frequently used (70%) than non-passive constructions (29%). The preponderance of passive constructions may be due to writers' attempt to detach themselves from the propositions expressed as in the following example:

Ex. (139) ⁴•It has been pointed out to us that initial [sr] may occur in casual pronunciations of a word such as syringes (pronounced [srɪnz]). [1:121]

In this FN the writers distance themselves from the proposition put forward by attributing it, through the use of the passive, to unnamed others. Notice also the use of the speculative modal auxiliary 'may' which indicates the writers' attitude towards the proposition made. We will return to this point later on. It is not only writers' wish to detach themselves from what is said that makes them employ passive constructions, but we also find that passive constructions are employed when writers refer to established methods or techniques used for measuring or calculating something as below:

Ex. (140) ⁴•Chi-square tests were employed for the statistical evaluation of the data; significance levels are .01 throughout. [2:840]

Non-passive constructions are employed when writers claim credit for an idea or point in the text. For instance in the following example, the writer is committed to the proposition made and this is manifest in the use of the first person singular pronoun 'I'.

Ex. (141) 2. I use the term SPEC to denote a position (original emphasis) which is immediately dominated by the maximal projections of a syntactic category. [7:926]

We observe that writers use non-passive constructions when discussing other writers' claims or arguments, especially when the citing writer agrees with the argument(s) put forward. This point supports Tarone et al's (1981) argument that when authors cite others' work which is not in contrast to their own, they generally use the active form of the verb. Here is an example from the data used for the present study:

Ex. (142) 7., more recent work in syntax, especially Chomsky (1981.1986), has argued that in a restrictive theory of syntax, obligatory movement transformations... must be 'motivated by the interaction of principles of grammar such as case theory and the extended projection principle. It is thus not possible to propose divergent deep and surface structures and to introduce a transformation to explain the relationship between them;.... [5:1018]

That non-active constructions are frequent in FNs is in agreement with Barber's (1962) finding that such structures are predominant in academic writing. This perhaps implies that FNs, although functionally different from matrix texts in terms of the information they present, are not structurally/ formally different from matrix texts. This finding led us to study the

occurrence of modals in FNs and to compare the findings with those reported by discourse analysts (e.g. Barber, 1962 and Swales, 1980) about other text-types.

6.6. MODALS OCCURRENCES IN FNS

The distribution of modals (e.g. may, might, would, etc.) in FNs is as follows:

Table 5

may	might	can	would	should	must	could
35%	20%	12%	10%	10%	10%	2%

It is noticeable from the table above that 'MAY' is by far the most frequently employed modal in FNs and then comes 'MIGHT'. This is in contrast with Barber's (ibid) finding that the modal auxiliary 'CAN' (6.2%) is more frequent in scientific texts than 'MAY' (5.7%). However, the differences between our finding and Barber's finding may be attributed to the nature of the academic disciplines studied (i.e. hard science in Barber's study and social sciences in our case). In other words, 'CAN' may not be as frequent in the social sciences as 'MANY', because in the social sciences nothing can be definitive. Another reason for the frequency of 'CAN' over 'MAY' in Barber's study may be attributed to the small data he used (three scientific passages of about 7,500 words, 6,300 words, and 9,600 words each).

Adams Smith (1984), studying author's comments in medical journals, reports that authorial comment is introduced by modal auxiliaries, of which may was the most frequent. Another study (Butler, 1990) dealing with qualifications in science texts (physics, botany and animal physiology) reports that the most frequent modal forms in the corpus were may (35%), can (20.2%) and will (13.7%). The author argues that may was mainly employed to indicate possibility and uncertainty.

The distribution of modals in FNs and mainstream texts is rather different from that found in instruction manuals (Swales, 1980). Swales reports that SHOULD is by far the most common modal employed and this presumably is due to the nature of any document that gives instructions. However, the fact that MAY is the most frequently employed modal may be due to the writers' caution to soften or hedge their claims as far as academic writing is concerned.

Another feature which we found frequent in FNs is the use of present and past participles. Barber (1962) reports that out of all the non-finite verb forms in his data, 47% are present participles, 34% past participles, and 19% infinitives. Barber does not offer any explanation as to why -ing form and -en forms are frequent in his data. Barber makes it clear that his aim is to describe not to explain. However, we have looked at the occurrences of present and past participles in FNs and have attempted to provide reasons why such structures are employed.

For the present participles we counted occurrences of the -ing suffix on verbs, but omitted progressive constructions like 'he was reading' and also lexicalized words like 'meaning' or 'interesting' which, whatever their origins, behave as frozen nouns or adjectives. We counted present participles used as nouns, or gerunds.

It was found that out of the total (128) of the non-finite verb forms (present and past participles and infinitives) 35 per cent were -ing forms, 35 per cent past participles and 28 per cent infinitives. The frequency of both past and present participles may be due to the fact the writers are restricted in terms of the space they are allowed in the journals they have their articles published in and therefore try to make their FNs as short and concise as possible. In other words, the employment of present and past participles may be an economy as well as a cohesion strategy on the part of some writers. Take the following example:

Ex. (143)

1. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. [1:121]

In the above FN the -ing forms are abbreviated ways of saying 'which/that contain' and 'which/that violate'.

The following is an example of a past participle:

Ex. (144) ⁴•This tree embodies the assumption, advanced in Jenkins (1975) and Williams (1984), and adopted in Gazdar et al. (1985), that....
[6:381]

In this FN, the underlined past participles are an abbreviated way of saying 'which is/has been advanced' and 'which is/has been adopted'. These two participles may be interpreted as reduced relative clauses.

6.7. SUMMARY

In this Chapter, we have argued that FNs, although functionally different from matrix texts as the information given in them is not of the same value as that given in the matrix text, yet they are, with the exception of acknowledgement and referential FNs, found to be formally not different from matrix texts. The majority of the formal features (lexical cohesion, active and passive constructions, present and past participles, verbal elements of modality and the rhetorical features (i.e. hedging) identified in FNs are also reported (e.g. Tarone et al, 1981; Barber,1962; Swales,1980 and Adams Smith, 1984) to be common in other text-types. Perhaps, it is the presence of the FN index in the matrix text, the corresponding FN number and the small type print used in FNs that help readers identify FNs (with the exclusion of referential and acknowledgement FNs) as FNs. When FNs are deprived of these features; then they lose their genre membership and it becomes difficult for discourse community members to identify them (see 6.1.-6.1.4.). How far the

findings reported on in this Chapter and the previous Chapters are utilizable in EAP (English for Academic Purposes) reading and writing programmes, we shall investigate in the following Chapter.

CHAPTER SEVEN

SUMMARY AND CONCLUSIONS

7.0. INTRODUCTION

This chapter presents a summary of the research and findings of the present work along the lines of the hypotheses put forward at the beginning of this study. It also discusses the potential pedagogical applications of these findings in ELT in general and ESP in particular. Finally, this chapter evaluates the study as a whole and puts forward suggestions for further research.

7.1. SUMMARY OF THE RESEARCH

In Chapter One, the literature on genre analysis studies is surveyed in an attempt to offer a description and a definition of FNs in the light of the survey. Also in this chapter, we suggest plausible reasons why writers employ FNs in academic written discourse. Then, we draw a distinction between FNs and other conventional structures that seem to carry out similar functions to those that FNs perform. The Chapter concludes with a description of the corpus used for the present study, its rationales and limitations.

Chapter Two reviews and critically examines some selected approaches to text and discourse analysis in an attempt to find out how such approaches would suit a study of FNs.

In Chapter Three, FNs are classified into 12 types in terms of the functions they were intended to perform. The identification of the functions was based on our intuitive judgment, functional and semantic judgments of the FNs and on the effects such FNs were intended by article writers to have on their readers. Also presented in this Chapter is an experiment reporting on writers' footnoting decisions.

The issues of cohesion and coherence relationships between M.T.E.S., FN and M.T.RE.S. and of whether FNs present 'old' or 'new' information are the concern of Chapter Four.

In Chapter Five, we investigated :

- (1) The impact of FNs on readers' reading comprehension;
- (2) FNs' utility to readers;
- (3) Readers' purposes for the consultation of FNs;
- (4) Frequency of FNs in the different academic disciplines; and
- (6) The syntactic positions of FNs.

Chapter Six dealt with textual features found to be recurrent in FNs and other text-types.

7.2. THE MAIN FINDINGS OF THIS RESEARCH

The main findings of this analysis of FNs can be summarised in the following:

- (1) Writers' employment of FNs (apart from using them for conventional academic purposes) represents an attempt on their

part to overcome the problem of the indeterminacy of their prospective audience (see 1B.2.2.-1B.2.4.). The physical non-availability of a writer's prospective audience makes it necessary for writers to predict their readers' reactions to their writings and therefore offer in FNs more information to avoid the risk of any potential over-or-under informativity for some of their readers.

(2) The information given in FNs may be 'foreground' information for some readers and simultaneously 'background' information for others. This is typical of the information presented in FNs.

(3) The main device writers employ to achieve cohesion between M.T.E.Ss, FNs and M.T.RE.Ss is lexical repetition. However, the cohesive devices between the sentences comprising a FN are reference, lexical repetition and conjunctive items.

(4) The majority of readers consult FNs not on encountering their indices but when faced by a comprehension failure in the main text or when hoping to find more details in the FN on a point of interest to them in the main text. This suggests that readers' consultation of FNs is guided by a purpose which emanates from their reading the main text (see 5.5.2.).

(5) Readers assess the importance and role of FNs against the purposes they read the FNs for.

(6) Writers' base their decision of what information could be safely footnoted on both conventional academic practices and on their assumptions about their prospective readers' background knowledge (3B.2.4.).

(7) The majority of FNs (90%) occupy sentence final position. This may be taken to suggest that writers make a consistent effort to place FNs sentence finally (see 5.7.0.). By placing FNs in sentence final position the writer is probably lessening (but not necessarily abolishing) the adverse cognitive effects of syntactic discontinuities so created on the processing of sentences within which FNs occur.

(8) Readers prefer FNs to be placed at the bottom of page rather than at end of article as the first position makes it easy for them to read the FNs without much disruption.

(9) We have empirically proved that FNs, although useful to some readers, can have adverse effects (see 5.2.5.) on reading comprehension and this confirms our hypothesis.

(10) The most recurrent function of FNs is that of elaboration (44%) and then comes referential FNs (36%).

(11) Hedging devices (i.e.verb(phrase), adverbs, prepositional phrases and attribution) are frequently employed in FNs and as a result the use of proper names (see 6.4.2.) in FNs was higher in frequency than their use in matrix text.

(12) FNs are found to be significantly more frequent in the social sciences and humanities (see 5.6.1.2.) than in pure sciences (the means were 3.21 and 1.500 respectively).

(13) Both referential and acknowledgment FNs have a standardized structure peculiar to them (see 6.2.).

(14) THE majority of the formal features reported to be common in ESP text-types (see Chapter Six) are also frequent in FNs. On the basis of this finding we argue that all the types of FNs

identified in this research share their formal features with other text types and thus are, with the exclusion of referential and acknowledgment FNs, not easily identifiable when jumbled up with excerpts from mainstream texts (see 6.1.0. - 6.1.4).

7.3. POTENTIAL PEDAGOGICAL APPLICATIONS

This section will attempt to give some possible applications of the findings of this study to the teaching of academic writing. The following possible implications of our findings can be given:

(1) Students may be given texts accompanied by FNs with the FNs' indices removed from matrix text and asked to attempt to relocate the FNs' indices at the points they belong to in main text. This exercise will help orient students towards utilising the cohesive devices available in both FNs and main text that may help them mark the FNs' place in main text.

(2) Students may be asked to write a short essay on, say, a festival that they attended and be told that their essays will be read by a close friend of theirs who attended the same festival. This exercise is meant to teach students that there is no need to elaborate, as there is much in common between them and their readers. They are only required to write a concise essay on the major events that took place in the festival. Later on the same students can be asked to write the same essay and be told that someone who did not attend this festival will be reading it. This exercise is meant to help

students know who they are writing to and how much information he/she needs.

(3) Prediction is a skill which is important for readers and writers and which should be incorporated in language teaching courses. It can be developed in students by giving them a text with FNs' indices in it but without being given the FNs and be asked to guess on the basis of the points tagged by the FN marker what the FNs are about. After doing this, they are given access to the FNs themselves and are therefore able to match their predictions with the actual contents of the FNs and on the basis of this assess to what extent their predictions are similar or dissimilar to the FNs' contents.

(4) Students may be given a short text with no hedging devices in it and then, after being taught these devices, asked to rewrite the original making definite things less definite or vice versa. This type of exercise is meant to sensitize students to the communicative functions (i.e. force) of hedging devices. Rather than the typical textbook approach of presenting lists of hedging devices according to meaning, it would be more effective to begin by classifying hedging devices according to their communicative force. After this is finished with, it is also essential to sensitize students to the signals used for expressing writer's detachment from or commitment to propositions so that they become able to distinguish between what a writer thinks, claims, or believes and what he/she says others think, claim or believe. Inability to make that distinction may lead to errors. For example, if a writer says X

claims Y some readers may misunderstand the communicative force of the verb used and take the writer as agreeing to what is expressed.

(5) Students can be taught the sense relations the conjunctive items 'however' and 'therefore' express and may be taught to anticipate what will come in the sentence that follow 'however' and 'therefore'. They may be taught that 'hoiwever' and 'therefore' impose a semantic constraint on what comes before or after them. Thus, it is not enough for students to learn the individual meanings of these conjunctive items but should also learn their semantic restrictions. That is, what relationships they express and which ones are appropriate in which context. For instance, one could present students with sentence combining exercises consisting of pairs of sentences and ask them to use a particular type of conjunct to connect them as follows:

He studied very hard. He passed. (transition)

Students can also be presented with pairs of sentences as those below and asked to use any suitable connector.

Combine the following pairs of sentences using a suitable connector.

- a. Living in a new culture is difficult. It is a valuable experience.
- b. Many people are getting divorced. Children are raised by single parents.

c. He was an illegal resident. He was deported back to his country.

Some students may use unsuitable connectors. However, through discussing the difference in meaning between the connectors used and the ones that should have been used, students can begin to see how necessary it is to choose the appropriate one(s).

(6) Students can be presented with formulaic expressions such as 'I would like to thank...' and asked to provide contexts or situations in which such expressions may be used. Set expressions are easy to learn, especially if students know them by heart and provided they are taught the contexts appropriate for them.

(7) Students may be asked to write short essays on some topic and asked to support their own arguments by quoting experts. Such exercises are meant to give them practice in guarding themselves against plagiarism by crediting what they quote to its source.

7.4. EVALUATION OF THE STUDY

To the best of my knowledge, no investigation has ever addressed the topic of this study before. The strength of this study lies in the fact that most of the evidence for the employment of FNs and their potential impact on readers' reading comprehension has been obtained empirically. The findings of this study on the whole provide evidence which

suggests that FNs have an adverse effect on reading comprehension (see 5.2.0.-5.3.2.4.). But, undoubtedly, this study could not claim that it has resolved or covered all the issues related to FNs. However, it has succeeded, I hope, in bringing out several issues related to FNs into the open where they can be debated and investigated.

7.5. SUGGESTIONS FOR FUTURE RESEARCH

There are a number of issues arising from this study that lend themselves to further research:

(1) The type of analysis carried out in the present study could be extended to FNs in other journal articles or books from a different academic discipline.

(2) A study be conducted to investigate what effects journal editors may have on writers' footnoting decisions. It may happen that some editors may send back articles to their writers and ask them to either "reduce the number of FNs used" (Dr. Thomas Corns of the English Language Dept., UWB, personal communication) or to include in the article a few FNs. The methodology for carrying out such a study may be as follows: The researcher chooses some prolific writers and follows up their articles from the moment they are sent to the publishing journal's editor and reads the editor's remarks on the article if it happens to be sent back to its author for modification or editing.

(3) It would be interesting if future research applied some technique to monitor and measure the eye-movements and eye-

fixations of readers when they interact between main texts and FNs. This may shed light on the reading process of texts accompanied by FNs.

(4) In future, it would be of immense value if the impact of utilising FNs on the speed of normal reading is investigated.

(5) It would also be interesting to give students one and the same text, one time with the FNs placed outside of it, a second time with the FN integrated into the matrix text and a third time with parentheticals located inside the matrix text to find out which of these texts readers would prefer and why ?

(6) It would be interesting if future researchers investigated the relationship between the writer and his/her readers and the impact of this on the employment of FNs. In other words, will it be the case that writers who assume greater amount of shared background knowledge with their prospective audience produce less FNs than those who do not ?

(7) Finally, future researchers may wish to investigate if there is a relationship between the number of parenthetical text insertions and the number of FNs. In other words, does the employment of a large number of FNs reduce the number of parenthetical text insertions and vice versa ?

APPENDIX (1)

DETAILS OF THE LINGUISTICS ARTICLES USED FOR THE STUDY

1. Maria, Wingstedt and Richard, Schulman (1988) 'Listeners' judgments of simplifications of consonant clusters', Linguistics, Vol. 26, pp. 105-123.
2. Ronald, Geluykems (1988) 'Five types of clefting in English discourse', Linguistics, Vol. 26, pp. 823-841.
3. Stefan, Dyla (1988) 'Quasi-comitative coordination in Polish', Linguistics, Vol. 26, pp. 383-414.
4. Gosse, Bouma (1988) 'Modifiers and specifiers in categorial unification grammar', Linguistics, Vol. 26 pp. 21-46.
5. Susan, D. Rothstein (1988) 'Conservativity and the syntax of determiners', Linguistics, Vol. 26, pp. 999-1019.
6. Robert, D. Borsley (1988) 'GPSG and Welsh clause structure', Linguistics, Vol. 26, pp. 365-382.
7. Elizabeth, Ritter (1988) 'A head-movement approach to construct-state noun phrases', Linguistics, Vol. 26, pp. 909-929.
8. Shalom, Lappin (1988) 'The semantics of 'many' as a weak determiner', Linguistics, Vol. 26, pp. 977-998.
9. W. H. Hirtle (1988) 'Some and any: exploring the system', Linguistics, Vol. 26, pp. 443-477.
10. Alice, Davison (1988) 'Operator binding, gaps, and pronouns', Linguistics, Vol. 26, pp. 181-214.

SCIENCE

Af 3c 1x 2a

Modern life is killing Pacific islanders

Ian Anderson, San Francisco

SCIENTISTS have linked the abnormally high death rate in Nauru in the central Pacific to a high incidence of diabetes on the island. Their findings suggest that increased consumption of Western "junk foods" may be partly to blame. Nauru is a tiny island near the equator with 5500 inhabitants. Australian epidemiologists who have been working on the island warned last week that the sickness plaguing Nauru could soon be repeated throughout the Pacific islands.

"Nauru is just the beginning," Paul Zimmet, director of the Lions International Diabetes Institute in Melbourne, told *New Scientist*. "There are already reports of an increase in diabetes in the Marshall Islands and American Samoa." Similar problems will arise within 10 years in the Cook Islands, Tahiti and Fiji, he said.

Diabetes often leads to other serious illnesses such as heart disease, strokes, blindness, gangrene and kidney disease. Zimmet blames many of the health problems facing the islanders on diet—especially the widespread consumption of processed food in preference to traditional food. But, in the case of diabetes, there also could be a genetic susceptibility.

Nauruan men and women over the age of 35 with diabetes are four times more likely to die prematurely than those without the disease, according to research by the Australians and the Nauru General Hospital (*Diabetes Care*, vol 11, p 305). Those who have a low tolerance of glucose, a common precursor to diabetes, are also dying earlier. Some deaths, such as those caused by kidney failure and blood poisoning, were a direct result of diabetes, while others were from diseases aggravated

by diabetes. Leaving aside accidents, 59 per cent of the people who died on the island between 1982 and 1985 were diabetics (*Journal of Epidemiology and Community Health*, vol 42, p 89). Nauruan men can expect to live 39.5 years, and women for 48.5 years. These are some of the lowest life expectancies in the world.



Western junk foods could be responsible for many of the health problems facing the islanders

The Nauruans vie with the Pima Indians of Arizona in the US for the highest rate of diabetes in the world. Both communities have adopted Western lifestyles during the past few decades, and both suffer from type 2, or non-insulin-dependent, diabetes. This is by far the most common form of the disease. One in four Nauruans has the disease, about the same rate as the Pimas.

Type 2 diabetics produce insulin—the hormone needed to convert food into energy—but their bodies can produce either too much or too little of it. Also the body is often unable to use the insulin properly. Type 2 most often strikes adults.

Half the Pima Indians aged 35 or over have the disease, slightly higher than the rate among adult Nauruans.

It is not clear how type 2 diabetes is triggered at the cellular level. Research beginning this month at the National Institute of Diabetes in Bethesda, Maryland, in the US, may provide the answer. Samples of blood and tissue taken from the Nauruans over the past decade by Zimmet and Sue Serjeantson, from the Australian National University, will go to the institute in the next few days. "We will be looking for abnormalities in insulin secretion and in the insulin receptors," said Jesse Roth, scientific director of the institute.

But the Nauruans, because they are so prone to the disease, may not be typical of type 2 diabetics elsewhere in the world. "That's one of the main questions we would like to answer," Roth said.

The Australian researchers will send lymphoblastoid cells to the institute. These cells are involved in the manufacture of insulin and DNA material. They will help to answer questions about genetic susceptibility.

The research is also expected to shed light on a controversial hypothesis called the "thrifty genotype". In 1962, an American geneticist, James Neel, suggested that isolated populations, such as the Nauruans and Pimas, have a "thrifty gene" that gives them the ability to store calories in times of plenty for sustenance during famines. Now that food is plentiful, says the theory, the thrifty gene leads to obesity and the onset of disease.

Other recent work by Zimmet and his colleagues predicts that heart disease will emerge as a major problem in islands in the Pacific.

Electrocardiographs of 818 men in Fiji showed that they had more heart abnormalities, including poor circulation, than men in Britain and Australia (*International Journal of Cardiology*, vol 19, p 27). Another study of five Polynesian islands supports the idea that modern living is having a bad effect on health (*Diabetes Research and Clinical Practice*, vol 4, p 143). When islanders received a standard test for diabetes, the levels of glucose in the blood of those with Western life styles were higher than from people who had a more traditional lifestyle.

Zimmet says it may already be too late to improve the health of many adults, but an education campaign could help children. A meeting to discuss health issues, especially the incidence of diabetes, was held last April in Western Samoa. Representatives from 16 island nations attended.

Following the meeting, the Australian International Development Assistance Bureau is planning to fund programmes to treat and prevent diabetes in the Pacific.

Vitamins linked to diabetes

A LACK of vitamin C in diabetics may cause some of the more severe complications of the disease including heart and kidney failure, blindness and gangrene. A study of 60 diabetics, at the Royal Prince Alfred Hospital in Sydney, Australia has shown that they have 70 to 80 per cent less vitamin C than people without diabetes.

"The more severe the diabetes, the greater the deficiency of vitamin C," says Dennis Yue from the department of medicine at the University of Sydney. Researchers in India made a similar finding 10 years ago but their work received little attention, says Yue. At the time, doctors blamed the deficiency on poor nutrition rather than diabetes. "Now we have found the same thing in a group of well-nourished Australians," he said.

Yue's group measured the level of vitamin C in blood plasma and urine. They have yet to prove that a deficiency of vitamin C causes the complications in diabetic

patients, but there are two ways that they could occur.

Vitamin C helps the body to maintain its supply of vitamin E which is important for preventing reactive oxygen atoms, called free radicals, from damaging body tissue. Vitamin C also helps make collagen, an important structural protein in the body. Diabetics who lack collagen are prone to disease of the blood vessels and to wounds that will not heal.

Yue found a link between a deficiency of vitamin C and collagen abnormalities in rats with diabetes (*Diabetes*, vol 37, p 359).

Yue says that, until the precise role of vitamin C in diabetes is known, it is too early to recommend it as a treatment for diabetics. The researchers are trying to determine whether diabetics are deficient in vitamin C because they cannot absorb enough of it, or because they lose too much in their urine. □

APPENDIX (2b)

Dear Colleague,

Below is a 'popular' science text. Imagine you wrote it and submitted it for publication in a journal. They have asked you to shorten the main text by taking out bits and putting these into footnotes.

You are free to transfer as much of the text to footnotes as you wish. Using a felt pen, please, 'highlight' those stretches of the text you think could 'safely' go into footnotes.

Whilst you are doing this, I shall ask you to 'think aloud' about any problems you meet and/or decisions you take and shall record you on tape.

Thank you very much for your co-operation.

Yours sincerely,
Tharwat El-Sakran
Tharwat El-Sakran
Linguistics student

APPENDIX (3a)

Dear colleague

I should appreciate it if you would do, in your leisure time, the following task..

1. In the attached article there are 10 footnotes. The number originally marking the location of a footnote in the text has been removed. Your task is to read the text and the footnotes and attempt to relate each of them to a point on the same page on which the footnote(s) appear(s). You may mark the location of a footnote in the text by inserting a number corresponding with that of the footnote you are working on.

2. Please, if possible, name any clues (used either in the text or the footnote) that you made use of to relocate the footnotes.

THANK YOU.

Yours sincerely

Tharwat El-Sakran

Tharwat El-Sakran

APPENDIX (3b)

Dear Colleague,

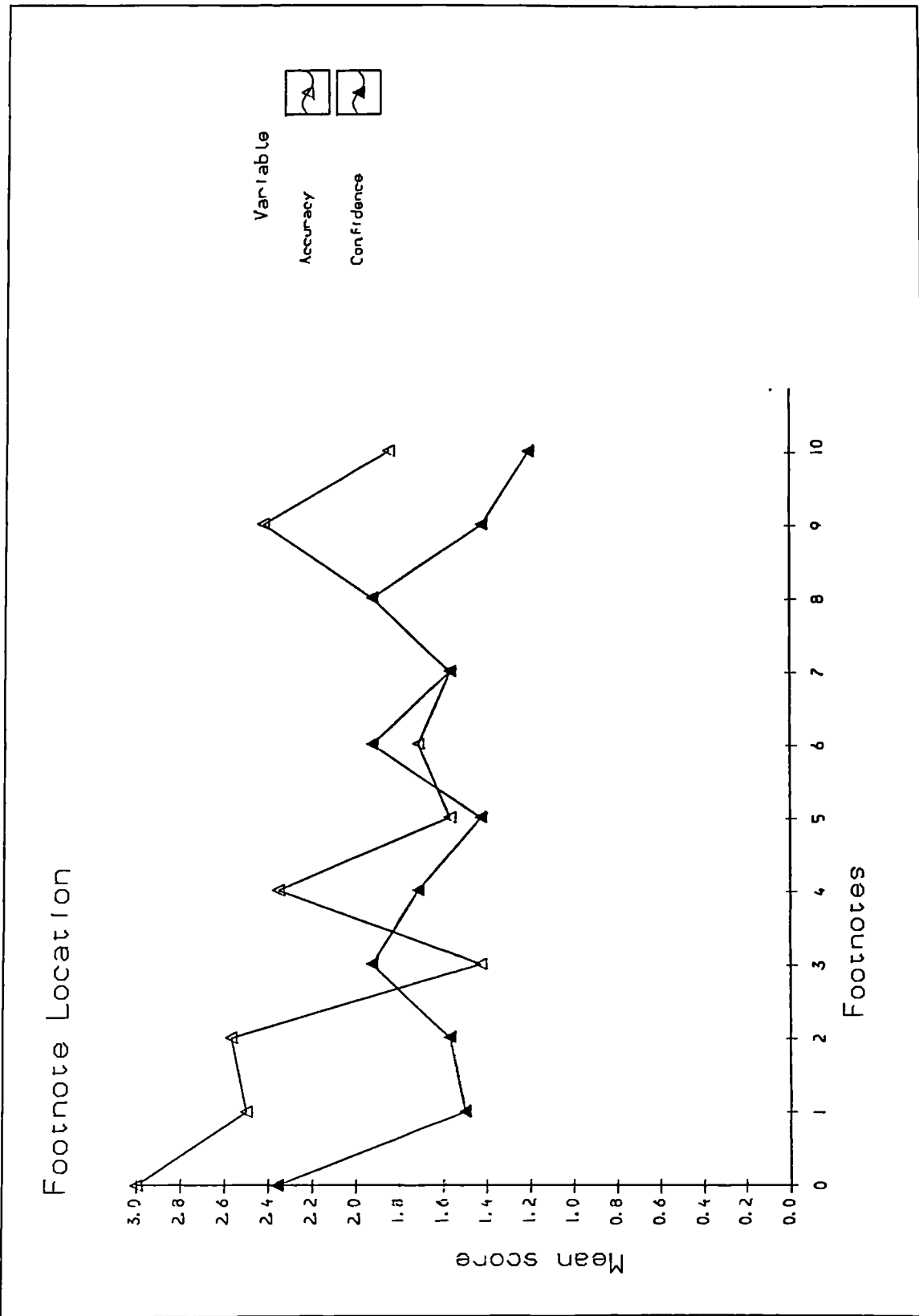
Would you please, after relocating the footnotes indices in the text, circle one of the following four options @for each footnote to show how confident you were about your relocation of the footnotes indicators in the text ?

VERY CONFIDENT CONFIDENT NOT VERY CONFIDENT NOT CONFIDENT AT ALL

ACK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FN(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THANK YOU VERY MUCH

Appendix (3c)



APPENDIX (4a)

1. All applications for full-time postgraduate courses at the college must (with the exception of the postgraduate certificate in Education and the MA course in social work) be addressed to the academic registrar.
2. With the exception of the postgraduate certificate in Education and the MA course in social work, all applications for full-time postgraduate courses at the college must be addressed to the academic registrar.
3. The biographies were so constructed that the individual items comprising them (type of background, social status, school achievement, etc.) were systematically and independently varied.
4. The biographies which represent a person's background, social status, school achievements, etc, were so constructed that the individual items comprising them were systematically and independently varied.
5. This rather surprising finding (that occupations appear to be listed in rank order for certain parts of the country but not for others, in a country-wide survey) should serve as a warning against making assumptions about how the lists are drawn.
6. The surprising finding that occupations appear to be listed in a rank order for certain parts of the country but not for others in a country-wide survey should serve as a warning against making assumptions about how lists are drawn.
7. Privately financed students (those who are not in receipt of awards) will be required to provide a satisfactory financial guarantee to the effect that they will be able to support themselves and pay all fees.
8. Students who are not in receipt of awards will be required to provide a satisfactory financial guarantee to the effect that they are able to support themselves and pay all fees.
9. You should not overdraw on your bank account (withdraw more money than you have in your account) without the bank manager's prior consent that you may do so.

10. You should not overdraw on your bank account if you have not got enough money in it without the bank manager's prior consent that you may do so.

11. If you feel your English could do with a brush up (e.g. in some specific area like academic writing) contact Mr. David Chapman of the English Language Courses for Overseas Students.

12. If you feel you need specific tuition on academic writing you may contact Mr. David Chapman of the English Language Course for Overseas Students.

13. The Examining Board considers a candidate's research potential (his/her ability to formulate and test hypotheses of his/her own and of others) a crucial factor in his/her assessment.

14. A candidate's ability to formulate and test hypotheses of his/her own and of others is a crucial factor in the Examining Board's assessment.

APPENDIX (4b)

1. All applications for full-time ----- courses at the college must (with the exception of the postgraduate ----- in Education and the MA ----- in social work) be ----- to the academic registrar.
2. With the exception of the postgraduate ----- in Education and the MA ----- in social work, all applications for full-time ----- courses at the college must be ----- to the academic registrar.
3. The biographies were so ----- that the individual items comprising them (type of -----, social status, school -----, etc.) were systematically and independently -----.
4. The biographies which represent a person's -----, social status, school -----, etc, were so ----- that the individual items comprising them were systematically and independently -----.
5. This rather surprising ----- (that occupations appear to be ----- in rank order for certain parts of the country but not for others, in a country-wide -----) should serve as a warning against making ----- about how the lists are drawn.
6. The surprising ----- that occupations appear to be ----- in a rank order for certain parts of the country but not for others in a country-wide ----- should serve as a warning against making ----- about how lists are drawn.
7. Privately financed students (those who are not in ----- of awards) will be required to ----- a satisfactory financial ----- to the effect that they will be able to support themselves and pay all fees.
8. Students who are not in ----- of awards will be required to ----- a satisfactory financial ----- to the effect that they are able to ----- themselves and pay all fees.
9. You should not ----- on your bank account (withdraw more ----- than you have in your -----) without the bank manager's prior ----- that you may do so.
10. You should not ----- on your bank ----- if you have not got enough ----- in it without the bank manager's prior -----

that you may do so.

11. If you feel your English could do with a brush up (e.g. in some ----- area like academic writing) ----- Mr. David Chapman of the ----- Language Courses for ----- Students.

12. If you feel you need ----- tuition on academic writing you may ----- Mr. David Chapman of the ----- Language Course for ----- Students.

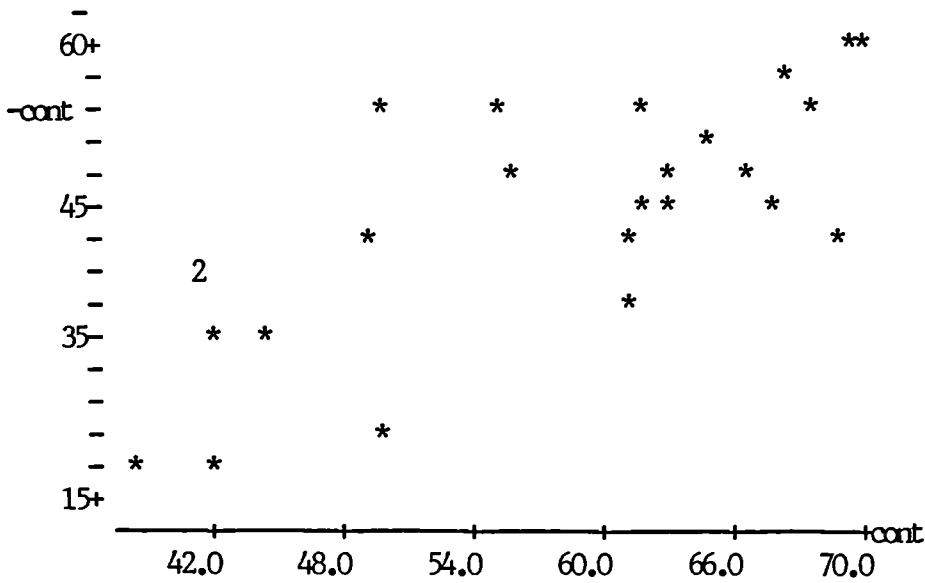
13. The Examining Board considers a candidate's research potential (his/her ----- to formulate and ----- hypotheses of his/her own and of others) a ----- factor in his/her -----.

14. A candidate's ----- to formulate and ----- hypotheses of his/her own and of others is a ----- factor in the Examining Board's -----.

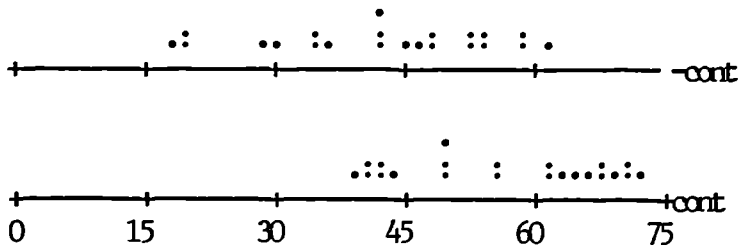
APPENDIX (4c)
INDIVIDUAL SUBJECTS' PERFORMANCE ON DISCONT. AND CONT.
SEQUENCES

<u>SUBJECTS</u>	<u>DISCONT.</u>	<u>CONT.</u>
1	45	67
2	48	66
3	54	69
4	42	61
5	30	42
6	18	42
7	53	50
8	29	44
9	19	39
10	20	50
11	35	41
12	48	55
13	58	68
14	34	61
15	54	56
16	42	49
17	59	72
18	36	41
19	42	70
20	61	71
21	52	65
22	46	63

APPENDIX (4d)



Correlations between subjects' scores on continuous and discontinuous sequences.
=0.756



Correlations of continuous and discontinuous sequences.

	N	MEAN	MEDIAN	TRMEAN	SIDEV	SEMEAN
- continuous	22	42.05	43.50	42.30	13.03	2.78
+ continuous	22	56.45	58.50	56.55	11.51	2.45

TEST OF $\mu = 0.00$ VS $\mu \neq 0.00$ 0.00 for the differences between individuals' scores.

	N	MEAN	SIDEV	SEMEAN	T=	P VALUE =
C 22	22	14.41	8.68	1.85	7.78	0.0000

⋮
⋮
⋮

Mean difference between cont. and discont. scores.

APPENDIX (5a)

Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.¹

¹We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983).

Such differences imply that when a word is borrowed by a language with less complex consonantal structures, from a language with more complex structures, some sort of simplification of the borrowed word should take place.

Q.1. What are these differences referred to here?

Language learners whose mother tongue does not allow very complex combinations of consonants tend to have difficulties in handling Swedish phonotactics. To bypass the difficulties, the language learner may apply either or both of two basic types of simplification strategies: reduction or vowel addition. Which of these the speaker will adopt often depends on the phonotactics of his mother tongue. In other words, the simplification is an instance of phonological transfer from first to second language.²

²As many studies of strategies in second-language learning indicate, there may be several factors other than L1 transfer influencing the types of phonological errors made by L2 learners. This fact has led some researchers to abandon the contrastive-analysis approach as a means of predicting such errors (for a discussion, see for example Broeelow 1983). However, phonological transfer still appears to be a very important and well-represented simplification strategy in second-language learning, although predictions of specific types of learners' errors must evidently be probabilistic rather than deterministic (see Mern n.d.).

For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters.

Q.2. What is this an example of?

The test material consists of 60 randomly ordered items. These items are grouped, as will be seen from the tables of results below, in different categories depending on cluster type to be manipulated and types of contrasting simplifications. For every item on the test tape, the listener first hears the original, unmanipulated Swedish/English word followed by two altered versions of it. The stress pattern is never altered. Main word stress falls on the same syllable as that of the original word. The clusters which are subject to simplification always belong to the stressed syllable.³

³.It would be interesting to investigate whether stress may play any significant role in the phenomenon under consideration. However, in the present experiment, we chose for methodological reasons to keep this parameter constant.

For instance, the listener hears the word stor /stu:r/, then /stu:r/ and /s tu:r/, that is, two different kinds of vowel addition. For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters. The Swedish word skola/sku:la/ 'school' may be realized as [ku:la].

Q.3. What is this an example of?

When it came to evaluations of the /str/ items, the only difference between the groups was that the English-speaking group showed stronger preferences for /sr/ than the Swedes, but the tendency is the same. How can we explain the differences between the groups? May be the English speakers do not regard /sr/ to be a very strange combination, since a similar initial cluster exists in English (but not in Swedish): /r/ shrewd. Or perhaps these types of cluster reductions actually occur in the casual speech of native speakers of English? Initial /sr/ might be regarded as acceptable simply because one has encountered it several times before.⁴

⁴.It has been pointed out to us that initial [sr] may occur in casual pronunciations of a word such as syringe (pronounced [srindz]). It should be noted, however, that this reduction is an instance of unstressed vowel deletion, and not of stop deletion. The phonological status of [sr] in for example [srindz] and of [sr] in our experimental stimuli (for example [sro:] in straw) is thus quite different, the former cluster being a result of cluster formation and the latter of cluster simplification.

Why, in that case, would this type of reduction be more common in English than in Swedish?

Q.4. What type of reduction is being referred to in this sentence?

When it came to evaluations of the /str/ items, the only difference between the groups was that the English-speaking group showed stronger preferences for /sr/ than the Swedes, but the tendency is the same. How can we explain the differences between the groups? May be the English speakers do not regard /sr/ to be a very strange combination, since a similar initial cluster exists in English (but not in Swedish): /r/ shrewd. Or perhaps these types of cluster reductions actually occur in the casual speech of native speakers of English? Initial /sr/ might be regarded as acceptable simply because one has encountered it several times before. Why, in that case, would this type of reduction be more common in English than in Swedish? Certain phonetic differences in the pronunciation of /r/ in the two languages may be relevant. Perhaps English /r/ displays features which can contribute to enabling stop deletions to pass undetected by the listener.⁵

⁵. It has been brought to our attention that in English, /r/ immediately following /t/ or /d/ is phonetically different from /r/ in other consonantal contexts (such as /kr/ and /pr/), being a fricative rather than an approximant. The varying acoustic features of /r/ might thus be expected to have consequences perceptually and perhaps influence listeners' evaluations of phonologically analogous omissions. We have not, however, specifically controlled our experiment stimuli for such possible influences and therefore cannot address this issue any further.

But in deleting the stop, clusters such as /skr/ and /str/ will merge, thus increasing the chance of ambiguous homonymy.

The conjunction, 'but', relates this sentence to the one before it.

Q.5. What was the sentence before this one about?

The English-speaking group showed preference for deletions of the second rather than the first consonant (as /skr/--/sr/). . This preference was 'unexpected' or 'unlikely' in the sense that it does not reflect a well-represented simplification in any of the contexts discussed above: Thus it has not been observed in the diachronic development of the Indoeuropean languages and is to our knowledge not common in either first- or second-language learning. In order to explain this preference, we therefore had to look elsewhere; one of our hypotheses regarded the possible occurrence of this type of simplification in the casual speech of speakers of English. The reduction is favored because it may occur in informal speech styles.⁷

7. We are not unaware of the fact that consonant-cluster reductions in casual speech need not be a matter of complete deletions of segments. There may also be a range of intermediate phonetic forms, where traces of a reduced consonant are found. The scope of the present study is, however, restricted to consonant-cluster simplification as a discrete, phonological phenomenon. The problem of phonetically partial reductions is therefore not taken under consideration here.

However, such assumptions must be supported by relevant evidence, but facts about phonological processes in informal speech styles are not easily found.

Q.6. What are these assumptions referred to here?

Deletions of segments in fast, casual speech of adult speakers is a neglected area of research in linguistics.⁹

⁹. In spite of laudable efforts by, for example Zwicky (1972), Dressler (1973,1975), Stampe (1973), and others, extensive and systematic accounts of casual speech processes are as yet not at hand.

This is very unfortunate, since such processes should evidently be accounted for in any theory of linguistic behavior, particularly in phonological theory and in theories of sound change.

Q.7. What does the underlined clause refer to?

APPENDIX (5b)

Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for. For comparison, there are languages where such restrictions are much more severe, such as Finnish, where only one consonant is permitted initially or finally.

Such differences imply that when a word is borrowed by a language with less complex consonantal structures, from a language with more complex structures, some sort of simplification of the borrowed word should take place.

Q.1. What are these differences referred to here?

Language learners whose mother tongue does not allow very complex combinations of consonants tend to have difficulties in handling Swedish phonotactics. To bypass the difficulties, the language learner may apply either or both of two basic types of simplification strategies: reduction or vowel addition. Which of these the speaker will adopt often depends on the phonotactics of his mother tongue. In other words, the simplification is an instance of phonological transfer from first to second language.

For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters.

Q.2. What is this an example of?

The test material consists of 60 randomly ordered items. These items are grouped, as will be seen from the tables of results below, in different categories depending on cluster type to be manipulated and types of contrasting simplifications. For every item on the test tape, the listener first hears the original, unmanipulated Swedish/English word followed by two altered versions of it. The stress pattern is never altered. Main word stress falls on the same syllable as that of the original word. The clusters which are subject to simplification always belong to the stressed syllable.

For instance, the listener hears the word stor /stu:r/, then /stu:r/ and /s tu:r/, that is, two different kinds of vowel addition. For instance, learners of Swedish with Finnish as their mother tongue tend to reduce initial clusters. The Swedish word skola/sku:la/ 'school' may be realized as [ku:la].

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Why, in that case, would this type of reduction be more common in English than in Swedish?

Q.4. What type of reduction is being referred to in this sentence?

When it came to evaluations of the /str/ items, the only difference between the groups was that the English-speaking group showed stronger preferences for /sr/ than the Swedes, but the tendency is the same. How can we explain the differences between the groups? May be the English speakers do not regard /sr/ to be a very strange combination, since a similar initial cluster exists in English (but not in Swedish): /r/ shrewd. Or perhaps these types of cluster reductions actually occur in the casual speech of native speakers of English? Initial /sr/ might be regarded as acceptable simply because one has encountered it several times before. Why, in that case, would this type of reduction be more common in English than in Swedish? Certain phonetic differences in the pronunciation of /r/ in the two languages may be relevant. Perhaps English /r/ displays features which can contribute to enabling stop deletions to pass undetected by the listener.

But in deleting the stop, clusters such as /skr/ and /str/ will merge, thus increasing the chance of ambiguous homonymy.

The conjunction, 'but', relates this sentence to the one before it.

Q.5. What was the sentence before this one about?

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observed in the diachronic development of the Indoeuropean languages and is to our knowledge not common in either first- or second-language learning. In order to explain this preference, we therefore had to look elsewhere; one of our hypotheses regarded the possible occurrence of this type of simplification in the casual speech of speakers of English. The reduction is favored because it may occur in informal speech styles.

However, such assumptions must be supported by relevant evidence, but facts about phonological processes in informal speech styles are not easily found.

Q.5. What are these assumptions referred to here?

Deletions of segments in fast, casual speech of adult speakers is a neglected area of research in linguistics.

This is very unfortunate, since such processes should evidently be accounted for in any theory of linguistic behavior, particularly in phonological theory and in theories of sound change.

Q.6. What does the underlined clause refer to?

APPENDIX (6a)

Dear Colleague,

Please read the text below and while doing so mark with a pen or pencil the point or points in the text where you think you need more information or elaboration.

Thank you for your co-operation

MODERN LIFE IS KILLING PEOPLE

Scientists have linked the abnormally high death rate in Nauru to a high incidence of diabetes. Their findings suggest that increased consumption of Western "junk foods" may be partly to blame. The seriousness of the situation is that diabetes often leads to other serious illnesses such as heart disease, strokes, blindness, kidney failure and gangrene. Naurun men and women over the age of 35 with diabetes are four times more likely to die prematurely than those without the disease.

The Nauruans vie with the Pima Indians of Arizona in the US for the highest rate of diabetes in the world. Both communities have adopted Western lifestyles during the past few decades and both suffer from type 2, or non-insulin-dependent, diabetes. This is by far the most common form of the disease. One in four Nauruans has the disease, about the same rate as the Pimas.

APPENDIX (6b)

Dear Colleague,

Please read the text below and answer the questions that follow it. Please do not consult a dictionary or anything else. If you do not know the answer to any question simply write 'I do not know'.

MODERN LIFE IS KILLING PEOPLE

Scientists have linked the abnormally high death rate in Nauru to a high incidence of diabetes. Their findings suggest that increased consumption of Western "junk foods" may be partly to blame. The seriousness of the situation is that diabetes often leads to other serious illnesses such as heart disease, strokes, blindness, kidney failure and gangrene. Naurun men and women over the age of 35 with diabetes are four times more likely to die prematurely than those without the disease.

The Nauruans vie with the Pima Indians of Arizona in the US for the highest rate of diabetes in the world. Both communities have adopted Western lifestyles during the past few decades and both suffer from type 2, or non-insulin-dependent, diabetes. This is by far the most common form of the disease. One in four Nauruans has the disease, about the same rate as the Pimas.

1. Where is Nauru ?

2. What is 'gangrene' ?

3. What does type 2 or non-insulin-dependent diabetes mean ?

APPENDIX (6c)

Dear Colleague,

Please read the following text and answer the questions following it.

Thank you for your co-operation.

MODERN LIFE IS KILLING PEOPLE

Scientists have linked the abnormally high death rate in Nauru¹ to a high incidence of diabetes. Their findings suggest that increased consumption of Western "junk foods" may be partly to blame. The seriousness of the situation is that diabetes often leads to other serious illnesses such as heart disease, strokes, blindness, kidney failure and gangrene.² Naurun men and women over the age of 35 with diabetes are four times more likely to die prematurely than those without the disease.

The Nauruans vie with the Pima Indians of Arizona in the US for the highest rate of diabetes in the world. Both communities have adopted Western lifestyles during the past few decades and both suffer from type 2, or non-insulin-dependent, diabetes.³ This is by far the most common form of the disease. One in four Nauruans has the disease, about the same rate as the Pimas.

FOOTNOTES

1. Nauru is a tiny island in the central pacific with 5500 inhabitants.
2. The term 'gangrene' refers to cases when a part of a person's body decays because the supply of blood to it has stopped. It is most often the case that when gangrene sets in a part of a person's body, this part has to be amputated.
3. Type 2 diabetes produce insulin- the hormone needed to convert food into energy- but their bodies can produce either too much or too little of it. Also the body is often unable to use the insulin properly. People suffering from this type need not be injected with insulin if they follow a strict diet.

Questions

1. What made you exit from text to read footnote 1 ?
2. Do you find FN 1 useful ? Why ?
3. What made you decide to read footnote 2 ?
4. Do you find it useful ? Why ?
4. Is the information given in footnote 3 new to you ?
5. Was it the FN index that made you exit from text to read the FN or something else ?

APPENDIX (7)

Dear Colleague,

Would you please answer the following questions for me.

1. What course are you doing ?

.....
.....

2. How often do you come across footnotes when reading books or articles in your specialization ?

Always Often Sometimes Occasionally Never

3. How often do you read them ?

Always often Sometimes Occasionally Never

4. Do you always often sometimes occasionally never read the footnote right through from start to end ?

5. What makes you decide to read the footnote or skip it ?

.....
.....
.....
.....
.....
.....

6. Do you always often sometimes occasionally never find them useful ?

7. What is it that makes a particular footnote useful ?

.....
.....
.....
.....
.....
.....

8. Which of the following locations of footnotes do you prefer ?

a. Footnotes printed at the bottom of the page

or

b. Footnotes printed at the end of the article, chapter or book. Why ?

.....
.....
.....

THANK YOU VERY MUCH FOR YOUR CO-OPERATION

APPENDIX 8

Dear Colleague,

Below are 10 stretches of texts. Some of these stretches are footnotes and some are extracts from main texts. Would you please read them and mark the ones you identify as footnotes by inserting the abbreviation 'FN' next to it and the ones that are not FNs by the word 'TEXT'.

I should appreciate it if you would mention any clues that might have helped you make the distinction.

1. Rules for how consonant sequences may be structured are part of phonotactic restrictions, and such restrictions may, as is well known, vary from language to language. It is characteristic for the Germanic languages that the restrictions on combinations of consonants are relatively few; quite long and varied consonant sequences initially, medially, and finally in words are allowed for.

2. Vowel addition as a means of adapting loan words is also commonly represented in Turkish. Consonant clusters in foreign borrowings are frequently simplified by the addition of a vowel either before or within an initial cluster: English steam > istim; French sport > sipor; Arabic ism > isim 'name' (Lewis 1967:9).

3. We are aware of the fact that this restriction is not without exceptions, but refers to the canonical phonotactic patterns in Finnish. There are in contemporary Finnish a considerable number of loan words and slang words containing consonant clusters violating the basic morpheme-structure conditions. See for example Suomi (n.d.); Karlsson (1983).

4. As many studies of strategies in second-language learning indicate, there may be several factors other than L1 transfer influencing the types of phonological errors made by L2 learners. This fact has led some researchers to abandon the

contrastive-analysis approach as a means of predicting such errors (for a discussion, see for example Broselow 1983). However, phonological transfer still appears to be a very important and well-represented simplification strategy in second-language learning, although predictions of specific types of learners' errors must evidently be probabilistic rather than deterministic (see Menn n.d.).

5. Vowel addition is considered by both groups to be a better simplification of initial consonant clusters than is reduction.

6. In spite of laudable efforts by, for example Zwicky (1972), Dressler (1973,1975), Stampe (1973), and others, extensive and systematic accounts of casual speech processes are as yet not at hand.

7. I am grateful to Sidney Greenbaum for giving me the chance to use these data.

8. Chi-square tests were used for the statistical evaluation of the data; significance levels are .01 throughout.

9. An interesting discussion of the distribution of both types of Polish reflexives can be found in Kardela (1982).

10. For a discussion of this term, see Guillaume 1984.

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