A CONTRASTIVE STUDY OF THE RHETORICAL STRUCTURE EMPLOYED

IN ENGLISH TEXTS BY NATIVE SPEAKERS OF ENGLISH

AND NATIVE SPEAKERS OF SPANISH

by

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ABSTRACT

A COMPARATIVE STUDY OF THE RHETORICAL STRUCTURES EMPLOYED

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It has often been observed that students of English as a second language not only speak with a foreign accent but write with a distinctively foreign accent as well. Two apparently conflicting theories have been proposed to account for both success and failure in the acquisition of standard written English rhetorical patterns at the discourse level. On the one hand, Kaplan (1966) claims there is negative transfer of culturally based rhetorical norms from the first language into rhetorical practices in the second. On the other hand, Cummins (1980) points to positive transfer of cognitive/academic language

proficiency. In other words, there is controversy as to whether the rhetorical choices of a second language writer are determined by his or her first language or by his or her cognitive/academic level.

The purpose of this study is to investigate systematically the extent to which each of these factors operates in the production of a second language text. To do this, the study employs Rhetorical Structure Theory (Mann and Thompson 1986) to examine 64 essays written by foreign born Hispanic students currently studying in the U.S. at the undergraduate and graduate levels, by native born English speakers at comparable academic levels, and by model writers whose texts are included in a freshman English composition textbook.

The results of the study indicate that there are clear correlations between rhetorical skills and both first language and academic/cognitive level. Further, it is found that specific skills correlate with each. While in matters of overall relational complexity, academic/cognitive level, not first language, is the chief predictive factor, in matters of embedding and extent of structural development, a significant correlation with first language is found.

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CHAPTER ONE

INTRODUCTION

1.0 The problem

It has often been observed that students of English as a second language not only speak with a foreign accent but write with a distinctively foreign accent as well. Until now the prevailing wisdom has been that writers from other cultures bring with them a culturally based rhetorical style which may conflict, or at least, contrast, with that of English, and, as a result, produce texts which to the English reader are enigmatic and difficult to follow. However, foreigners are not the only writers who produce difficult-to-follow texts. Native speakers of English writing at the freshman level in many cases also produce nonstandard texts. To help writers from both groups bring their writing into line with academic standards, the precise factors motivating the rhetorical anomalies observed in such texts must be determined. In order to address this problem, this dissertation focuses on expository texts written in English by native speakers of English and native speakers of Spanish at both the college freshman and college graduate level, in order to determine the degree of influence that native language and academic level may have on student rhetorical style. The method of text analysis employed is based on Mann and Thompson's Rhetorical Structure Theory.

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1.1 Previous research

In recent years a number of researchers have sought to identify the source of rhetorical structure anomalies by uncovering the differences between the rhetorical patterns of the English language and those of other languages. In 1966, Kaplan described what he believed to be identifiable elements of first language rhetorical transfer at the discourse level. At that time, he produced contrastive diagrams of Oriental, Semitic, Romance, Russian and English discourse design which relied on his central premise that "speakers of a language are users of a distinctive set of rhetorical devices" (James 1980:121). He claimed that this rhetorical preprogramming was responsible for problems in ESL compositions: "A fallacy of some repute and some duration is the one which assumes that because a student can write an adequate essay in his native language, he can necessarily write an adequate essay in a second language" (Kaplan cited in Croft, 1980:401). At the same time, however, Cummins (1980) proposed a different explanation, claiming that there exists a "cross-lingual dimension of language proficiency" which is transferable and contributes positively to a learner's academic/cognitive level performance in a second language.

Since Kaplan's early work, most research has been done based on the premise that first language rhetorical transfer bears chief responsibility for structural anomalies in second language text production. Some researchers (Kumpf 1986; Santiago 1970; Santana-Seda 1974) have tried to characterize and define these anomalies, working especially from assumptions similar to the one expressed by Kaplan in 1972, that "each

language and culture has a paragraph order unique to itself" (63). However, at least one researcher has challenged this view. In 1985, Songren Cui claimed that if a similarity could be seen between ESL texts produced by students of English as a second language and texts of beginning native writers of English, it would support the notion that some abnormalities in rhetorical structure that have been called transfer errors may in fact be developmental errors, errors committed by all beginning writers, regardless of language. As part of his research he investigated didactic texts prescribing the norms of Chinese discourse. In one such text, Cui found a description of text organization that matched Kaplan's spiral diagram of Oriental prose. The textbook portrayed it as "turning round and round like a wheel." However, the surprising fact was that the textbook offered it as a negative example of immature writing, roundly condemning it (Cui 1985:24).[1]

In fact, Chinese rhetorical norms as described in prescriptive textbooks were found in many respects to be similar to those of English. Cui claimed that in light of this, the anomalies described by Kaplan in the writings of Chinese learners of English turn out to be nothing more exotic than signals of an underdeveloped writing style.. Cui states in his conclusion:

> These findings, to a certain extent, disprove Kaplan's hypothesis about cultural thought patterns, and suggest that interference, or negative transfer, from the first language might not always be the decisive factor in the organizational errors found in ESL/EFL compositions. (128)

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[1] Of course, although it is a rhetorical pattern proscribed by the textbooks, the fact that it is mentioned in print at all indicates that it does occur with some frequency in the culture.

Cui's research itself focuses on producing an accurate contrastive description of English and Chinese discourse at the macro-level. He uses Rhetorical Structure Theory (Mann and Thompson 1988) to describe "the discernible organizational properties of natural texts" (48-49). In addition to using prescriptive pedagogical texts from Chinese and English to define the languages' respective rhetorical norms, Cui also uses elicited texts written by educated native speakers in their respective languages, which he analyzes using RST to outline the schemas of the texts at the discourse level. The results of his analysis indicate that "there are no significant differences between English and Chinese expository rhetorical structures at the macro-discourse levels both in ideal prescription and actual practice" (128). He goes on to conclude that "interference, or negative transfer, from the first language may not be a decisive factor in the organizational errors found in ESL/EFL compositions" (128).

Further work in contrastive rhetoric was done by Lorraine Kumpf in 1986. Also, using Mann and Thompson's Rhetorical Structure Theory, Kumpf researched hierarchical relations in narratives created by learners of English whose native language was either Japanese or Spanish. She sought to substantiate factors of cohesion used by non-natives and to inventory interclausal relations employed by speakers at different levels of proficiency. She finds that the relations Reason, Result and Contrast are most likely to be signaled by high-level speakers. Moreover, she finds propositional relations of preference for Spanish speakers (359), but leaves conclusions to further work. She also addresses the question of "discourse-level transfer" (361), and attributes differences in rhetorical

structure observed between the Japanese and the Spanish ESL students to transfer from the first language of each student.

Other work has specifically contrasted the rhetoric of expository writing in Spanish and English. Olga Santana-Seda (1974) researched patterns of interrelationships among sentences in essays written in English and in Spanish by native speakers of both, seeking to chart styles of development, direction of modification and tolerance of digression. She also sought to uncover differences between Spanish and English conventions in the occurrence of logical relationships. She notes a tendency of English texts not to repeat "methods of development" (termed rhetorical relations in the present study). She also notes a preponderance of "coordinate" relations (which in this study are non-hierarchical, non-logically dependent relations) in the Spanish texts and a tendency to write significantly longer sentences. Her work on Spanish is most similar in focus to the work of Cui on Chinese, but it was done without the benefit of Rhetorical Structure Theory. Some of her findings parallel those of this study and will be described in greater detail in chapter 5.

Before Santana-Seda, in 1970, Ramon Luis Santiago investigated the logical relations between sentences in paragraphs written by students in English and Spanish. By doing this he expected to find support for observations such as the one made by Kaplan, "Much greater freedom to digress or to introduce extraneous material is available in French, or in Spanish, than in English" (1980). However, he failed to find dissimilarities in relations and in sequences of relations, but felt this was due to the background of his

subjects—bilingual Puerto Ricans who, he felt, had been linguistically anglicized nearly from birth.

Although these studies all work at the discourse level to investigate contrasting rhetorical patterns across languages, they provide conflicting explanations for the anomalies found in English texts produced by non-native speakers of the language. However, all have in common that they assume the possibility of negative rhetorical transfer.

In contrast, the work of Cummins regarding the second language learner's level of cognitive development starts from very different assumptions. In his article of 1980, Cummins claims that "the development of proficiency in L2 is partially a function of the level of L1 proficiency . . . because L1 and L2 CALP (cognitive/academic language proficiency) are manifestations of the same underlying dimension" (179). This dimension he defined as "those aspects of language proficiency which are closely related to the development of literacy skills in L1 and L2" (177). A diagram illustrating how Cummins situated CALP in the overall picture of academic success is reproduced in figure 1.1 below.

Cummins proposes that to the extent that instruction in the first language has successfully cultivated cognitive/academic proficiency in the first language, "transfer of this proficiency" to the second language will occur. He also predicts that "older learners, whose CALP is better developed, will acquire cognitive/academic L2 skills more rapidly than younger learners" (179). Whereas Kaplan's work speaks of an often negative, or

```
Relationship of CALP
[cognitive/academic language proficiency]
to Language Proficiency,
Cognitive and Memory Skills and
Educational Progress


                    CALP


Language                        Cognitive and
Proficiency                     Memory Skills



            Major Determinant of
            Educational Progress
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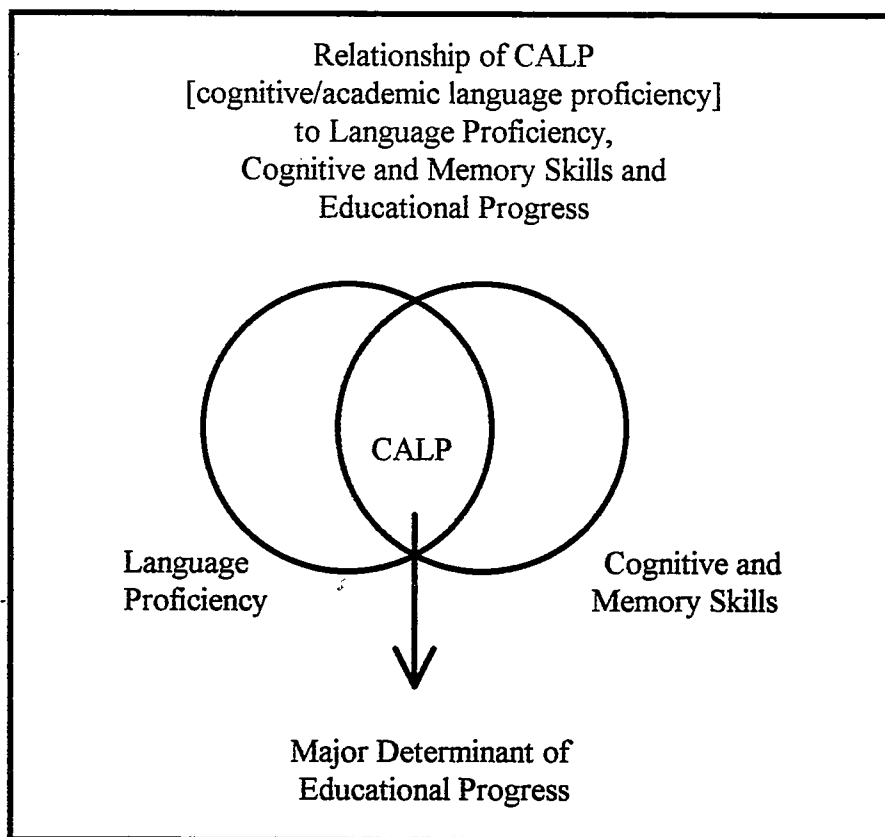
Figure 1.1. Relationship of CALP to language proficiency, cognitive and memory skill and educational progress (Cummins 1980:178).

undesirable transfer from one culturally motivated rhetorical style to another, Cummins speaks of a positive and desirable transfer of cognitive skills from one language environment to another.

In the previous research we find two claims regarding transfer at the discourse level: one, a negative transfer of foreign rhetorical style, and the other, a positive transfer of cognitive/academic proficiency. It must be kept in mind, however, that transfer of

foreign rhetorical style may not always be negative. Neither will the transfer of CALP be always positive; for if one can transfer a proficiency, certainly one can transfer a deficiency as well. The contrastive analysis hypothesis provides a larger view: "Where two languages [are] similar, positive transfer [will] occur; where they [are] different, negative transfer, or interference, [will] result" (Larsen-Freeman and Long 1991:53).

1.2 Research questions

The current investigation is constructed to research these claims, that is, to discover to what extent and in what respects either the writer's first language or the writer's developmental level influences the production of a text. The study focuses on contrasting the rhetorical features of English texts produced by native speakers of English at different levels of cognitive development against features of English texts produced by native speakers of Spanish at comparable levels.

This study addresses three general questions:

1.   Can significant patterns be observed in the rhetorical structure choices made by a writer?

These will be researched in terms of:

- the writer's use of individual relations

- the writer's use of common relational features

- the text's rate of overall relational complexity

- the text's depth of embedding

- the frequency of recurrence of relations

- the writer's ordering of relations

2. To what extent can a writer's preferences in these areas be attributed to his or her native language?

3. To what extent can a writer's preferences in these areas be attributed to his or her level of cognitive development?

1.3 The methodology

The methodology used to address these questions is Rhetorical Structure Analysis, as developed by William Mann and Sandra Thompson. Since its introduction in the mid-80's, this particular methodology has proven useful in a number of research projects, among them, those of Cui and Kumpf, described in section 1.1.

Rhetorical Structure Theory (RST) describes the relations that hold between parts of a text. It describes these relations in functional terms, apart from any grammatical or lexical signals which may be present (1988:244). RST reflects Mann and Thompson's conviction that propositional relations constitute a "major aspect of the organization of natural text" (243). The methodology thus addresses relations at the micro-level, relations that hold "between two non-overlapping text spans" (245), usually clauses, as well as at the macro-level, in terms of schema, which they define as "abstract patterns consisting of a small number of text spans, a specification of the relations between them, and a specification of how certain spans (nuclei) are related to the whole collection" (246-247).

This methodology, then, gives the researcher a way to note rhetorical structure patterns on both the smallest and the grandest scale.

Relations charted by Mann and Thompson include, but are not limited to, the following:

evidence, motivation, concession, background,

circumstance, solutionhood, elaboration,

purpose, non-volitional result, means, restatement,

sequence, contrast, joint. (1990:70)

Basic to the understanding of this method of analysis are the notions of Nucleus and Satellite. Mann and Thompson state that the most widespread type of structural relation to be found in natural text is "asymmetric," meaning that one member of the pair of related text spans is "more central," while the other is "more peripheral" (1990:44). The more central one, the nucleus, will be linked with other text spans in a kind of relational chain or network which ultimately constitutes the text. These relations are graphically represented by horizontal lines (which portray the text spans, nucleus and satellite) linked by an arc (which indicates the particular relation that holds between them) and a vertical line arising from the nuclear span (which provides a point of summary and linkage with other text spans). For example, the relation that holds between the following two text spans (volitional cause) can be illustrated in the following way:

1 - She took 3 Tylenol a few minutes ago.

2 - She's had a headache all day.

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volitional cause

        ___
       /   \
      |     \
   ___|      \___
    1       2
```
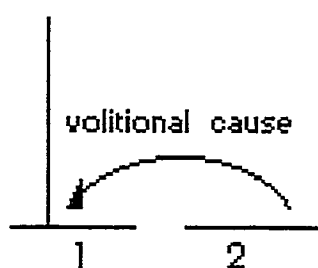
Songren Cui used RST to compare the writings of Japanese and Spanish native speakers because it operates in the domain of "conceptual units rather than literal text portions or syntactic structures" (50). For this reason, it is particularly effective for cross-language comparison. Since it is on the conceptual level, Rhetorical Structure Analysis is neither text-type nor language specific. It does deal with structure, but at the cognitive, rather than the syntactic, level. Furthermore, Mann and Thompson themselves state that in a sense "all of RST is pre-realizational, since it makes statements about how such meanings and intentions are structured and combined, but not about how they are realized" (Mann and Thompson 1990:45). If we consider syntactic structure as the body of the conceptual, we can appreciate RST as a methodology that gives us access to the thought patterns that underlie the text, patterns in part influenced by culture, and patterns perhaps also indicative of cross-cultural cognitive resemblances. RST, then, gives us working access to the cognitive/cultural level Kaplan alluded to in his work.

The body of data used in this project is drawn from two sources: first, compositions written in English by native speakers of Spanish enrolled in college-level ESL composition courses, and second, compositions written in English by native speakers

of English enrolled in college-level English composition or linguistics courses. These compositions belong to the same genre of academic expository writing and are designed to accomplish similar tasks. In addition to these primary sources, published model texts are analyzed which have been provided as examples of good writing for students of English.

The text information, along with the writer's academic level and native language, is coded to accommodate processing both by Excel, a standard computer spreadsheet program, and by VARBRUL, a computer program created to assist a researcher who, in the words of Gregory Guy, "begins with a set of statistical observations about the frequencies of the different variants in different environments, and on the basis of those observations must discern which factors promote the application of the rule, hinder it, or are irrelevant to it, as well as what the order of importance of the various factors is" (61). First, the information deemed most relevant is processed through Excel to chart the distribution of specific rhetorical features and note patterns that emerge relating these to the writers' native language and academic level. After the distribution is charted, the information is processed through the more complex computations of VARBRUL to determine probabilities of occurrence and the relative significance of various textual and extratextual factors.

1.4 Limitations

The scope of this study is limited to students of English as a second language whose first language is Spanish and whose secondary and post-secondary coursework

took place entirely outside of the continental United States. The study does not, however, control for the Hispanic writer's country of origin. This is due to the fact that it is difficult to find a population of college level non-native Hispanic writers who share a single country of origin. While in the Dallas-Forth Worth Metroplex the population of lower level ESL classes offered through continuing education programs includes a large number of students from Mexico, the Hispanic population in the undergraduate and graduate level ESL writing courses offered for college credit is smaller and often includes a significant number from South America.

This project also limits itself to the study of expository text and does not address features of narrative. This limitation arises from the fact that expository writing is the genre in which non-native students must gain the greatest degree of proficiency for the sake of their current academic coursework as well as their subsequent professional careers. Although the study controls for genre, it does not control for topic. For the most part, the sample texts were brief, one or two paragraph pieces, expressing an opinion or making a point on a topic of common knowledge.

The extratextual data concerning each student do not include physical age, exact number of years of study, career choice or major area of concentration, because this information was not available in all cases. Instead, the writer's academic level is designated simply as either undergraduate or graduate. However, the undergraduate texts were drawn entirely from freshman level classes and are therefore unlikely to include third or fourth year undergraduates.

1.5 Organization of the dissertation

This dissertation is organized in the following manner. Chapter 1 presents the problem, previous research, research questions and research methodology. Chapter 2 presents a survey of the literature in three parts. First, it provides a background on the work done in contrastive rhetoric. Second, it relates such work and the theories of noted text linguists to the Rhetorical Structure Theory of Mann and Thompson upon which this study depends. Third, it presents a complete set of definitions of the 24 rhetorical relations employed in this investigation. This chapter is intended to serve as both a conceptual background and a practical reference for the concepts and terms employed in this research.

Chapter 3 presents the research methodology used in this project. In this chapter, the collection of data, the process of rhetorical analysis itself, and the application of computer assisted analysis are described in detail.

Chapter 4 presents the results of the study. The results are arranged according to the research questions outlined in section 1.2 above. Findings are discussed which reveal both negative transfer of rhetorical preferences from the student's culture and/or native language, and positive transfer of cognitive/academic language proficiency.

Chapter 5 presents the conclusions drawn from these findings, along with implications and recommendations for future research and professional practice.

CHAPTER TWO

THEORETICAL BACKGROUND

2.0 Contrastive rhetoric studies

Among the contrastive rhetoric studies carried out in the past twenty-five years, there have been research perspectives ranging from intuitive, holistic approaches to empirical, linguistic approaches. In this literature review, the studies involving a more intuitive approach, that is, analyses depending upon the judgment of trained or experienced readers, are discussed first. These are followed by a discussion of more empirical studies, whose conclusions rest upon the charting of "verifiable linguistic features" (Purves 1988:17). Following this, Mann and Thompson's Rhetorical Structure Theory is introduced. In the last half of this chapter, each of the 24 rhetorical relations upon which the present study depends is defined.

2.1 Holistic approaches

The term "contrastive rhetoric" was first used by Robert Kaplan in 1966 in a study of over 600 student essays written in English as a second language. In that study he described differences in the ways in which native speakers of English and speakers of English as a second language organized and presented material in written texts. Through

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observations made regarding the rhetorical structuring of these texts, he drew conclusions about the students' first language rhetorical norms which he believed had influenced the shaping of the texts. His work, though "more intuitive than scientific" (Leki 1991:123), both provoked and inspired further study in contrastive rhetoric for decades to come.

Since that time a number of contrastive studies have been conducted. In 1985 Mohan and Lo addressed the issue of developmental factors being responsible for errors seen in ESL writings and stated early on in their article that they believe language transfer actually helps when it comes to writing. The declared purpose of their study was "to examine factors which may affect second language learners' competence in the organization of written academic discourse in English" (515). They asked such questions as:

- Are there universal patterns of development in the ability to produce academic discourse?
- Is the discourse organization of academic writing in English culture-specific, or is it universal?
- Are the underlying structures of academic knowledge culture-specific or universal? (516)

Mohan and Lo drew their conclusions from a review of the research of others and from their own surveys of 30 Chinese students' perceptions of their personal experience in learning to write both in English and in Chinese. They summarized their study by noting that the rhetorical strategies that students used in their first language tended to be as poor as the ones employed in their second. From this they concluded that first language interference is not a significant influence at the rhetorical level. They conclude, "What may

be more critical is the student's general level of development in composition" (517). In their final remarks, however, they state that in any study involving issues of organization of written academic text, both the transfer of national rhetorical norms and the limits of each student's developmental level must be considered.

Allan Purves (1986) sought to determine what might be the "national styles of modes of writing." To do this he collected his data sample from what he terms an "average" population writing in their language of instruction in Australia, England, Finland, Ivory Coast, Italy, Israel, Japan, Nigeria, New Zealand, Scotland, Thailand, and the United States. To conduct the study, he also had to establish what he called "a standardized set of descriptors that could be used for a cross-cultural look at writing in its relation to national style or national rhetorical communities" (40). These descriptors were in the form of six opposing pairs, and were scored on a scale of Low, Middle and High:

Personal—Impersonal

Ornamental—Plain

Abstract—Concrete

Single—Multiple

Propositional—Appositional.

These factors were identified in each text by three independent judges. Purves discovered that within each culture there was at least one "rhetorical community," and often several. His study dealt primarily with texts of the expository-descriptive type. Of the texts he evaluated, he noted, for example, that the Australian texts were "highly personal, figurative, single and propositional" while those from Finland were "impersonal, plain,

multiple and appositional" (43). To the study of Contrastive Rhetoric, Purves contributes both a useful set of universal descriptors and a number of cross-language characterizations of various rhetorical communities.

In 1988, Degenhart and Takala published a study that sought to develop a rating method for stylistic preference. They based their ratings upon the following stylistic dimensions:

multiple—single

abstract—concrete

linear—digressive

metaphorical—plain

personal—impersonal

humorous—serious. (82)

Two five-point rating scales were developed from these, one involving a unipolar system of 24 descriptors, another involving a bipolar set of six pairs of descriptive sentences. These were given to graduate students to use in rating a set of compositions. The study eventually demonstrated that the use of these scoring instruments for cross-cultural studies was "not sufficiently reliable" (91).

Jones and Tetroe (1987) conducted a contrastive study aimed at determining "the interaction between proficiency in the second language . . . and skill in first-language tasks" (35). To accomplish this, they concentrated their study on "planning strategies," which they considered as "a critical high-level composing activity" (39). Their data sample was drawn from six adults studying ESL, whose planning processes were systematically

observed. They employed the following system of planning goals to describe the process

of each student:

- Simple point list of topics
- Gist of paper
- List/array of gist units
- Manipulation of genre elements [e.g., introduction, pro/con]
- Intentions with respect to the whole text.   (40)

In their study they found what they believed to be "strong, direct, data for the transfer of

first-language skill to the second language" (55). They also concluded concerning weaker

writers, "the reason their planning remained at a concrete level is not because they could

go no higher in English, but because they did not know how to go higher in any language"

(55).

Ulla Connor (1987) evaluated patterns of student argumentation across cultures in

a single system that combined linguistic, psycholinguistic and sociolinguistic

considerations. She drew data from students writing in their L1 in England, Finland,

Germany and the United States. The study viewed text as a "process of problem-solving"

(59) and analyzed the texts in terms of the following structural units:

- situation
- problem
- solution
- evaluation (59)

The study analyzed the same texts as "successive speech acts" in terms described by Aston

(1977) as:

- asserting
- justifying
- inducing.   (59)

To analyze the sociolinguistic aspect of the texts, Delia, Kline and Burleson's (1979) persuasive strategy scale was employed. Connor's contribution in making this study was to promote "analyses focused on the writer's reasons for selecting ideas and on how they are presented, rather than on the surface-level structures of the language" (65). She found that the better essays from the four countries did conform to the theorized structure, but that high marks in holistic ranking correlated with the high end of the audience awareness scale. In this, the study demonstrated the value of looking beyond surface features alone when comparing texts across cultures.

In 1990, Carson, Carrell, Silberstein, Kroll and Kuehn investigated the transferability of literacy skills across languages. Although they held to the view that "a language competence threshold is a prerequisite for the transfer of L1 reading skills" (247), they were interested in the correlation between first and second language writing skills as well as in the influence of L2 input on the development of L2 writing skills. To determine this, they surveyed both reading and writing performances of L2 learners. Writing skills in both L1 and L2 were measured by experienced native speakers of the respective language, who ranked the writings using a 6-point scale drawn largely from TWE[2] (TOEFL)[3] standards. Their results pointed to positive cross-language transfer in both reading and writing, but indicated that writing skills transferred with less facility.

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[2] Test of Written English

Chris Hall (1990) investigated the revision process in writing tasks performed in both the students' first and second languages. To do this, Hall selected the argumentative essays written in both the L1 and L2 of four ESL writers from different first language backgrounds. The revision processes carried out by the students were then charted in both languages, examining such things as

- word level substitutions
- information changes
- the use of pre-draft outlines and notes
- listing of options
- flagging of problems for later review, etc.

His findings support the claim that cognitive/academic language proficiency is for the most part transferable. He observed:

> The results, for the most part, indicate striking similarities across languages. However, some differences are noted, suggesting that while proficient writers are capable of transferring their revision processes across languages, they are also capable of adapting some of those processes to new problems imposed by a second language. (43)

Not all studies, however, have employed a single type of analytical approach. Carlson's (1988) study of the correlation between differences in L2 writing competence and the quality of the reasoning encountered in the texts, sought to employ both "general evaluations that invoke implicit cultural norms (holistic scores) [and] more specific identification of salient textual features (computer analyses)" (227). In so doing, her study stands at the crossroads of the two types of approaches taken in contrastive rhetoric that

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[3] Test of English as a Foreign Language

are surveyed here. The more holistic scoring scheme she employed was adapted from

Purves' work (1985). The following three dimensions were scored using a 5-point scale:

(1)   content/thinking

      (a) adequacy of information presented

      (b) richness of additional information

      (c) relationships drawn

      (d) inferences made

      (e) synthesis

      (f) evaluation

      (g) consideration of alternatives

(2)   organization

      (a) framing

      (b) grouping

      (c) unity

(3)   style/tone

      (a) objectivity

      (b) tentativeness

      (c) metalanguage.   (1988:234)

To measure reasoning skills applied in the text, the Toulmin-based scheme (1984) was

employed. The raters marked frequency of occurrence of the following:

- claims
- support (justifications)—evidence and explanation
- qualifications/rebuttals
- integration—claims as grounds for subsequent claims. (1988:237)

Textual analysis was performed by using the UNIX Writer's Workbench system, computer software designed for text analysis. This tool charted such variables as:

- number of spelling errors
- percent of vague words
- average sentence length
- percent of shorter sentences
- percent of longer sentences
- percent of passives
- average word length
- percent of content words, etc.

The study produced revealing results concerning the reliability of the various scoring methods employed. Carlson observed that, "The reliability of scoring schemes applied by human judges can vary considerably" (256). She noted that

> scores based on the Purves/Soter scheme, despite the strenuous attempts of the developers and readers to separate scores from writing skills, were highly related to, therefore confounded by, verbal ability. (256)

In contrast she found that the measures provided by Writer's Workbench proved to be "relatively independent" (257). Her observations explain the desirability of seeking a methodology that can separate the measurement of rhetorical skills from the measurement of simple verbal skills, something admittedly difficult to do when scoring holistically. As we shall see, one advantage of Mann and Thompson's Rhetorical Structure Theory is that it operates at a level largely independent of lexical or syntactic performance.

2.2 Linguistic approaches

In contrast to the studies described above, much research in contrastive rhetoric has also been conducted via the empirical charting of surface features of texts or by scoring schemes derived from linguistically based systems of text analysis. Connor and McCagg (1987) carried out a study on the rhetorical structures encountered in L2 texts presenting recalled information. The researchers charted what kind of information was recalled and how it was ordered in the retelling in order to discover cross-cultural differences by employing analytical criteria based on the rhetorical predication theory of Grimes (1975) and the case grammar of Fillmore (1968). A content structure diagram was generated for the original text and its paraphrase using such text functions as:

- antecedent
- collection
- consequent
- covariance
- explanation
- perspective
- problem
- response
- setting
- topic (75)

These rhetorical "functions" are derived from the same kind of theoretical base that gave rise to Mann and Thompson's RST system, which is employed in the present study. Using these criteria, Connor and McCagg made a structural comparison of the original text and

its paraphrase. The researchers found that the L2 paraphrase writers did not introduce culturally motivated rhetorical patterns in the material they recalled, but instead reproduced the pattern of the original text. In a second aspect of the study, however, the paraphrases were compared and ranked holistically by selected ESL teachers. The holistic ranking revealed that cultural differences had exerted what the teachers considered a negative influence in the presentational matters of tone and orientation.

Using the Japanese particles "ga" (subject marker) and "wa" (topic marker) as analytical tools by which to trace one aspect of the rhetorical structure of Japanese texts, Hinds (1988) put forth a theory of culture-based values concerning reader-responsibility versus writer-responsibility. Considering these observable surface features in the light of the texts' conformity to the rhetorical pattern *ki-shoo-ten-ketsu* (1983), Hinds was able to prove the absence of explicit transition from one rhetorical unit to the next. This he interpreted as indicative of a cultural conviction that it is the reader's (not the writer's) responsibility to make successful communication take place during the reading of the text.

Grabe (1987), with a view to providing contrastive rhetoric with a more finely tuned way to compare text type structures across languages, sought to identify subtypes, if any, of the text genre *expository prose*. To do this, he collected passages from undergraduate textbooks and popular periodicals. The criteria he employed for text analysis included both syntactic variables and cohesion variables. The 27 syntactic variables included such countables as:

- prepositions
- nominalizations

- 1st/2nd person pronouns
- words per sentence
- subordinators
- passives
- infinitives
- relative clauses
- attitude adverbs (surely, truly. . .)
- questions, etc.   (118)

The six cohesion variables included:

- definite article reference
- deictic reference
- repetition
- lexical inclusion
- lexical comparatives
- lexical synonymy/antonymy.

Through this study, Grabe determined the existence of a number of subtypes within expository prose. But more importantly to the field of contrastive rhetoric, he concluded that a "general implication to draw from this work is that many linguistic variables may be quantified and used profitably in statistical analyses" (136). He goes on to claim, "for contrastive rhetoric research in two languages, this approach provides a way to determine whether text types exist, how they can be defined, and how they can be related to other text types" (136). The goal of Grabes' work, then, was to open the door for "more careful research in contrastive rhetoric" in order to arrive at "a more realistic assessment" of L2 writings (137). His approach appears to be a reaction against holistic studies, which often

do not employ sufficiently reliable measures for analysis, as well as against linguistic studies that have not paid close enough attention to differences in genre when making cross-cultural comparisons of rhetorical structure.

2.3 Mann and Thompson's Rhetorical Structure Theory

To answer the questions posed in chapter 1 concerning the transfer of native rhetorical structure patterns and cognitive/academic language proficiency acquired in the writer's L1, the Rhetorical Structure Theory of Mann and Thompson was selected for use in this study. On the one hand, it is suited to cross cultural study because its analysis of a text does not rely on surface features endemic to any particular language. On the other hand, it provides a simple yet inclusive system of rhetorical structure relations drawn from established linguistic theory.

Longacre (1983), Grimes (1975), Halliday and Hasan (1976) and Beekman and Callow (1974) might be considered the principle theorists out of whose work Mann and Thompson's Rhetorical Structure Theory was born. Although working from different assumptions concerning text, these linguists all produced relational taxonomies capable of describing text organization at the propositional level. According to Mann and Thompson (1992), these rhetorical structure theories span the three basic kinds of assumptions linguists make about texts: semantic orientation (concerned primarily with the truth value of propositions and their logical combination into larger units), speech-act orientation (involving "the act performed by a simple or composite discourse entity" 21), and social-act orientation (examining the involvement of the speaker, the hearer and the

communication situation in the formation of a text). While the approaches of Longacre, Halliday and Hasan, Grimes, and Beekman and Callow may all be characterized as semantic, something of a speech-act orientation can also be noted in Beekman and Callow. Halliday and Hasan differ from the others in that they do not consider interclausal relations which might hold between larger spans of text. Mann and Thompson differ from these also, but in a way that is advantageous for the present study. They characterize their own orientation as "social act" (36) because they give consideration not only to the speaker's intent, but also to the discourse's effect on the receiver. This kind of orientation addresses more completely questions regarding a learner's attainment not only of grammatical proficiency but also of communicative competence.

Mann and Thompson's Rhetorical Structure Theory fills the need for a theory of text features that can apply across languages. For decades, in fact, linguists have been working seriously on the notion of clause relations hoping to discover a single set of relations that could be defined and then applied to text analysis. Longacre (1989) has observed:

> That such a set of relations exists and that it very probably is a finite set is being increasingly realized by many students of discourse. But whether we will all be able to agree on a common catalogue of these relations is another question; a fragmentation of statement comparable to what has happened in 'case grammar' seems rather to be the order of the day. (454)

While Longacre, Beekman and Callow and Grimes intend their taxonomies to function universally, Halliday and Hasan refer to surface markers and make claims based only upon English. (See appendix A for a table mapping the convergences of these

taxonomies.) Mann and Thompson's theory, a simplification and crystallization of all these, provides a manageable taxonomy of relations, describing them in functional terms, apart from any grammatical or lexical signals. As a result, their system is broad in scope and adaptable to cross-language study.

2.4 The 24 RST relations

Because this study's computations rely exclusively on data obtained through the use of Mann and Thompson's Rhetorical Structure Theory, the identification of relation type and the consequent diagramming of rhetorical structure must be consistent and accurate. In addition, our understanding of the implications of such analyses must be clear. For these reasons, in this section I give full attention to the theory on which the study depends. This is done in the form of a description of Mann and Thompson's relational taxonomy. This description provides Mann and Thompson's definition of the rhetorical relations, and also clarifies certain features of their relational scheme.

Mann and Thompson tell us that no single method of grouping their relations seems suitable to them. They state: "Depending on one's interests, any of several features and dimensions of the relations could be made the basis for grouping them" (256). They suggest bases such as time, writer/reader participation, or locus of effect as just a few of the many possible criteria that could be used. They do offer, however, a two-way division for those interested in contrasting subject matter with the actual process of presentation. In this rhetorical schema, subject matter relations, which might also be called "semantic" or "ideational," are relations "whose intended effect is that the reader *recognizes* the

relation in question" (257). Presentation relations, which also might be called "pragmatic" (see van Dijk 1977:208), are relations "whose intended effect is to *increase some inclination* in the reader" (257). Such a distinction is of interest in the present study, since this study deals with attaining proficiency in written communication, a matter which has as much to do with mastery of the presentational process as it does with the management of semantic content.

TABLE 2.1

RELATION CLASSIFICATION ON A SUBJECT
MATTER/PRESENTATIONAL BASIS
(Mann and Thompson 1988:257)

Subject Matter	Presentational	
elaboration	motivation	(increases desire)
circumstance	antithesis	(increases positive regard)
solutionhood	background	(increases ability to understand)
volitional cause	enablement	(increases ability)
volitional result	evidence	(increases belief)
non-volitional cause	justify	(increases acceptance)
non-volitional result	concession	(increases positive regard)
purpose		
condition		
otherwise		
interpretation		
evaluation		
restatement		
summary		
sequence		
contrast		

The 24 relations are described in the order they were listed by Mann and Thompson (1988) into Subject Matter relations and Presentational relations (257). Table 2.1 shows Mann and Thompson's scheme of relation classification based on the Subject Matter versus Presentational dichotomy.[4]

2.4.1 Elaboration

ELABORATION is considered by Mann & Thompson as one of the ideational relations. In the ELABORATION relation, a matter either mentioned or implied in the nucleus is developed through use of additional material in the satellite. The following six patterns are included:

- set:member
- abstract:instance
- whole:part
- process:step
- object:attribute
- generalization: specific

There is little need, in this case, for clarification by example. Such patterns for the most part are non-ambiguous and easy to identify. An advantage of this particular listing is that it is more exhaustive than those provided by other linguists.

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[4] An inclusive chart comparing Mann and Thompson's relational taxonomy with those of Longacre, Grimes, Halliday and Hasan and Beekman and Callow is provided in appendix A.

2.4.2 Circumstance

According to Mann and Thompson, a CIRCUMSTANCE relation exists where the information given in the satellite text span provides a "framework . . . within which [the reader] is to interpret the situation presented in [the nucleus]" (1988:273). An example from their analysis of a fund-raising letter, "When we released the results of ZPG's 1985 Urban Stress Test, we had no idea we'd get such an overwhelming response" (Mann et al. 1992:xi), indicates that the "interpretation" they speak of is not an analytical or evaluative interpretation but simply an orientational one. They themselves comment on the "when" clause that constitutes the framing satellite. A second example given, "While attending Occidental College, where he majored in philosophy, he volunteered to work" (1988:272), showcases both "while" and "where" in the satellites. Unlike Halliday and Hasan, for whom circumstance (Environment) can include Manner and Cause, Mann and Thompson do not include causation in the CIRCUMSTANCE relation, but limit it to orientation in time and space.

2.4.3 Solutionhood

If this relation were named the way most of Mann and Thompson's are named, for the contribution made by the satellite span, it would be called PROBLEMHOOD. However, it is named SOLUTIONHOOD, after the nucleus, whose contents (it is assumed) are more central to the writer's purposes.

The SOLUTIONHOOD relation has been a frequent flyer in the skies of hortatory discourse for a long time. To move the hearers to action, masters of rhetoric throughout

the centuries have been framing the acceptance of their wares as the unique SOLUTION to various and innumerable problems. In fact, the problem-to-solution pattern is so basic to every writer's bag of tricks that even Lynn Quitman Troyka, in her book outlining the most basic standards for English composition, discusses it (1993:91). Since the concept of problem/solution has existed for a long time inside and outside the linguistic world, one would think, then, that this relation would be obvious, even to the untrained eye, and easy to identify. However, in the process of analyzing a fund-raising letter (Mann et al. 1992), Mann and Thompson exemplify and explain this relation in a way that reveals a less than obvious principle involved in their determinations.

The example given is somewhat ambiguous: "To make sound choices in planning for people, both elected officials and the American public need the population-stress data revealed by our study" (xiii). Mann and Thompson begin by referring to the "To" at the beginning of the example as a "relational signal" that marks a SOLUTIONHOOD relation. (Although not driven by surface indicators, Mann and Thompson at times refer to grammatical markers as either correlating with or distracting from the rhetorical relation) They tell us that the infinitive "To make sound choices" introduces the problem of "decision-making" while the main clause offers a solution. While the reader is still objecting to such a determination ("This is a PURPOSE relation," the reader says), Mann and Thompson state, "This example provides interesting confirmation of our claim that relations and signals do not correspond in any simple way" (65). At this point Mann and Thompson apply a principle essential to successful RST analysis: they test their analysis

not only against surface features, but also against what they understand to be the writer's goal. They explain, "A SOLUTION relation, rather than a PURPOSE relation, is consonant with our perception of the writer's goal to motivate the reader to donate money" (65). Indeed, upon closer examination, we find that the real actors required to effect the solution are not the officials at all, but those who will provide them with the information they need. Although the surface structure gives the impression that what holds between these text spans is a PURPOSE relation, a deeper understanding of the hortatory dynamics of the text forbids it. One problem in analyzing a hortatory text is that, although the reader is expected to be the biggest player, the reader is often also the most glaringly unmentioned player. This proves to be a great difficulty for analysts focused on surface markers.

Mann and Thompson explain how, in recognizing relations, one ought to balance surface markers with judgments of the writer's intention:

> The abundance of unsignalled relations highlights the importance of the differences between text understanding, which involves recognition of text structure and relations, and a symbol decoding task. Recognizing relations requires that the reader make judgments about the writer, including judgments of the plausibility of intentions. (66)

As we see in the text sample from the appeals letter, the intended message is not that the officials must purposely obtain the information, but that the readers must actively solve the problem of uninformed decision-making by providing the decision-makers with good data. This illustrates a principle that will resurface again and again in RST (as we

will see): that through the lens of genre and author intention, what at first glance looks like one relation, must ultimately be designated another.

It is helpful also to note that in the definition of the solutionhood relation, Mann and Thompson write that for them the terms *problem* and *solution* are quite broad. In their system the scope of the problem includes:

1. questions

2. requests, including requests for information

3. some descriptions of desires, goals, intellectual issues, gaps in knowledge or other expressions of needs

4. conditions that carry negative values, either expressly or culturally, including calamities and frustrations. (1988:273)

2.4.4 Volitional cause

This relation might more accurately be called CAUSE OF A VOLITIONAL ACTION, the term CAUSE relating to the contribution of the satellite, and the term VOLITIONAL referring to the action in the nucleus. Mann and Thompson define it thus: "[The satellite] presents a situation that could have caused the agent of the volitional action in [the nucleus] to perform that action" (1988:272). The example given is:

[satellite:]

Writing has almost become impossible

[nucleus:]

so we had the typewriter serviced . . . (273).

Mann and Thompson's choice of boundaries for this and the next three relations does not closely coincide with the demarcation of cause-effect relations found in other systems (see appendix). In RST, Mann and Thompson wanted to address the causation of both intended and non-intended outcomes as well as the concept of the nuclearity of focus on either cause or result. The constraints imposed by these dual parameters of plus-and-minus volitionality and plus-and-minus nuclearity forced Mann and Thompson to split causation into four branches: VOLITIONAL CAUSE; NON-VOLITIONAL CAUSE; VOLITIONAL RESULT; NON-VOLITIONAL RESULT.

2.4.5 Non-volitional cause

Although the notions of volition and nuclearity are not at all foreign to the work of other linguists, only Mann and Thompson have chosen to employ these concepts as parameters within their relational system.

The NON-VOLITIONAL CAUSE relation might more accurately be called CAUSE OF A NON-VOLITIONAL ACTION, the term CAUSE relating to the contribution of the satellite, and the term NON-VOLITIONAL referring to the action in the nucleus. Mann and Thompson define it in this way: "[The satellite] presents a situation that, by means other than motivating a volitional action, caused the situation presented in [the nucleus]" (1988:273). The concept may be clarified by this example:

And because we can mine more than we need, we've had plenty of manganese and iron for export. (275)

In this example, the satellite contributes CAUSE while the nucleus contains the NON-VOLITIONAL situation produced by it.

2.4.6 Volitional result

In this relation, both the word VOLITIONAL and the word RESULT refer to features in the satellite. According to Mann and Thompson, the satellite "presents a volitional action or a situation [arising] from a volitional action" (1988:275). There is no constraint of volitionality placed on the nucleus. The text example they give for VOLITIONAL RESULT is the same one given for VOLITIONAL CAUSE (no explanation provided): "Writing has almost become impossible so we had the typewriter serviced and I may learn to type decently after all these years" (273). It is also interesting to note that another example given in a chart as NON-VOLITIONAL RESULT ("Our small staff is being swamped with requests for more information and our modest resources are being stretched to the limit [nucleus]. Your support now is critical [satellite]" 1992:xiii) is a few pages later listed in another chart (no change having occurred in the nucleus/satellite pattern) as NON-VOLITIONAL CAUSE (no explanation given).

2.4.7 Non-volitional result

Again, both the word NON-VOLITIONAL and the word RESULT apply to elements of the satellite. In this relation, the situation presented in the satellite involves a non-volitional action, while the material in the nucleus presents the cause of that situation. The example given by Mann and Thompson is as follows: "The blast, the worst industrial

accident in Mexico's history, destroyed the plant and most of the surrounding suburbs. Several thousand people were injured, and about 300 are still in hospital" (1988:276) I assume they take the second sentence as the satellite.

Because of the paucity of example and the apparent ambiguity and contradictory naming of the examples that are given, I have devised four contrastive examples according to my understanding of the distinctions among the four previous relations:

NON-VOLITIONAL CAUSE

> She left for work late today because her alarm didn't go off this morning.

VOLITIONAL CAUSE

> She left for work late because she hated her job.

NON-VOLITIONAL RESULT

> She arrived late today, which once again made her department miss the deadline.

VOLITIONAL RESULT.

> She arrived late again, so her boss fired her.

In the final analysis, it is unclear what is gained by employing these particular four parameters. Although some insight is gained by tracking volitionality, not all aspects of volitionality are explored. For example, there is no explanation given as to why volition is only considered with regard to the second, third, fourth, etc. elements of a chain reaction, but not with regard to the initial action itself. Furthermore, the additional complication caused by attention to nuclearity is never brought fully under control. The seemingly ambiguous and contradictory examples given point more to the instability of the

distinctions than to their proper use. Of all the relations described by Mann and Thompson, the causation complex seems to be the most internally troubled.

2.4.8 Purpose

Mann and Thompson define this relation as one in which "[the satellite] presents a situation to be realized through the activity in [the nucleus]" (1988:276). Again, the relation is named in terms of the role of the satellite. They provide the following examples from live texts:

> As your floppy drive writes or reads, a Syncom diskette is working four ways to keep loose particles and dust from causing soft errors, drop-outs. (1988:261)

> But to use it well, we urgently need your help. (Mann et al. 1992:xii)

2.4.9 Condition

According to Mann and Thompson, a CONDITION relation exists when "[the satellite] presents a hypothetical, future, or otherwise unrealized situation [and] . . . realization of the situation presented in [the nucleus] depends on realization of that presented in [the satellite]" (1988:276). Part of their example (unexplained) follows: "Employees are urged to complete new beneficiary designation forms for retirement or life insurance benefits whenever there is a change in marital or family status" (1988:276). Of course, Mann and Thompson's Condition relation is broad enough to include the kinds of conditions that can exist from the clause level on up.

2.4.10 Otherwise

For the purposes of Mann and Thompson, demarcating a special relation called OTHERWISE is quite important. They describe the relation as follows: "Realization of the situation presented in [the nucleus] prevents realization of the situation presented in [the satellite]" (1988:276). The example they give is: "It's new brochure time, and that means a chance for new project write-ups. Anyone desiring to update their entry in this brochure should have their copy in by Dec. [sic] 1. Otherwise the existing entry will be used" (277). The effect such statements are intended to have on readers is obvious. The OTHERWISE relation can function as both a threat and a warning, moving the reader to action. This makes this relation a real native son of discourse as a social act. Since the stated orientation of Mann and Thompson is toward language as social act, it is important that in their relational toolbox they have an instrument like this one that can chart author intention and the effect produced in the reader.

2.4.11 Interpretation

Mann and Thompson describe INTERPRETATION as a relation in which "[the satellite] relates the situation presented in [the nucleus] to a framework of ideas not involved in [the nucleus] itself and not concerned with [the writer's] positive regard" (1988:277). The example given is: "Steep declines in capital spending commitments and building permits, along with a drop in the money stock pushed the leading composite down for the fifth time in the past 11 months to a level 0.5% below its high in May 1984. Such a decline is highly unusual at this stage in an expansion" (277). INTERPRETATION

differs from SUMMARY and RESTATEMENT in that SUMMARY involves a mere reduction of the nucleus to its simplest most salient elements, RESTATEMENT involves the reframing of the nucleus in different terms, while INTERPRETATION offers an explanation of the nucleus in the light of knowledge or circumstance not available in the nucleus itself. It differs from EVALUATION in that it does not aim to express either positive or negative regard for the situation presented in the nucleus. INTERPRETATION might often involve a descriptive, but non-evaluative, adjective in the satellite which makes some non-obvious observation of the situation presented in the nucleus.

2.4.12 Evaluation

Mann and Thompson define the EVALUATION relation as one in which "[the satellite] relates the situation in [the nucleus] to the degree of [the writer's] positive regard toward the situation presented in [the nucleus]" (1988:277). The example given not only sums up the material in the nucleus, but also freely expresses the degree of the writer's positive regard for it: "Features like our uniquely sealed jacket and protective hub ring make our discs last longer. And a soft inner liner cleans the ultra-smooth disc surface while in use. It all adds up to better performance and reliability" (277).

2.4.13 Restatement

Mann and Thompson's stated definition of the RESTATEMENT relation simply says, "[the satellite] restates [the nucleus], where [the satellite] and [the nucleus] are of comparable bulk" (1988:277). The text example they give in the definition is: "A WELL

GROOMED CAR REFLECTS ITS OWNER. The car you drive says a lot about you" (277). More examples can also be drawn from larger chunks of text that Mann and Thompson use to demonstrate a full RST analysis. Interestingly enough, the examples of RESTATEMENT found in the larger text do not display the unambiguous traits of the relation's simple definition.

> When we released the results of ZPG's 1985 Urban Stress Test, we had no idea we'd get such an overwhelming response. Media and public reaction has been nothing short of incredible!   (xi)

Mann and Thompson explain their designation of this as a RESTATEMENT relation by noting that first of all the relation is "bi-nuclear," a trait which actually stands outside the scope of the definition given (Mann et al. 1992:56). Secondly they point out that the relation between the two text spans should be considered RESTATEMENT because the key word "overwhelming" of the first span is restated as "incredible" in the second. This is a bit of a stretch, if we are also working strictly from the relation's definition. But if we are working from example to understand all that Mann and Thompson mean when they say RESTATEMENT, this example is of immeasurable value. The second example found in the full text presents similar difficulties:

> With your contribution, ZPG can arm our growing network of local activists with the materials they need to warn community leaders about emerging population-linked stresses before they reach crisis stage.

Even though out national government continues to ignore the consequences of uncontrolled population growth, <u>we can act to take positive action at the local level</u>. (xii)

Once again, Mann and Thompson explain their choice in terms of parts of each text span, not in terms of the whole of either: "[the second segment] restates (we can take positive action at the local level) what [the first segment] conveys (warn community leaders about population-related stresses)" (Mann et al. 1992a:57). They appear to be selecting what could be termed the semantic heart of each span, and if the two hearts match up blood-for-blood (not bulk-for-bulk), the relation is called RESTATEMENT. The critical term here is "conveys," which allows them to go below the surface and avoid the problem of matching bulk.

2.4.14 Summary

According to Mann and Thompson, in the SUMMARY relation, "[the nucleus] must be more than one unit . . . [and the satellite] presents a restatement of the content of [the nucleus], that is shorter in bulk" (1988:277). The example they give resembles RESTATEMENT with a touch of EVALUATION: "For top quality performance from your computer, use the flexible discs known for memory excellence. It's a great way to improve your memory and get a big bonus in computer performance" (277-278). No other examples are provided, and no explanation of this one is given. However, if we work through the taxonomies of the other linguists on this point, we can determine the best definition and application of the SUMMARY relation.

Longacre defines his SUMMARY PARAPHRASE relation succinctly, stating that it "employs a generic lexical item in the last base after a series of more specific lexical items in the preceding bases" (138). Under this heading, he also addresses the role of paraphrase in paragraphs, noting that paraphrase is actually one of the principal mechanisms of paragraph development. He points out that a SUMMARY PARAPHRASE, for example, is often used in the topic sentence to serve as a kind of PREVIEW. He gives the following example translated from Tagabili:

> Before the war, there was no peace among the Tagabili. There was always fighting even over tiny matters. They would put curses on people at night. They would capture children . . . (139)

In this example, the summary using generic terms (no peace) comes before the listing of the many specific items (fighting over tiny matters, putting curses on people, capturing children). This could be considered a preposed SUMMARY or a PREVIEW relation.

2.4.15 Sequence

According to Mann and Thompson, SEQUENCE is a multi-nuclear relation in which "a succession relationship exists between the situations presented in the nuclei" (1988:278). A good example of this can be drawn from the appeals letter they analyzed in 1992:

> At 7:00 a.m. on October 25, our phones started to ring.
> Calls jammed our switchboard all day.

> Staffers stayed late into the night, answering questions and talking with reporters from newspapers, radio stations, wire services and TV stations in every part of the country. (Mann et al. 1992:xi)

Although the messages conveyed by these three spans are nearly identical, the fact that a temporal succession relation exists among them fixes them in a SUCCESSION relationship.

2.4.16 Contrast

This is one of three contrast relations in Mann and Thompson's scheme. This one could be more strictly termed NEUTRAL CONTRAST. It is multi-nuclear, normally having no more than two nuclear spans. According to Mann and Thompson, its function is to draw the hearer's attention to the differences between the situations or items presented in the contrasting text spans. A simple example given from a <u>Scientific American</u> text is: "Animals heal, but trees compartmentalize. They endure a lifetime of injury and infection by setting boundaries that resist the spread of the invading microorganisms" (1992b:38). Mann and Thompson comment on this example: "Notice that the author is not trying to advance one over the other, as would be the case for a CONCESSION or ANTITHESIS relation" (38). While this example has the signal "but" to mark its contrastive nature, a longer example from the fund-raising letter is not so fortunately marked:

> At first, the deluge of calls came mostly from reporters eager to tell the public about Urban Stress Test results and from outraged public officials who were furious that we had "blown the whistle" on conditions in their cities.

Now we are hearing from concerned citizens in all parts of the country who want to know what they can do to hold local officials accountable for tackling population-related problems that threaten public health and well-being. (Mann et al. 1992a:xi)

The markers of contrast here turn out to be the lead-in temporal adverbs "at first: and "now." We must take careful note that although temporal succession does exist between these two spans, the overriding relation, as seen in the central contrasting of elements (reporters and outraged officials vs. concerned citizens), is one of CONTRAST. This is consistent with the speaker's desire that the hearer "attend to the differences" (38). The other contrast relations, ANTITHESIS and CONCESSION, appear more frequently in persuasive texts, while the NEUTRAL CONTRAST relation is found in more informative type discourse.

2.4.17 Joint

Mann and Thompson have this to say about JOINT: "The schema called JOINT has no corresponding relation. The schema is multinuclear, and no relation is claimed to hold between the nuclei" (1988:278). An example taken from the fund-raising letter is, "Our small staff is being swamped with requests for more information and our modest resources are being stretched to the limit" (Mann et al. 1992:xii). Concerning the first and second parts of this example Mann and Thompson comment: "they jointly perform the double role described for [this text span]," which is itself, one level up, involved in a NON-VOLITIONAL RESULT relation (58).

Mann and Thompson choose to break out CONTRAST as a separate relation. Although CONTRAST is also a paratactic relation, for Mann and Thompson it differs from JOINT in that it involves a TRUE and DEFINABLE relation, while JOINT is simply a schema in which NO RELATION holds.

2.4.18 Motivation

The MOTIVATION relation marks the beginning of Mann and Thompson's PRESENTATION (Pragmatic) relations, relations which concern the effect on the reader/hearer.

Mann and Thompson define the MOTIVATION relation as one where the nucleus "presents an action in which [the reader] is the actor (including accepting an offer), unrealized with respect to the context of [the nucleus] . . . comprehending [the satellite] increases [the reader's] desire to perform [the] action presented in [the nucleus]" (1988:276). A brief example of this follows:

(nucleus)
> Please make a special contribution to Zero Population Growth today.

(satellite)
> Whatever you give — $25, $50, $100 or as much as you can — will be used immediately to put the Urban Stress Test in the hands of those who need it most.   (Mann et al. 1992:xiii)

Examples of the MOTIVATION relation involving much longer text spans, however, are more common. In the following sample, the text span 3-12 is considered a satellite designed to motivate the reader to carry out the action described in text span 2.

1. What if you're having to clean floppy drive heads too often?

2. Ask for Syncom diskettes, with burnished Ectype coating and dust-absorbing jacket liners.

3. As your floppy drive writes or reads,

4. a Syncom diskette is working four ways

5. to keep loose particles and dust from causing soft errors, dropouts.

6. Cleaning agents on the burnished surface of the Ectype coating actually remove build-up from the head,

7. While lubricating it at the same time.

8. A carbon additive drains away static electricity.

9. before it can attract dust or lint.

10. Strong binders hold the signal-carrying oxides tightly within the coating.

11a. And the non-woven jacket-liner,

12. more than just wiping the surface,

11b. provides thousands of tiny pockets to keep what it collects.

13. To see which Syncom diskette will replace the ones you're using now,

14. send for our free 'Flexi-Finder' selection guide and the name of the supplier nearest you.

15. Syncom, Box 130, Mitchell, SD 57301. 800-843-9862; 605-996-8200.

(1988:261)

In this example, the MOTIVATION relation (2:3-12) occupies over 75% of the text. The remaining text is involved in an ENABLEMENT relation (2:13-15), intended to enable the reader to carry out the action he or she has been motivated to perform. Mann and Thompson point out, however, that at the highest level, this text is governed by a SOLUTIONHOOD relation between text span 1 (the satellite, i.e., the problem) and text

span 2-15 (the nucleus, i.e., the solution). A similar situation exists in an even larger text, the fund-raising letter referred to elsewhere, where a MOTIVATION satellite that occupies a text span of more than 17 units complements a nucleus of a single unit (Mann et al. 1992:54). It is in fact the entire body of the letter, minus the brief plea for funds at the end.

Once the MOTIVATION relation is determined between particular text spans, the composition of the satellite (normally the longer span) is analyzed. In the first case, given above, the MOTIVATION satellite is itself composed of the relations ELABORATION, CIRCUMSTANCE, ANTITHESIS and PURPOSE. In the second example, taken from the appeal letter, the MOTIVATION satellite is composed of EVIDENCE, BACKGROUND, CONCESSION, ELABORATION, SEQUENCE, NON-VOLITIONAL RESULT, RESTATEMENT, CONTRAST, JOINT, CIRCUMSTANCE and PURPOSE. Here we see more than 10 relations being employed to motivate the reader. .

2.4.19 Antithesis

ANTITHESIS is one of Mann and Thompson's CONTRAST relations. According to Mann and Thompson:

> The situations presented in [the nucleus] and [the satellite] are in contrast (cf. CONTRAST, i.e., are (a) comprehended as the same in many respects, (b) comprehended as differing in a few respects and (c) compared with respect to one or more of these differences); because of the incompatibility that arises form the contrast, one cannot have positive regard for both the situations presented in [the nucleus] and [the satellite]; comprehending [the satellite] and the incompatibility between the situations presented in [the nucleus] and [the satellite] increases [the reader's] positive regard for the situation presented in [the nucleus].   (1988:253)

In a more recent article, they further explain that ANTITHESIS is "always used to create some kind of preference" (1988:38). An example of ANTITHESIS given in that article is: "Rather than winning them with our arms, we'd win them by our example, and their desire to follow it" (38). This relation differs from NEUTRAL CONTRAST in that it is not multi-nuclear and it includes the idea of increasing positive regard.

Grimes also defines a relation that functions like this. In his system, ANALOGY "ties a subordinate subtree to a dominant proposition not by logic but by likeness" (217). In this relation "points of parallelism" are used to increase the reader's acceptance of the principal claim. The example he gives can be seen as forming a certain preference or opinion in the reader: "Trying to do linguistics without any reference to meaning would be like going into battle with one hand tied behind your back" (217). I do not want to go into battle with only one hand free. Similarly, I do not want to do linguistics without reference to meaning. This linkage of ideas causes me to prefer one course of action because of my feelings toward another which resembles it. The use of ANALOGY and METAPHOR is a frequently accessed [availed, appealed to] part of rhetoric. Although something of the mechanism of ANALOGY is reflected in the ANTITHESIS relation, the fact is that Mann and Thompson's system lacks a space for ANALOGY itself.

2.4.20 Background

Mann and Thompson explain the BACKGROUND relation in this way: "[the reader] won't comprehend [the nucleus] sufficiently before reading text of [the satellite]. . .

[the satellite increases the ability of [the reader] to comprehend an element in [the nucleus]" (1988:273). The examples given by Mann and Thompson of BACKGROUND relations reveal a few constraints or features not outlined in their definition. Of special interest is the difference between BACKGROUND, ELABORATION, and INTERPRETATION. The simplest way to illustrate this difference would be to revisit some earlier examples, now placing them side by side.

BACKGROUND:

1. [nucleus:] Home addresses and telephone numbers of public employees will be protected from public disclosure under a new bill approved by Gov. George Deukmejian. Assembly Bill 3100 amends the Government Code,

   [satellite:] which required that the public records of all state and local agencies, containing home addresses and telephone numbers of staff, be open to public inspection.   (1988:273)

[Without the satellite the reader has no idea what is meant by Government Code. Here the satellite gives a kind of DEFINITION of one term in the nucleus.]

2. [satellite:] The results of ZPG's 1985 Urban Stress Test were reported as a top news story by hundreds of newspapers and TV and radio stations from coast to coast.

   [nucleus:] I hope you'll help us monitor this remarkable media coverage by completing the enclosed reply form.   (Mann et al. 1992:xiii)

[Without the information given in the satellite, the reader would have to ask "What remarkable media coverage?" Again, the satellite is defining one term from the nucleus.]

ELABORATION:

> 3. [nucleus:] ZPG's 1985 Urban Stress Test,
>
> [satellite:] created after months of persistent and exhaustive research. . . (xii)

[Rather than defining an element in the nucleus, the satellite simply adds DETAIL to it. If the reader does not know what the Urban Stress Test is, he or she will still not know after reading the satellite.]

INTERPRETATION:

> 4. [nucleus:] Steep declines in capital spending commitments and building permits, along with a drop in the money stock pushed the leading composite down for the fifth time in the past 11 months to a level 0.5% below its high in May 1984.
>
> [satellite:] Such a decline is highly unusual at this stage in an expansion. (1988:277)

[Here again the information in the satellite does nothing to help the reader understand what the "leading composite" is. Rather it puts the leading composite's behavior in a CONTEXT to help the reader interpret it.]

While BACKGROUND, ELABORATION and INTERPRETATION all pick up an element in the nucleus to expound on, the effect of that expounding is different in each case. A key word can be associated with each relation to help pinpoint the major contribution of each satellite: BACKGROUND → Definition; ELABORATION → Detail; INTERPRETATION → Context.

2.4.21 Enablement

The ENABLEMENT relation is unique to Mann and Thompson. Although it shares some traits with MOTIVATION, this relation occupies a very particular role. In ENABLEMENT "[the nucleus] presents [the reader] action (including the accepting an offer), unrealized with respect to the context of [the nucleus] . . . [the reader] comprehending [the satellite] increases [the reader's] potential ability to perform the action presented in [the nucleus]" (1988:276). The following example should help clarify:

[nucleus:] . . . send for our free 'Flexi-Finder' selection guide and the name of the supplier nearest you.

[satellite:] Syncom, Box 130, Mitchell, SD 57301. 800-843-9862; 605-996-8200.

(1988:261)

Without the information provided in the satellite, the reader remains unable to perform the suggested action, no matter how motivated he or she may be to do so. While the MOTIVATION relation answers the reader's question: "Why SHOULD I do this?" the ENABLEMENT relation answers the question: "How CAN I do this?"

2.4.22 Evidence

Mann and Thompson describe the situation of the EVIDENCE relation as one in which "The reader might not believe the nucleus to a degree satisfactory to the writer. . ." but ". . . the reader believes the satellite or will find it credible . . ." and as a result ". . . the

reader's comprehending the satellite increases his or her belief of the nucleus" (1992a:48). The example given is plain:

> [nucleus:] The program as published for calendar year 1980 really works.
>
> [satellite:] In only a few minutes, I entered all the figures from my 1980 tax returns and got a result which agreed with my hand calculations to the penny.   (48)

In an actual text, the EVIDENCE satellite may enclose a number of other relations, such as BACKGROUND, ELABORATION, RESTATEMENT, CONTRAST, CONCESSION or SOLUTIONHOOD, as in the appeals letter analyzed by Mann and Thompson. In that letter, the nucleus of a MOTIVATION satellite was itself flanked by two long EVIDENCE satellites, which were themselves composed of more than a dozen smaller units, involving nine different relations.

2.4.23 Justify

Mann and Thompson describe the JUSTIFY relation simply as one in which "[the reader's] comprehending [the satellite] increases [the reader's] readiness to accept [the writer's] right to present [the nucleus]" (1988:252). The example they provide is this:

> The next music day is scheduled for July 21 (Saturday), non-midnight.
> I'll post more details later, but this is a good time to reserve the place on your calendar. (252)

They explain that the second part of the relation tells the reader "why the writer believes he has the right to say [the first part] without giving 'more details' " (252).

Although not included in his 1974 taxonomy, Longacre addresses this notion of writer credibility in his analysis of a fund-raising letter, published in 1992. He calls it the first in a schema of "four typical moves" in a hortatory text (a text seeking to influence behavior), describing it formally as the "establishment of the authority/credibility of the text producer" (110). Longacre goes on to designate this as the third move in the schema of a persuasive text (a text seeking to influence beliefs), describing it as "supporting argumentation (logic, experience, authority)" (111). This description, of course, is reminiscent of Aristotle's three-pronged schema of "artistic proofs" which included appeal to ethos, pathos and logos. Aristotle described the importance of what Mann and Thompson call the JUSTIFY relation as follows:

> The character [ethos] of the speaker is a cause of persuasion when the speech is so uttered as to make him worthy of belief . . . we might almost affirm that his character is the most potent of all the means to persuasion.
> (*The Rhetoric of Aristotle*, 1960:8-9)

In designating the relation JUSTIFY, Mann and Thompson move into another dimension of discourse analysis, one involved very much with the direct relationship of the writer to the reader. Although text spans involved in this relation appear on the page in the same black and white as all other text spans, the reality they embody is on another plane, a plane not peopled by all linguists. Despite the fact that the notion of a speaker's right to be heard is basic to the speech act, it lies outside the considerations of most taxonomies of clause combining (see appendix A). However, the mechanism by which one establishes the

right to be heard is an important part of a text's effectiveness, and should be accounted for.

2.4.24 Concession

According to Mann and Thompson, in the CONCESSION relation "[the writer] has positive regard for the situation presented in [the nucleus] . . . [and] . . . [the writer] is not claiming that the situation presented in [the satellite] doesn't hold" (1988:255). However, they point out, there is a potential incompatibility between the nucleus and the satellite that must be addressed. The writer addresses this by finding a point of actual compatibility. As a result, the compatibility pointed out "between the situations presented in [the nucleus] and [the satellite] increases [the reader's] positive regard for the situation presented in [the nucleus]" (255). Mann and Thompson refer to this function in a later article (1992) as "setting aside an objection" (39). As they state in that article, "The concession relation is used to promote a particular belief or action in the presence of apparent contrary information . . . the speaker acknowledges the apparently contrary information, but then advances the nucleus anyway, showing that s/he does not regard the two as genuinely incompatible. This tends to remove the satellite as an obstacle . . ." (39). They provide the following example, pointing out that a CONCESSION relation is often signaled by the use of *although.*

a. Concern that this material is harmful to health or the environment may be misplaced.

b. Although it is toxic to certain animals,

c. evidence is lacking that it has any serious long-term effect on human beings.

The relation between (a) and (b,c) is EVIDENCE, (a) being the nucleus of the relation, and (c) being the nucleus of the support satellite. The relation between spans (b) and (c) is CONCESSION. Here the objection to the evidence is set aside as non-contradictory. In this way the obstacle to the reader's acceptance of the evidence is removed, and the way is opened for the original claim to be received. In the full text samples given by Mann and Thompson in these articles, EVIDENCE and CONCESSION are often seen working together in this way.

Mann and Thompson define concession in social terms, as a relation involving the setting aside of an objection and the opening of a way for the reader to accept the writer's claim.

2.5 Summary

By employing Mann and Thompson's rhetorical system, itself rooted in a wealth of text theory and research, this study avoids the extremes of a generally intuitive approach while likewise escaping the pitfalls of a strictly empirical study. By addressing the underlying relations that hold between stated propositions, RST allows us to chart both the structural shape and the conceptual complexity of a text, while at the same time acknowledging some aspects of discourse as a social act.

CHAPTER THREE

DATA AND METHODOLOGY

3.0 Data collection

The data used in this study consist of a total of 64 texts gathered from writing classes offered at The University of Texas at Arlington, the University of Dallas, and North Lake Community College during the years 1994 and 1995. The precise breakdown of these texts is as follows.

Ten of the texts were written by three Hispanic graduate students enrolled in the Intensive English Program at the University of Dallas. One of the students was from Mexico, one from Colombia and one from Venezuela. All three had already completed undergraduate degrees in their native countries, had studied English there, and were working at the time on their academic English skills in order to qualify for admission to graduate school in the U.S. Writing samples were obtained from their daily in-class writing activity, which was to read the day's news and respond in writing to something of interest to them.

Eight of the texts were written by eight English-speaking graduate students enrolled in a summer Linguistics course at UTA in 1994. The texts were in-class writings of no more than one page in length, written in response to a quiz question which asked the students to use a given example to make a point regarding language acquisition. All of the

students already held bachelor's degrees obtained in the U.S. All were native speakers of English.

Ten of the texts were written by eight Hispanic undergraduate students, six enrolled in freshman or remedial English classes at North Lake College, one enrolled in the Intensive English Program at the University of Dallas, and one enrolled in ESOL 1341 at UTA, a credit course offered to non-native speakers of English as an equivalent of Composition 101. Admission to credit courses at North Lake College requires a 525 TOEFL score for foreign students and a passing score on a placement test for resident aliens. Admission to the Writing Module (an advanced module) in the English program at the University of Dallas also requires achieving an acceptable score in placement testing. For admission to UTA, foreign students are required to obtain a score of 350 on the SAT verbal test. Requirements for entrance into the composition classes at the three institutions are close enough to guarantee a reasonably homogeneous sample. Furthermore, all the undergraduate Hispanic students in the sample had received primary and secondary education in their native countries. The texts by Hispanics had been produced as in-class writings in response to topics selected by the teacher; some were produced as mid-term writing samples.

Twenty-six of the texts were the writings of 26 English-speaking undergraduate students enrolled in either remedial or first semester freshman composition classes at North Lake College. These texts were in-class written responses to topics assigned by the

teacher and were written to express an opinion or to make a point. All the writers had been educated in U.S. high schools and spoke English as their native language.

Ten of the texts were model writings printed in the Troyka *Handbook for Writers*, a book recommended for use in undergraduate writing courses both at North Lake College and at UTA. The model texts taken from this book were brief, one or two paragraph pieces, expressing an opinion or making a point, much like the student writing samples. None were narratives or physical descriptions.

3.1 The preliminary analysis

The texts were analyzed using the Rhetorical Structure Theory of Mann & Thompson described in chapter 2. Three examples of this kind of analysis follow, in order to give an overview of the type of decisions involved in RST analysis and to provide some case by case explanations. A step-by-step breakdown of the methodology used to produce the analysis is provided after the examples.

3.1.1 Example 1

A thousand years ago in Europe, acres of houses and shops were demolished and their inhabitants forced elsewhere so that great cathedrals could be built.

For decades, the building process soaked up all available skilled labor; for decades the townspeople stepped around pits in the streets, clambered over ropes and piles of timber, breathed mortar dust, and slept and worked to the crashing noise of construction.

The cathedrals, when finished, stood half-empty six days a week, but most of them at least had beauty.

Today, the ugly skyscrapers go up, shops and graceful homes are obliterated, their inhabitants forced away, and year after year New Yorkers step around the pits, stumble through wooden catwalks, breathe the fine mist of dust, absorb the hammering noise night and day, and telephone in vain for carpenter or plumber.

And the skyscrapers stand empty two days and seven nights a week. This is progress.

Eric Sevareid (in Troyka 1990:114)

Segment	1	A thousand years ago in Europe,
Segment	2	acres of houses and shops were demolished
Segment	3	and their inhabitants forced elsewhere
Segment	4	so that great cathedrals could be built.
Segment	5	For decades, the building process soaked up all available skilled labor;
Segment	6	for decades the townspeople stepped around pits in the streets,
Segment	7	clambered over ropes and piles of timber,
Segment	8	breathed mortar dust,
Segment	9	and slept and worked to the crashing noise of construction.
Segment	10	The cathedrals, when finished, stood half-empty six days a week,
Segment	11	but most of them at least had beauty.
Segment	12	Today, the ugly skyscrapers go up,
Segment	13	shops and graceful homes are obliterated,
Segment	14	their inhabitants forces away,
Segment	15	and year after year New Yorkers step around the pits,
Segment	16	stumble through wooden catwalks,
Segment	17	breathe the fine mist of dust,
Segment	18	absorb the hammering noise night and day,
Segment	19	and telephone in vain for carpenter or plumber.
Segment	20	And the skyscrapers stand empty two days and seven nights a week.
Segment	21	This is progress.

Figure 3.1. Rhetorical structure tree of a model text in an undergraduate textbook.

This text is one of the 10 model texts taken from the *Handbook for Writers*. It is organized overall in terms of an *Evidence* relation. Segment 21 ("This is progress") is an ironic statement actually meant to imply that urban life today is no better than it was a thousand years ago. Segments 1-20, which precede it, are given as evidence to support that final claim. The next level down organizes the supporting evidence into a *Contrast* relation, opposing events of a thousand years ago (segments 1-11) against events of recent

times (segments 12-20). The two text spans being contrasted are of similar length and are developed to approximately the same depth (the first to level 6 and the second to level 5). The next level down (the 3d) balances a *Volitional Cause* relation (segments 1-4 with segments 5-11) on the left leg of the contrast against a *Non-Volitional Cause* relation (segments 12 and segments 13-20) on the right leg. These develop the CONTRAST relation by detailing the impact of construction on the citizens of then and now. The writer then works from both the nucleus and satellite of the first leg of the contrast to expound on the problem. At the fourth level a *Purpose* relation ('so that great cathedrals could be built') is employed in the satellite while a *Sequence* relation is employed to narrate events in the nucleus. The first group of synchronic events (segments 5-9) are described in a 5-part multiple *Joint* relation at level 5; the second group of events in a single *Circumstance* relation ('The cathedrals, when finished ...') are enhanced with a *Concession* relation to make a larger point ('... but most of them at least had beauty'). A stripped down version of this patterning is employed in the development of the right leg of the CONTRAST. At level 3 the writer uses a *Volitional Cause* relation, as he had on the left, and describes modern events in a 7-part multiple *Joint* relation.

The overwhelming majority of the segments of this text are employed to provide comprehensible detail intended to increase the reader's belief of the statement made in segment 21. The overall symmetry of relations and the particularly balanced proportions with which the organizing principle of Contrast is worked out are made visible by RST analysis. In looking again at the tree, however, we can see that the left leg of the contrast

is developed to the sixth level of embedding while the right leg of the contrast is developed to only the fifth level. The type of symmetry demonstrated here, though not perfect, can be explained. In the first leg of the contrast the parameters for the discussion were established, characters and props were introduced and preliminary descriptions were given. Because the second leg of the contrast is built on these and draws from them, it needs only to make simple references back to the elements already introduced. Anything more than this in such a brief text might in fact be a kind of excess. Judging from this model, a reasonable degree of symmetry to expect, then, might involve one or two embeddings fewer in the second leg of a contrast, and be considered a structure reflective of an appropriate artistic balance.

3.1.2 Example 2

There are many kind of transportation in a city and between cities.

When I travel around a city I like by car because I can go everywhere and anytime and also it is comfortable but this kind of transportation has its disadvantages like maintain the car in good conditions for example : battery, motor, wheels and fuel, it means money.

Actually everything is expensive but if I want comfort I would have to choose a car, just a good car not a expensive one, with which I would able to move to every place.

If I have to travel between cities and countries my favorite kind of transportation is by plane.   Hispanic undergraduate

Segment 1   There are many kind of transportation in a city and between cities.

Segment 2   When I travel around a city

Segment 3   I like by car

Segment 4   because I can go everywhere and anytime

Segment 5   and also it is comfortable

Segment 6   but this kind of transportation has its disadvantages like maintain the car in good conditions for example: battery, motor, wheels and fuel, it means money.

Segment 7   Actually everything is expensive

Segment 8   but if I want comfort

Segment 9   I would have to choose a car, just a good car not a expensive one,

Segment 10   with which I would able to move to every place.

Segment 11   If I have to travel between cities and countries

Segment 12   my favorite kind of transportation is by plane.
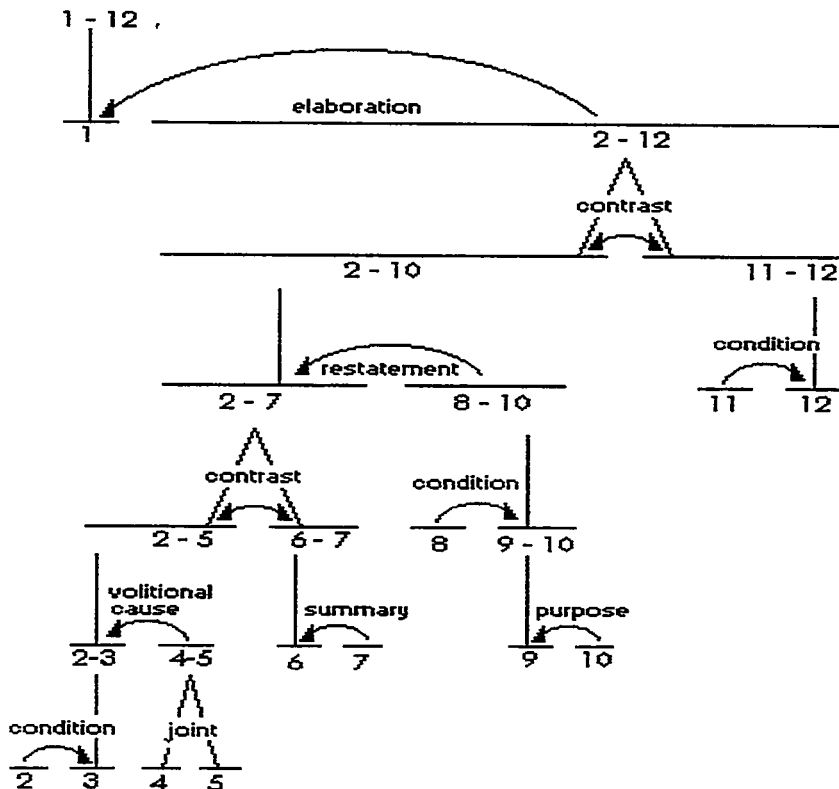
Figure 3.2. Rhetorical structure tree of a Hispanic undergraduate text (text: uh-5)

This text was written by a Hispanic undergraduate in response to an exam prompt which asked the students to express their preference for a certain means of transportation and to support their claim. This student chose to give her text the overall structure of *Elaboration*. The fact that the assignment was to express and support an opinion rather than merely to provide information suggests that this was perhaps the wrong choice of macro-Schema. The student moves to the second level using a *Contrast* relation (segments 2-10 vs. segments 11-12) to explain her choice of cars over airplanes. Unlike the CONTRAST Schema seen in Example 1 above, this Schema displays a rather unbalanced development in which the left leg is expanded to the sixth level, while the right only moves to level 3. The *Restatement* relation (segments 2-7 and 7-10) at the third level serves to recap the advantages and disadvantages of car travel (expanded under the nuclear span 2-7 in a *Contrast* relation) while including an explicit *Concession* relation which lays aside the problem of expense in favor of comfort and convenience. On the right side of the CONTRAST Schema the writer quickly mentions air travel, calling back to the introductory statement 'There are many kind of transportation in a city and between cities.' At the third level the writer employs a *Condition* relation ('If I have to travel between cities and countries . . .') to satisfy the need for the kind of semantic parallelism (in city:car vs. between-cities:airplane) that was established in the opening sentence. Eventually, however, this is not reflected in the rhetorical structure, which remains

markedly off-balance. The cause of this imbalance, however, may not have been as much a shortage of rhetorical skills as a simple shortage of time.

3.1.3 Example 3

> "Major Dad" is a television show I watch occasionally. It's not necessarily boring or insipid, but it's irritating and very unrealistic. Everyone on the show acts like a robot and when Major Dad comes home everyone in this family calls him "the major." His kids act like their scared of him. Caricatures on the show act like they do not have any life except for the military. Which I know is unrealistic. I experienced 3 years of the military and it is nothing like that. That how things get stereotyped.

> Anglo undergraduate

Segment 1	"Major Dad" is a television show I watch occasionally.
Segment 2	It's not necessarily boring or insipid,
Segment 3	but it's irritating and very unrealistic.
Segment 4	Everyone on the show acts like a robot
Segment 5	and when Major Dad comes home
Segment 6	everyone in this family calls him "the major."
Segment 7	His kids act like their scared of him.
Segment 8	Caricatures on the show act like they do not have any life except for the military.
Segment 9	Which I know is unrealistic.
Segment 10	I experienced 3 years of the military
Segment 11	and it is nothing like that.
Segment 12	That how things get stereotyped.
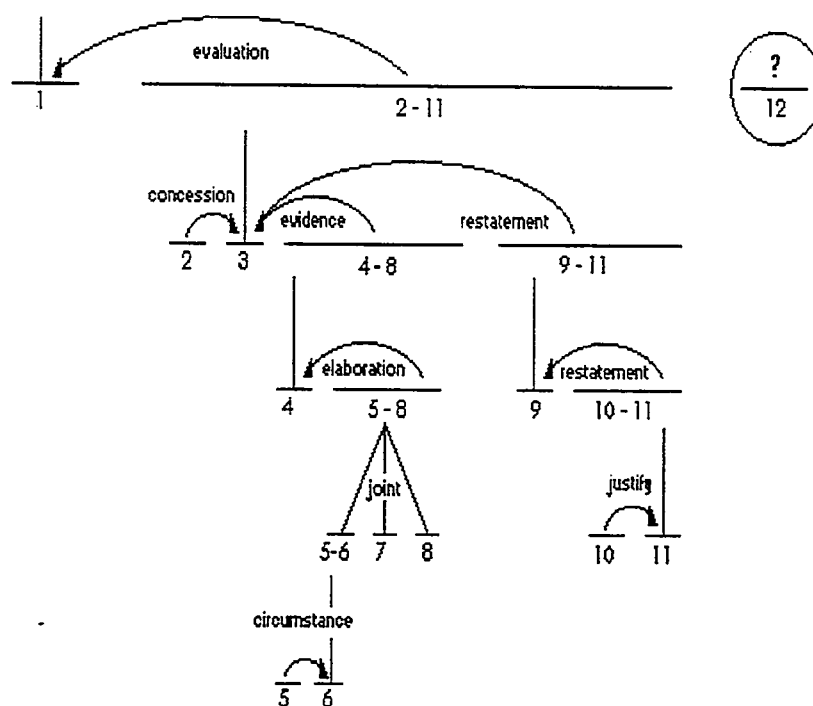
Figure 3.3. Rhetorical structure tree of an Anglo undergraduate text (ua-5).

This text was written by a native speaker of English at the freshman level at North Lake College, in response to a prompt that asked the students to express their opinions about a TV program of their choice. The overarching relation employed in this text is *Evaluation* (segment 1 vs. segments 2-11) in which the writer expresses his degree of positive regard ('irritating,' 'unrealistic,' etc.). toward the matter named in the nucleus. At level 2 of the structure, the writer uses a *Concession* relation to set aside the argument that the program is at least not 'boring or insipid' (segment 2). At this level he also sets up an *Evidence* relation to provide support (segments 4-8) for his nuclear evaluation

(segment 3). At the fourth level, the EVIDENCE Schema is filled out with a 3-part multiple *Joint* relation (segments 5-6, 7, and 8) which lists details of the evidence. While segments 4-8 give detailed support for the writer's evaluation of the show as "irritating" in segment 3, segments 9-11 reiterate the judgment 'unrealistic' also expressed in the nuclear segment 3 and are linked to it in a *Restatement* relation. This *Restatement* relation is enhanced by a presentational relation, *Justify*, as the writer seeks to increase the reader's willingness to accept his right to call the program 'unrealistic.' Finally, segment 12 remains at the far right, at level 1, without a point of attachment. A kind of *Non-Volitional Result* relation seems to be intended between Span 12 and Span 3-11. Span 3-11, however, is already a subordinate part of a satellite attached to Span 1. Allowing Span 12 to attach to Span 3-11 would create a competing structure within the existing rhetorical pattern. Segment 12 ('That how things get stereotyped') actually seems to be part of a larger argument to which no explicit reference had previously been made. In this example, therefore, RST visually highlights a breach in the writer's rhetorical strategy.

3.2 Constructing an RST tree diagram:

To generate an RST tree diagram is a step-by-step, time-consuming procedure. This study proceeded in the following manner:

First, the texts were entered into a computer using a standard word processing program. Second, the computer was asked to break the text down into numbered text spans, which it did automatically at sentence breaks. Third, the numbered spans were

personally reviewed sentence by sentence and broken down further into individual clauses, which typically coincided with the text's constituent thematic units. By this process, a paragraph of perhaps seven sentences might end up being displayed as 12 numbered segments. These segments, because they represented thematic units, did not always correspond to grammatical units. For example, Segment 1 of Example 3.1.1 consisted of a simple adverbial phrase. Because of its pivotal function in marking the boundaries of the contrast, it was considered a separate segment. Another adverbial phrase, one which began Segment 5, was not considered an independent segment because its function was not related to the macrostructure of the text.

Once a workable list of segments was obtained, the actual rhetorical analysis was begun. At this point, two contrasting strategies were applied. The structure of some texts could be discovered directly through a top-down analysis, while that of others could not. The model or well-written texts often declared their macro relations from the beginning. Some stated a problem and began to work toward a solution; some set up a contrast and began directly to develop its parts. With such texts, the fourth step was to begin from the broadest and most general text spans, marking theme boundaries and defining rhetorical relations, moving from the most general to the most specific, until the whole was done. Other texts, however, were not so transparently ordered. These had to be analyzed using an initially random clustering of the most obvious relations first, at whatever level they occurred, and then linking these with relations or clusters of relations, working both

upward and downward until all segments were accounted for. At this point a final top-down check was done.

In the process of determining the exact relation that held between two propositions, a number of factors had to be considered. In Mann & Thompson's work there are cases where two or three relation names could be justifiably assigned, and indeed it may well be that a richer text interweaves its clauses in such a manner. However, Mann and Thompson typically choose the relation that best serves the greater function of joining a cluster to the larger text. Thus, in assigning relations I considered not only the elements linking the two propositions themselves, but also how this relation would interface with those above it and below it. In some cases, the best assignment could not be made until the whole text had been done. Finally, in each case, an overall check of the tree was done to verify that there was a single, unbroken line of development passing through each nucleus from the highest relation down to the outermost branching.

The Windows program Paintbrush was used to facilitate the diagramming process. The advantage of the Paintbrush program was that small branches or whole chunks of trees could be cut, duplicated, renamed, rearranged, or even flipped over as often as the analytical procedure required.

3.3 Coding and arrangement of data

Data harvested from the RST trees were initially put into a database created in EXCEL, a popular database and spreadsheet program with graphics capabilities.

A sidecar program, Instance Counter 4.0,[5] written and upgraded specifically for this project, was employed to obtain full sets of comparative totals involving all fields and combinations of fields in this database. The information contained in the database as well as the results obtained though the Instance Counter were then imported into EXCEL, processed through additional statistical computations and converted into graphs and tables.

The data processed through EXCEL spreadsheets were then exported to the variable rule program VARBRUL to undergo further computations. The coding and configuration of these data at their various stages is described in sections 3.3 and 3.4.

The arrangement of the primary database is shown in figure 3.4.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
relation	hier ±	logic ±	unco ±	readr ±	macr ±	cmplx type	locat	above	below	total embed	hisp/ angl	ug/gr mod	name (text)	relation address
backgr	+	-	+	+	-	4	6	g	∅	6	H	G	pinzon(1)	11b:11c
condit	+	+	-	-	-	3	5	x	∅	6	H	G	pinzon(1)	7a:7b
elabor	+	-	-	-	+	2	5	j	b	6	H	G	pinzon(1)	11a:11b-11c
elabor	+	-	-	-	+	2	5	w	1	6	H	G	pinzon(1)	9:10

Figure 3.4. Inclusive EXCEL database with sample data included.

3.3.1 Field 1: Individual relations

The database, created in EXCEL, held 816 records, each record representing the occurrence of a single relation in one of the 64 texts. The 15 fields of each record

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[5] Joseph Wykel ©1996

contained codes representing the relation's rhetorical features, environment, placement, complexity index, and writer background.

The first field of each data record contained the name of the relation in question. This coding was designed to inventory the distribution of each of the 24 relations. This field employed 24 different codes, to match the 24 relations represented.

3.3.2 Fields 2-6: Common relational features ($\pm$)h, ($\pm$)l, ($\pm$)u, ($\pm$)r, ($\pm$)m

Fields 2 through 6 of the database are occupied by the relational features determined to be most basic to the rhetorical structure of the texts. These are $\pm$hierarchical, $\pm$logical, $\pm$non-conventionalized, and $\pm$reader-based. The use of these features finds support not only in Mann and Thompson's writings, but also in the writings of other linguists involved in text analysis.

The first feature, $\pm$hierarchical ($\pm$h), concerns whether the relation is comprised of a nucleus and satellite or is multi-nuclear. According to Mann & Thompson, only three relations, Joint, Contrast, and Sequence, are not hierarchical (1988:247-248). Grimes (1975) calls such relations "purely paratactic predicates." Halliday and Hasan (1976) speak of these as the "and" the "but" and the "either. . .or" relations. Longacre (1976) describes this kind of relation as the "coupling" of "coordinate sentences." Beekman and Callow (1973) refer to these as "relations that hold between propositions of equal rank" (309). In this study, the feature +hierarchical is considered to involve greater complexity.

The second feature, ±logical (±l), concerns the degree of logical interdependence involved in the relation. The application of this feature gives us a category of relations similar to those in Halliday and Hasan's category entitled Enhancement:Causal-Conditional, in Grimes' category entitled Covariance, in Longacre's category Implication, involving Conditionality, Causation, Contrafactuality and Warning, and in Beekman and Callow's category Support by Argument. In the present study, the feature + logical is counted as involving greater complexity.

A third feature, ±non-conventionalized (±u), concerns the availability of a ready-made marker in the language. The essential distinction here lies in whether or not the lexicon or the grammar of a language is already hard-wired to express the relation. Examples of such ready-made markers include "although," "because," "if." Since it can be assumed that there is a greater degree of difficulty involved in forming an original expression, being non-conventionalized is considered a "+," an indication of greater complexity.

The fourth feature, ±reader-based (±r), draws the line where Mann and Thompson draw it in their relation classification based on what they call "subject matter" versus "presentational" relations. As they describe this distinction, "Subject matter relations are those whose intended effect is that the reader *recognizes* the relation in question; presentational relations are those whose intended effect is to *increase some inclination in the reader*" (1988:257). Presentational relations are +reader-based and are counted as

involving greater complexity because an intended effect on the reader is included in the rhetorical choice.

A fifth feature, ± macro, was included because in observing the data it was noted that some relations lent themselves more readily to serve at the top of a tree, while others seemed more appropriate at lower levels. Based upon observation of the model texts and on researcher intuition concerning appropriateness, the "larger" relations were considered +macro. Table 3.1 below provides a list of such relations.

TABLE 3.1.

RELATIONS THAT POSSESS THE MACRO FEATURE

1.	antithesis	5.	evidence
2.	contrast	6.	motivation
3.	elaboration	7.	sequence
4.	evaluation	8.	solutionhood

The determination of this property was made advisedly. Mann and Thompson (1988) have indicated that their relational definitions are especially designed to allow for maximum flexibility, that is, to allow for the relations to hold between single or multiple propositions, at the micro or macro level. It is possible in principle that any Mann and Thompson relation may govern a text's structure or serve to develop it, depending on the purpose of that text. However, it was observed in this study that certain relations lent themselves more frequently and more felicitously to serve as the text umbrella. This was

an apparent contradiction between what Mann & Thompson intended as possible, and what this study observed as actual.

This portion of the data coding was used for charting the application and distribution of the basic rhetorical features shared by all the relations present in the texts.

3.3.3 Field 7: Relation type

No rhetorical feature can be chosen in isolation, but is rather applied as a part of a bundle of features selected by the writer when he or she employs a particular relation. For this reason, analysis by individual features alone does not give the full picture of the choices the writer must make. To monitor the real choices the writer makes, we must look at the whole relation. However, although the data coding used in the first field (section 3.3.1 above) serves well to investigate the actual choices the writer makes regarding each of the 24 relations, their processing is often unwieldy and the results produced are generally diluted due to the large number of factors being surveyed.

Therefore, to efficiently monitor the essential features involved in the writer's structuring of the text while still maintaining the integrity of the feature bundle, the 24 relations were reconfigured into five categories which grouped the relations by likeness of basic rhetorical feature. This grouping allows for identification of significant influences on the complex "holistic" choices being made by the writers.

Table 3.2 below shows how the twenty-four relations fall, feature by feature, into five categories of increasing complexity. In the first category no positive features are

present; in the second, only one; in the third exhibit three positive features, although not necessarily the same three; in the fifth category, the relations must exhibit all four features. Note that the feature +hierarchical is found in all categories starting with category 2.

TABLE 3.2

FIVE RELATIONAL CATEGORIES OF INCREASING
RHETORICAL COMPLEXITY

-h/-l/-u/-r	+h/-l/-u/-r	+h/+l/-u/-r/	+h/+l/+u/-r/	+h/+l/+u/+r
①	②	③	④	⑤
contrast joint sequence	circumstance elaboration evaluation restatement summary	condition non-vol result non-vol cause otherwise purpose vol result vol cause	solutionhood interpretation +h/+l/-u/+r concession analogy +h/-l/+u/+r background	antithesis evidence justify motivation

This coding allows for efficient investigation of rhetorical feature choices, relative ordering as well as absolute placement of relation types vis-à-vis the text builder's academic level and first language. This arrangement also allows for the calculation of a

relational complexity index, that is, the assignment of numeric value to each category of relation, yielding a means of measuring the overall rhetorical complexity of each text. This index is defined and discussed in chapter 4.

3.3.4 Field 8: Location

The eighth field in the database encodes the absolute location of the relation. It is expressed numerically, from 1 to 11 and indicates the level of embedding where the writer placed the given relation. This information is coded to answer questions regarding ordering and concerning preferences for employing certain relations at certain levels of embedding.

3.3.5 Fields 9 and 10: Relations above and below

Fields 9 and 10 are encoded with characters that represent the actual name of the particular relation found directly above and the one found directly below the relation in question. These data were entered specifically to survey ordering preferences exercised by the various writers' groups.

3.3.6 Field 11: Total embeddings

The eleventh field contains the total number of embeddings found in the text where the relation is located. While the eighth field is intended to mark ordering preferences with regard to a relation's location in the text, this field is intended to measure the general extent of rhetorical development typical of the various writer groups.

3.3.7 Fields 12 and 13: Native language and academic level

In the twelfth and thirteenth fields, extratextual data regarding the writer's native language and academic level are encoded. As trends regarding the other rhetorical aspects are being charted, the data in these fields are included to discover corresponding group preferences. Inclusion of these data is intended to disclose the extent to which native language and academic level contribute to the rhetorical choices being made.

3.4 VARBRUL

In order to answer the questions raised in chapter 1 of this study, the text information along with the demographic data were imported from the EXCEL database and recoded to accommodate processing by VARBRUL. While EXCEL was employed to inventory the writers' rhetorical choices and to chart patterns of distribution, VARBRUL was used for variable rule analysis, to detect which factors in fact conditioned the patterns of rhetorical choices that had been made.

· VARBRUL is a variable rule analysis program, developed for the PC by Susan Pintzuk of New York University and adapted for the Macintosh by David Rand and David Sankoff of the University of Montreal. The program itself was designed to assist researchers in analyzing linguistic as well as social variables. According to CTI,[6] the main

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[6] The Computers in Teaching Initiative (CTI) Centre for Textual Studies was established in October 1989 as one of twenty-one subject-specific Centres to promote and support the use of computers in university teaching. Oxford University Computing Services, 13 Banbury Road, Oxford OX2 6NN. Tel: 01865-283282 Fax: 01865-273221 E-mail: ctitext@oucs.ox.ac.uk.

purpose of the package is to "to identify statistical patterns of variation which may be significant, environmentally conditioned, or determined by one of the external variables, and which may have hitherto gone undetected."

VARBRUL's strength is its flexibility and capacity for handling a large number of variables simultaneously. VARBRUL performs binomial logistic regression analysis. The fact that VARBRUL is capable of detecting relationships among factors that may go undetected by other methodologies makes it an attractive tool for this study.

According to Cedergren and Sankoff (1974), a variable rule computation should result in the formation of a kind of rule which both "describes the range of variation present in [a] community and accurately predicts the behavior of each individual" (335). Not only do these computations identify the factors which may predict the observed behavior, but they can also indicate "the relative weight which [the factors] contribute to the applicability of the rule" (335). In writing about VARBRUL, Gregory Guy of York University in Canada states, "This approach to variation assumes that variability is inherent in language and that it is describable by means of a probabilistic or variable rule component in the grammar" (59). The program's computations are based on the assumption that the conditioning factors are independent and non-interactive.

VARBRUL analysis is done in "runs." A run is actually a series of runs for which a certain dependent variable is established. The dependent variable is the rule whose application is under investigation. Any other factors involved in a given run must be mutually exclusive, that is, neither a part nor the whole of one factor group can be

included in the other. Up to 19 other independent and non-interactive variables may be included in a run. Within this larger run, VARBRUL will make numerous smaller runs. In "stepping up" runs it adds factors one by one until all have been checked for significance. In the "stepping down" runs, variables which VARBRUL determines to be non-significant are eliminated one by one. At the end of this process, which can take anywhere from 2 minutes to 24 hours or more depending on the nature and number of the variables being surveyed, the program designates what it calls the two "best runs," one from the stepping up runs and one from the stepping down runs. These best runs include the factors which the program considers significant in predicting application of the rule under study. The measures of probability it yields are expressed as three-place decimals between 0 and 1. A "0.500" is considered a neutral, non-influential weighting. Moreover, the range extending 0.1 above or below 0.500 is also considered insignificant. Weightings ranging from 0.700-0.999 are associated with significant predictors of the application of the rule. Weightings from 0.300 to 0.001 are considered negative predictors, leading us to expect the non-application of the rule.

3.4.1 Coding to track the 24 individual relations

The coding of the data and their arrangement into dependent and independent variables is critical to the success of VARBRUL analysis. In this study, three primary data codings were employed in VARBRUL analysis. These codings accommodate variable rule

analysis of the six aspects of rhetorical choice under investigation in the research questions posed in chapter 1, as these correlate with the writers' first language and academic level.

The first of these codings was designed to investigate rhetorical choices in terms of the 24 individual relations. It is pictured in figure 3.6.

	relation	location (level)	relation above	relation below	count of levels	hisp / anglo	undergrad / grad / model
column	1	2	3	4	5	6	7
symbols used to encode data	a-x	1-9	a-x	a-x	1-9	G-H	I-J-K

Figure 3.5. Data coding by the 24 individual relations.

In this arrangement, Column (1) encodes the name of each relation, from Antithesis to Volitional Cause, using 24 letters of the alphabet, not necessarily related to the name of the relation. (All codes had to be single characters.) Column (2) contains a number which represents where, that is, at what level of embedding, this relation occurs in the text. Column (3) contains the code name for the relation directly above it in the structure (using the same code as in column 1). Column (4) contains the code name for the relation directly below it. If no relation precedes it or no relation follows, a $\emptyset$ is placed in the appropriate column. Column (5) indicates the total number of levels employed in the text containing the relation named in Column (1). Columns (6) and (7) indicate the academic status and language base of the writer.

3.4.2 Recoding by common relational features

The second coding is designed to detect significant patterns in the presence of shared relational features. The relational features determined to be most basic to the rhetorical structure of the texts are ±hierarchical, ±logical, ±non-conventionalized, ±reader-based, and ± macro, as described in section 3.3.2.

The format of this features file was as follows, employing the following codes:

> h (hierarchical)
>
> l (logical)
>
> u (unconventionalized)
>
> r (reader-based)
>
> m (macro)

features of relation used					depth	features of relation used above					features of relation used below					lang.	class
h	l	u	r	m	level	h	l	u	r	m	h	l	u	r	m	hisp, anglo	ungr, grad, model
±	±	±	±	±	1-9	±, 0	±, 0	±, 0	±, 0	± 0	±, 0	±, 0	±, 0	±, 0	± 0	G,H	I,J,K
1	2	3	4	5	6	7	8	9	10	1	12	13	14	15	16	17	18

Figure 3.6. Data coding by common relational features.

With this coding, VARBRUL was able to note which factors (whether depth of embedding, first language, academic level, or any preferred ordering by feature) contribute significantly to the presence of the feature in question. Five separate run series were

performed using this type of coding. Each series took a single feature of the principle relation as the dependent variable to be processed along with the factors encoded in columns 6 through 18.

3.4.3 Recoding by feature bundles (relation types)

Because no relational feature is chosen in isolation, but is always applied as a member of a feature bundle, it was also necessary to provide VARBRUL with a data file coded in terms of relation categories. See section 3.3.3 above for a description of these categories. The arrangement of data in this file is displayed in figure 3.8.

relation type	location on tree	relation type used above	relation type used below	total levels of embedding	hisp/anglo	undergr/ grad/ model
1-5	1-9	1-5	1-5	1-9	G/H	I/J/K

Figure 3.7. Data coding by relation type.

Because computations which employed coding for each of the 24 relations (see section 3.4.1 above) intended to measure placement preferences produced runs of unreasonable complexity, matching 24 primary relations against 24 relations above and 24 below, the above data arrangement was introduced to chart the predictability of the writers' ordering practices using only relation types. The data included in this arrangement allowed VARBRUL to make predictions concerning the interaction of the five feature

bundle types as well as the influence (if any) of the writer's first language and academic level on their occurrence and distribution.

    The results of these analyses are presented in chapter 4.

CHAPTER FOUR

FINDINGS

4.0 Introduction

Careful analysis of the data produced results pointing to two contrasting correlations. On the one hand, rhetorical preferences were noted which correlated with the writers' academic status. On the other hand, rhetorical patterns were also documented which appeared to correlate with the writers' first language. In this chapter, results will be presented from the following areas of investigation:

- use of individual relations

- use of common relational features

- rate of overall relational complexity

- depth of embedding and patterns of development

- frequency of recurrence of relations

- ordering of relations.

These results are presented in three major sections. The first presents results obtained from calculations performed through EXCEL, which was employed to inventory the data provided by RST analysis and to chart patterns of feature distribution. The second presents results obtained through VARBRUL computations, which serve to highlight what

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factors condition the distributions observed. This section also presents results showing

rhetorical patterns which VARBRUL detected as significant but could attribute to neither

academic status nor first language. The third section provides a summary of the findings.

4.1 Patterns of distribution

The following section charts patterns of distributions obtained through the use of

EXCEL. It is arranged in seven subdivisions. In the first, regarding the application of the

twenty-four *individual relations*, some correlation is noted between preferences and either

developmental level or native language. For the most part, however, contrasts are diluted

by the inclusion of such a large number of factors. In the second subdivision, a reduction

of variables to the five essential *common relational features* present in these relations

sharpens the results and points to correlations between unconventionalized, reader-based

relations and academic level. The third subdivision deals neither with multiple individual

relations nor with unrelated single features, but rather addresses relations as bundles of

features that contribute to an overall degree of complexity. This section also includes the

measurement of overall *relational complexity*, which further confirms that greater

complexity correlates with a higher academic level, regardless of native language. These

measurements also provide insights into the factors which possibly motivate these

correlations. In contrast, in the fourth, fifth and sixth subdivisions, regarding *depth of*

embedding, patterns of development, and the use of +*macro relations*, text characteristics

emerge which point to the influence of L1. The seventh subdivision, concerning the

repetition of relations, continues to develop these findings and presents further evidence of the influence of native language.

4.1.1 Use of the 24 individual relations

In order to investigate whether significant patterns could be observed in the writers' use of the individual relations, a complete count was taken of all instances of each of the 24 relations encountered across groups. Table 4.1 summarizes those findings by group, giving both the token count and the percentage of all relations employed per group.

Although the percentages yielded by this count are relatively low and do not offer sufficient contrast to point out clear patterns, there are some hints of group preference. We can observe, for example, that the use of the Background relation increases with academic level, the Anglo undergrads using it only 1.1% of the time, while the Anglo graduates use it 5 times more frequently. The use of the relations Concession and Evidence likewise increases with academic level. These three relations all possess the feature of audience or reader consciousness (+r), which will be seen in section 4.1.2.4 to be a feature present more often in the writings of upper level students. The relation Purpose, on the other hand, mildly decreases as academic level increases. It must also be observed, however, that although the model writers often fall somewhere between the two levels, in regard to this relation the model writers operate far above the ranges of both levels of students. Although we might expect the model writers to fall with the Anglo grads or at least midway between the Anglo undergraduates and the Anglo graduates, the

model writers' work patterns counterintuitively. Further instances of this tendency will be observed later in this chapter.

TABLE 4.1

CHOICE OF INDIVIDUAL RELATION OUT OF ALL RELATIONS EMPLOYED

	grad hisp	grad hisp	grad anglo	grad anglo	ungr textbk	ungr txtbk	ungr hisp	ungr hisp	ungr anglo	ungr anglo
	percent	count	percent	count	percent	count	percent	count	percent	count
antithesis	8.86%	7	1.22%	2	2.83%	3	2.76%	5	3.97%	11
background	3.66%	6	5.06%	4	2.83%	3	2.21%	4	1.08%	3
circumstance	3.66%	6	5.06%	4	2.83%	3	4.42%	8	5.78%	16
concession	7.32%	12	10.13%	8	4.72%	5	3.31%	6	6.14%	17
condition	4.27%	7	7.59%	6	6.60%	7	6.08%	11	4.69%	13
contrast	4.27%	7	1.27%	1	4.72%	5	3.31%	6	5.05%	14
elaboration	15.24%	25	15.19%	12	9.43%	10	23.20%	42	8.30%	23
analogy	0.61%	1	0.00%	0	0.94%	1	0.00%	0	0.00%	0
evaluation	6.10%	10	3.80%	3	1.89%	2	1.10%	2	7.94%	22
evidence	4.27%	7	6.33%	5	2.83%	3	1.66%	3	1.08%	3
interpretation	0.00%	0	2.53%	2	0.00%	0	0.00%	0	0.36%	1
joint	9.76%	16	13.92%	11	18.87%	20	18.78%	34	12.64%	35
justify	1.22%	2	0.00%	0	0.00%	0	1.66%	3	0.36%	1
motivation	0.61%	1	0.00%	0	3.77%	4	0.00%	0	0.00%	0
non-vol result	2.44%	4	3.80%	3	5.66%	6	3.87%	7	2.89%	8
non-vol cause	1.83%	3	5.06%	4	10.38%	11	2.76%	5	9.75%	27
otherwise	0.00%	0	0.00%	0	0.94%	1	0.55%	1	0.00%	0
purpose	2.44%	4	1.27%	1	5.66%	6	2.76%	5	2.89%	8
restatement	3.66%	6	7.59%	6	5.66%	6	3.31%	6	9.03%	25
sequence	4.27%	7	2.53%	2	5.66%	6	2.76%	5	2.53%	7
solutionhood	5.49%	9	0.00%	0	1.89%	2	1.10%	2	2.53%	7
summary	1.83%	3	1.27%	1	0.00%	0	3.31%	6	1.44%	4
vol result	1.22%	2	2.53%	2	0.00%	0	2.76%	5	1.08%	3
vol cause	11.59%	19	2.53%	2	4.72%	5	8.29%	15	11.91%	33

Among the individual relation counts there are also hints of preferences that correlate with the student's first language. The Circumstance, Restatement and Non-volitional Cause relations are somewhat more frequent in the Anglo texts, while Summary finds a slightly greater use among the Hispanic writers. The Justify relation, however, was found almost exclusively among the Hispanic writers, with only one instance of the Justify relation found in the three groups of Anglo writers. In the Justify relation, the writer uses his or her own character, authority or experience as the supporting material by which to increase the reader's inclination to accept the text. The material brought to a text through a Justify relation explains the text generator's right to speak on the subject. The Anglo preference for the Non-Volitional Cause relation in contrast to the Hispanic writers' greater use of the Justify relation may suggest that the Anglo writers tend to argue more from reason than from personal authority. The use of the Justify relation is also marked by VARBRUL as a significant predictor of first language (see discussion under section 4.2.1).

However, in over two-thirds of the counts by individual relation, no clear patterns of correlation to either academic level or first language emerge. The large number of factors involved appears to dilute the results and may distract the researcher from the fundamental elements influencing writer choice.

4.1.2 Use of common relational features

The unremarkable results of this first count led to the second research question: Can significant patterns of rhetorical choice be found in common underlying rhetorical features belonging to the individual relations employed?

A second survey of the data was made using the five essential rhetorical features by which the 24 relations may be characterized. As discussed in section 3.3.2, there are five features by means of which the twenty-four Mann and Thompson relations may be described. These five features are: 1) ± hierarchical, indicating if the relation is composed of nucleus and satellite (+) or is multinuclear (-); 2) ± logical, indicating that logical interdependence (+) is involved in the relation; 3) ±unconventionalized, indicating if new language must be used (+) to express the relation or not (-); 4) ± reader-based, indicating if the relation aims to affect the reader (+) or simply clarify the meaning of the writer (-); 5) ± macro, indicating whether the relation is well suited (+) or not (-) to function at the top of a rhetorical tree. Plus (+) features are considered to be more complex than (-) minus features.

A full survey was made of the distribution of such features throughout the texts. The results are summarized in table 4.2 below. In this, and in all ensuing tables, results are arranged in a way that corresponds to the dual focus of the study. Because cognitive/academic level is a crucial part of this study, writers of the same academic level are grouped together. However, because L2 writers are of special interest in the research,

they are listed first in every class grouping. The model writers are placed between the two

academic level groups to be easily contrasted with both.

TABLE 4.2

PERCENTAGE OF ALL RELATIONS POSSESSING THE FIVE
FEATURES (COMPARED ACROSS GROUPS)

	all	+h		+l		+u		+r		+m	
grad hisp	164	136	83%	79	48%	34	21%	37	23%	76	46%
grad anglo	79	66	84%	35	44%	15	19%	21	27%	26	33%
ungr textbk	106	77	73%	56	53%	16	15%	19	18%	35	33%
ungr hisp	181	138	76%	68	38%	17	9%	21	12%	71	39%
ungr anglo	277	223	81%	129	47%	22	8%	36	13%	87	31%

In this table the numbers represent what percentage of all the relations used by the

group in question possessed the relevant feature. The raw count is given in the first

column of each feature group. Under the heading "all" the total number of relations per

group is given. The percentages do not add up to one hundred because any given relation

may possess four, three, two or one feature, or even none at all. A glance at the numbers

reveals that the use of hierarchical (+h), unconventionalized (+u) and reader-based (+r)

relations increases with academic level, while the use of logically dependent relations

patterns quite differently. Figures 4.1 through 4.4 graphically represent the trends detected

concerning these four features.

4.1.2.1 The feature ±hierarchical

Considering figure 4.1 below, we can see that among the student writers, the

Hispanic undergraduates commonly use the most non-hierarchical relations. The non-

hierarchical relations are Joint, Sequence, and Contrast. Both Hispanic and Anglo undergraduates tend to use fewer relations that possess the feature hierarchical than their graduate counterparts.
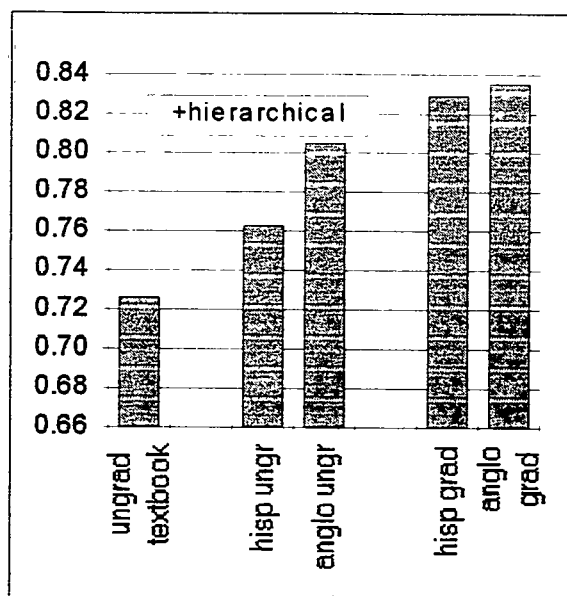
Figure 4.1. Percentage of total relations possessing the feature +hierarchical.

Two texts are given below which demonstrate how a Hispanic and an Anglo undergraduate writer both built their writings with a reduced number of hierarchical relations.

		Segment 1 Text 1
Segment	2	Colombia is one of the biggest, coffee and cocaine producer.
Segment	3	They produce hundreds and hundreds tons of cocaine,
Segment	4	and 50 % of the drugs are brought into the US by plane,
Segment	5	25% by cars,
Segment	6	and the other 25% are shipped by ship.

Segment 7   DEA stops 30%

Segment 8   and 70% are delivered to drug users 75% in US.

Segment 9   some people think drugs should by legal in this country,

Segment 10 but I think they are absolute wrong.

Segment 11 I wonder if they have ever think to have babys

Segment 12 or if they have family at all.

Segment 13 Mexico is a big marijuana producer

Segment 14 end 20% of the population who lives in big cities smoke pot.
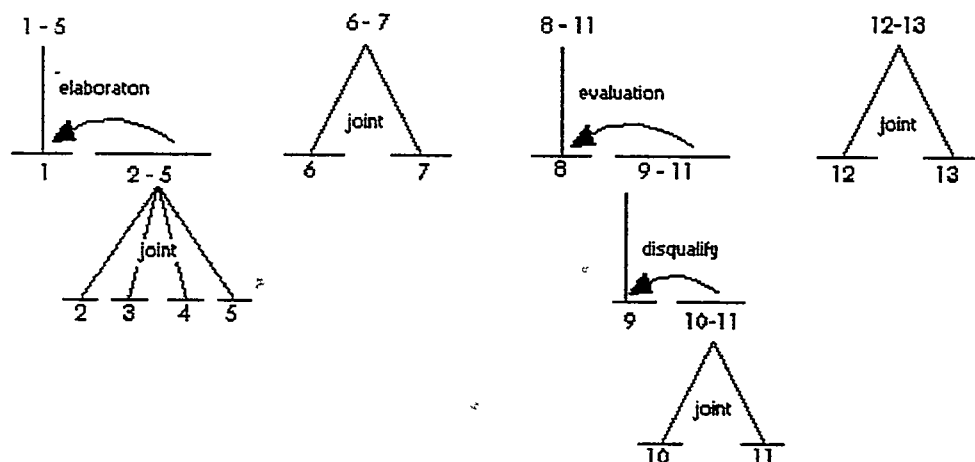
Figure 4.2. Example of a Hispanic undergraduate text illustrating the use of non-hierarchical relations (text: uh-2)

In this text, the student has written down a number of thoughts flowing from the topic of drug production in Colombia. According to Jones and Tetroe (1987), a rudimentary stage of text planning involves a simple collection of ideas centered around the topic of the paper. Commenting on one L2 writer working at this level, they observed that, "The paper he wrote, even though not planned as a list, reads like one" (41). This

statement could easily apply to the text given above. Jones and Tetroe go on to describe a further stage of text planning that involves what they call "the manipulation of abstract genre elements" (42). They explain that at this stage the student moves from simple listing to rhetorical structuring that will involve introducing, weighting, prioritizing, summarizing, and the like. These manipulations are reflected in more complex relations, particularly in relations that are hierarchical. Therefore, a text marked by an excess of non-hierarchical relations, the Joint relation in particular, is most likely a text produced by a writer who has not yet developed skills beyond the rudimentary planning stage. Additional comments and qualifications in this regard are made in 4.1.3 below.

Text 2

Segment 1	I think she is obviously upset that people take indoor plumbing for granted.
Segment 2	She thinks that the poverty stricken people of the South should not feel ashamed and stripped of their dignity
Segment 3	when finding a place to use the bathroom.
Segment 4	She is upset that people complain about the size of their own indoor bathroom.
Segment 5	She is upset that they actually complain about sharing bathrooms at a college for example.
Segment 6	She thinks that they are the ones who should feel ashamed
Segment 7	for thinking that way.
Segment 8	I think the writer is tired of living behind a secret
Segment 9	and wished other people would know what it is like to go through poverty at an early age.
Segment 10	She thinks the other people should be ashamed
Segment 11	for even thinking the way they do.
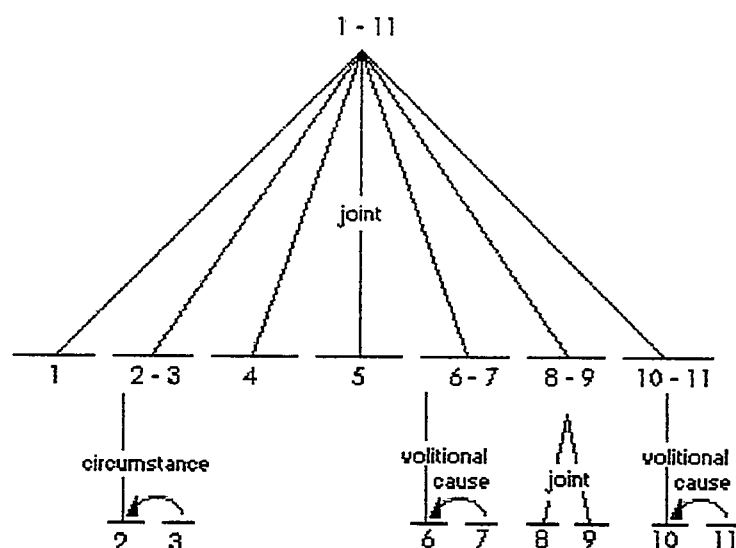
Figure 4.3 Example of an Anglo undergrad text illustrating
the use of non-hierarchical relations (text: ua-25).

Although the sentence grammar of this Anglo undergraduate is superior to that of

the Hispanic undergraduate, the fact remains that this writer's paper is also constructed

with primarily non-hierarchical relations and also reads like a list. In this regard the two

writers both display an absence of the higher level processes of categorizing, prioritizing,

generalizing, and summarizing that typically manifest themselves in hierarchical relations.

In contrast, these processes are quite visible in the writings of graduate students, who use

a large proportion of relations that possess the feature +hierarchical.

However, an unexpected fact also emerges in these statistics. Oddly enough, the

biggest users of the non-hierarchical relations are the undergraduate textbook model

writers. Regarding non-hierarchical relations, a claim has already been made that increased

use of these is the mark of a beginning writer unskilled in the more abstract rhetorical

manipulations. Figure 4.4 below is an RST tree of one of the model writers who makes use of a large proportion of non-hierarchical relations.

Segment 1	In a Milwaukee suburb, a teenage gang awarded points to members for vandalizing streetlights and lawns.
Segment 2	A 16-year-old in Santa Clara County, California, took 12 classmates
Segment 3	to look at the body of his ex-girlfriend.
Segment 4	None of them told police.
Segment 5	Later, the boy was charged with her murder.
Segment 6	In Chicago's affluent North Shore suburbs, more than 40 teenagers have taken their own lives in the past two years.
Segment 7	These episodes point up what many social scientists regard as one of the most significant -- and disturbing -- trends of recent years:
Segment 8	A new generation of American teenagers is deeply troubled, unable to cope with the pressures of growing up in what they perceive as a world that is hostile or indifferent to them. S. Wellborn (in Troyka 1990)
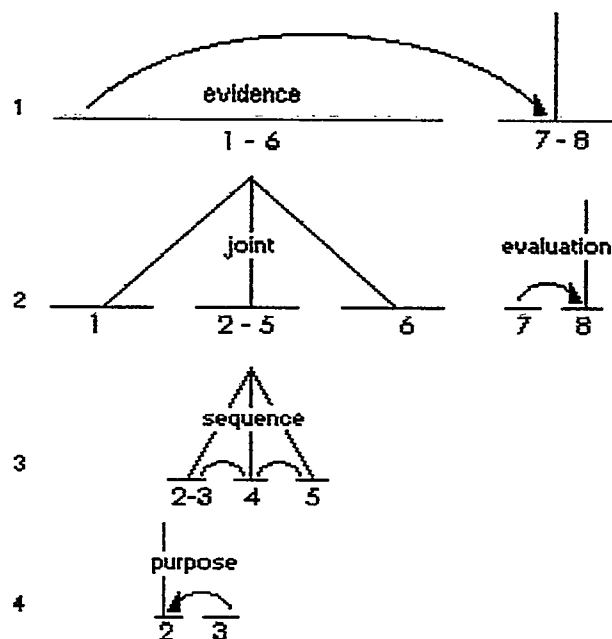
Figure 4.4. Example of a model text illustrating the use of non-hierarchical relations (text: m-5).

As we compare this tree with the trees of the undergraduates (figures 4.5 and 4.6), we see that in fact choice of a single feature cannot be considered a full indicator of rhetorical skill level.

The most striking difference to note between the undergraduates' use of the Joint relation (see figures 4.2 and 4.3) and that of the model writer (figure 4.4), is that the model writer does not employ the Joint relation at the top of the tree. While for the undergraduates, Joint was the overarching relation, for the model writer, argument from Evidence was the organizing principle. While in the undergraduate samples we see only Joint, in the model text we see Sequence as well. This indicates that to measure rhetorical skill level, not only single relation features, but also relation placement and relation variety must be considered as well.

4.1.2.2 The feature ±logical

The results pictured in figure 4.5 indicate a counter-intuitive patterning of the use of relations possessing the feature +logical. In this chart, the Hispanics occupy the extremes of the student population, while the Anglo grads fall below the Anglo undergraduates. The model writers are in a league all their own, using more +logical relations than anyone.
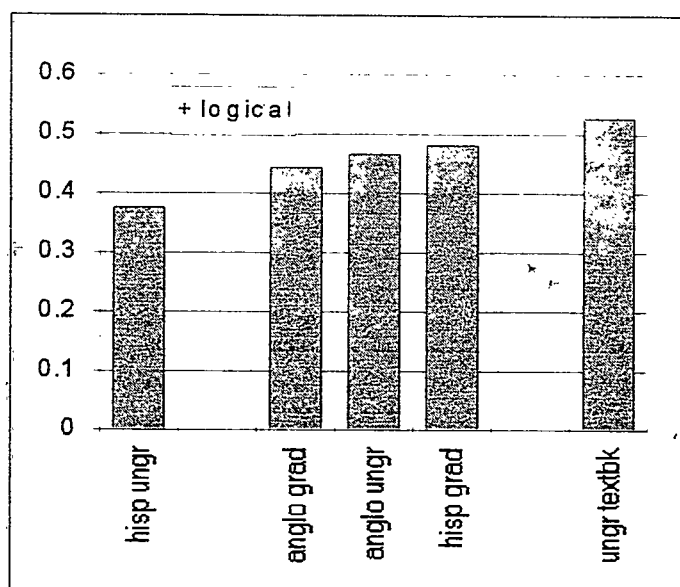
Figure 4.5 Percentage of total relations possessing the feature +logical.

As illustrated in figure 4.6 below, instead of Anglo graduates behaving in the same way as Hispanic undergraduates, we would expect that graduates to group with graduates and undergraduates with undergraduates, as they do in the other cases.
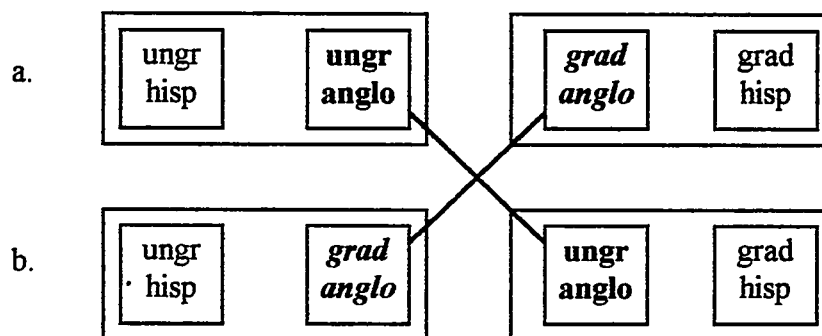
Figure 4.6. Expected patterning (a) versus actual patterning (b).

To further investigate this phenomenon, a survey was made of the types of non-logically dependent relations used by Hispanic undergraduates in comparison with the non-logically dependent relations used by Anglo graduates.

. TABLE 4.3

DISTRIBUTION OF (-l) RELATIONS IN GRADUATE
ANGLO AND UNDERGRADUATE HISPANIC
TEXTS EXPRESSED AS PERCENT (%)
OF TOTAL RELATIONS

	grad anglo	ungr hisp
background	**5.1**	**2.2**
circumstance	5.1	4.4
contrast	1.3	3.3
elaboration	**15.2**	**23.2**
evaluation	3.8	1.1
joint	13.9	18.8
restatement	**7.6**	**3.3**
sequence	2.5	2.8
summary	1.3	3.3
average	6.2	6.93

It was found that although both groups used a larger number of (-l) relations, each had different preferences for which kind of (-l) relation it would use. Table 4.3 summarizes these preferences. Although all relations involved a lack of logical dependence, these numbers indicate that the Anglo graduates favored the use of the Background, Circumstance, Restatement, and Evaluation relations in comparison with the Hispanic undergraduates, who preferred Joint, Contrast, Elaboration and Summary. If we study two

contrasting texts built with these relations, we can see how different their uses are. The first text is by an Anglo graduate. The second is by a Hispanic undergraduate.

Text One

It is unjustified to claim that "No have money" is an unambiguous case of L1 transfer because of the stages that a learner must go through to reach the TL. The point is that even though Spanish has the No V negation, the learner still must pass through all of the other stages of negation. It just so happens that No V is the first stage, or the external stage, the learner must pass through to the other stages. Therefore the first part just happened to be the first stage. If the speaker were Chinese, learning the English language or Dorean, etc., they must also go through the stages. (those stages are 1) external; 2) internal, 3) neg-aux; 4) the actual correct way to negate a sentence).

The sources of data in attempting to identify L1 influence as cause of L2 error is the language itself. One must look ate the NL and identify their rules of negation and then compare and contrast them to the actual stages that a learner must follow. If it is obvious that there is no comparison then of course there will be no cause for L2 error (from the 1st language) The main point is that regardless of what one's first language is, the stages that were mentioned above must b passed through in that sequential order. There is not any variance to that claim.

Segment 1	It is unjustified to claim that "No have money" is an unambiguous case of L1 transfer
Segment 2	because of the stages that a learner must go through to reach the TL.
Segment 3	The point is that even though Spanish has the No V negation,
Segment 4	the learner still must pass through all of the other stages of negation.
Segment 5	It just so happens that No V is the first stage, or the external stage, the learner must pass through to the other stages.
Segment 6	Therefore the first part just happened to be the first stage.

Segment 7   If the speaker were Chinese, learning the English language or Dorean, etc.

Segment 8   they must also go through the stages.

Segment 9   (those stages are 1) external; 2) internal, 3) neg-aux; 4) the actual correct way to negate a sentence).

Segment 10   The sources of data in attempting to identify L1 influence as cause of L2 error is the language itself.

Segment 11   One must look ate the NL and identify their rules of negation

Segment 12   and then compare and contrast them to the actual stages that a learner must follow.

Segment 13   If it is obvious that there is no comparison

Segment 14   then of course there will be no cause for L2 error (from the 1st language)

Segment 15   The main point is that regardless of what one's first language is,

Segment 16   the stages that were mentioned above must b passed through in that sequential order.

Segment 17   There is not any variance to that claim.
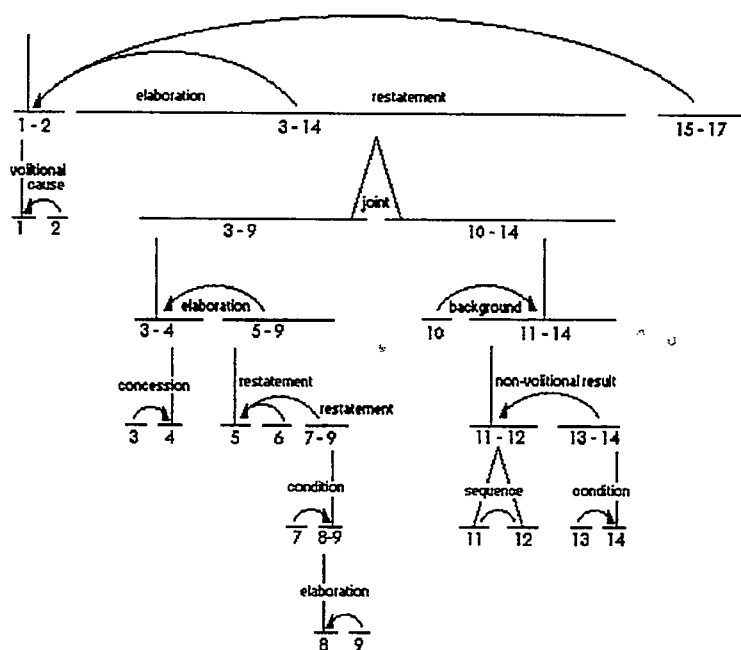
Figure 4.7. Example of an Anglo graduate text illustrating the use of non-logically dependent relations (text: ga-7).

In this text only 36% of the relations are logically dependent. Though the three principle relations of this text are non-logically dependent ones, all contribute significantly to the text's cohesion. The first sentence of paragraph one and the last sentence of paragraph two form the text's opening statement and conclusion, which are joined by a Restatement relation. The text spans that intervene in paragraph one and paragraph two constitute the two legs of the Joint relation which unites both paragraphs under the organizing principle of Elaboration. The Joint relation, which can be void of significance at times, here occupies a central place in the overall structure and corresponds to a paragraph break placed in the text by the writer.

The two other Restatement relations are employed to repeat the supporting details in "other words," perhaps with some enhancement. What keeps these relations from being simple Elaboration is that here it is the whole concept that is being restated, not just a part being elaborated. The writer appears to be searching for the best way to express one concept. Because this was a timed in-class writing, it cannot be known if with more time to revise, only one of the three versions of this claim would have remained and the amount of restatement would have been significantly reduced.

Text Two

I have a person that is very important in my life "My Mom". She is that person that I respect a lot, who is a beautiful woman, inside and outside. I love her because, she has gave me education, patience, love, time, comprehension and she has taught me to be noble, she has changed my behavior, just talking with me, she never used to hit me or shout me.

She all the time is telling me "July, don't do that, because. . ." She always has a good reason and explication for the things. Thanks to her, this world is not really difficult to me, but if sometime it's hard, there is my mom to help me. I give thanks to God, for give me a person like my mom.

She develops her mother task very good, now she is single, but when she was married she was a beautiful housewife. Well, this is just a little things that my mom means to me, and why I respect her.

Segment 1a	I have a person
Segment 2	that is very important in my life
Segment 1b	"My Mom".
Segment 3	She is that person
Segment 4	that I respect a lot,
Segment 5	she is a beautiful woman, inside and outside.
Segment 6	I love her
Segment 7	because, she has gave me education, patience, love, time, comprehension
Segment 8	and she has taught me to be noble,
Segment 9	she has changed my behavior, just talking with me,
Segment 10	she never used to hit me or shout me.
Segment 11	She all the time is telling me "July, don't do that, because. . ."
Segment 12	She always has a good reason and explication for the things.
Segment 13	Thanks to her, this world is not really difficult to me,
Segment 14	but if sometime it's hard,
Segment 15	there is my mom to help me.
Segment 16	I give thanks to God,
Segment 17	for give me a person like my mom.
Segment 18	She develops her mother task very good,
Segment 19	now she is single,
Segment 20	but when she was married

Segment 21   she was a beautiful housewife.

Segment 22   Well, this is just a little things that my mom means to me,

Segment 23   and why I respect her.
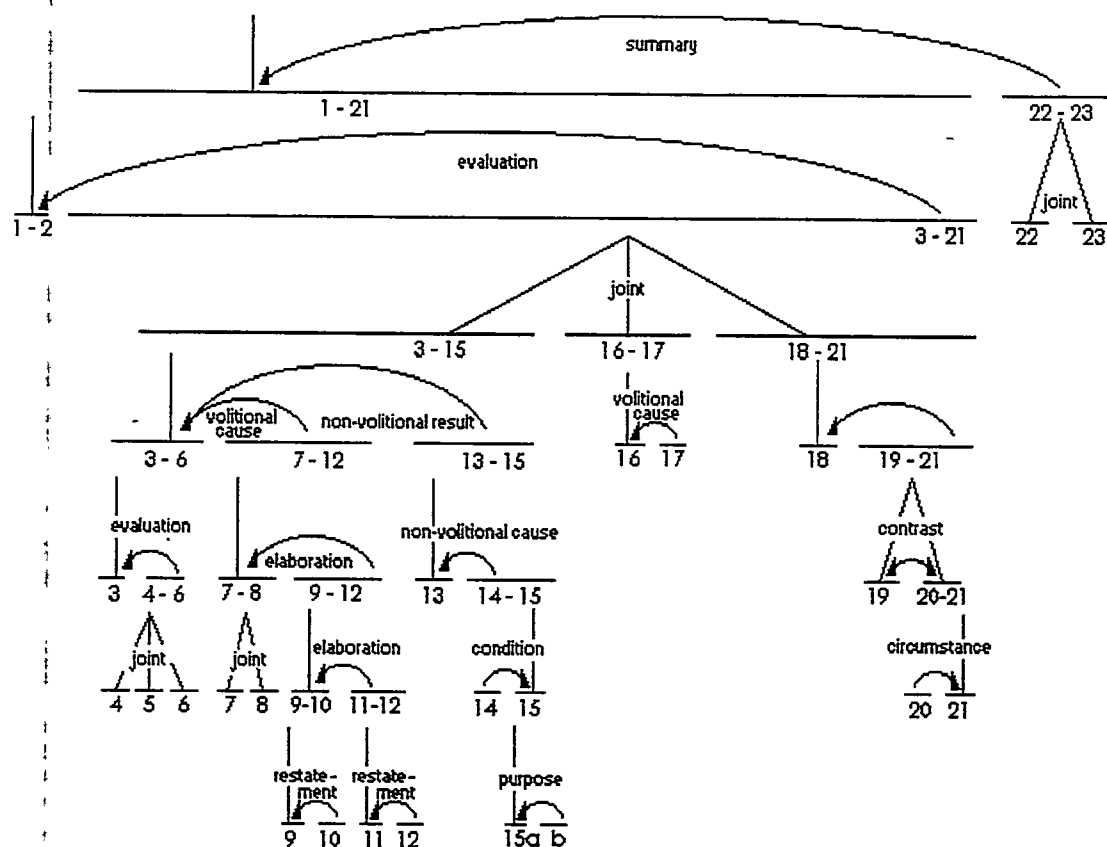
Figure 4.8. Example of a Hispanic undergraduate text illustrating the use of non-logically dependent relations (text: uh-7).

Only about 35% of the relations of this text are logically dependent. As in the graduate text, the non-logically dependent relations are principally Joint, Elaboration, and Restatement. The topic of this writing is simpler than that of the graduate writing, however, and its development progresses like a list. The organizing principle is one of

Evaluation, as the writer works to express her positive regard for the central element presented in the opening statement. In this text also Joint is used as a central organizing structure, to link the three principal aspects of the list. However, the development of the legs of the Joint relation here is rather unsymmetrical, unlike that of the graduate text. In the first leg of the Joint we also find Elaboration following Elaboration along with double Joint and double Restatement structures. Such multiple uses of Elaboration, Joint and Restatement in this text, employed at more extended levels, are not as structurally pivotal as the uses of the same relations in the graduate text.

Reviewing these two examples, we can see that although the presence of a certain rhetorical feature can at times be revealing, it cannot reveal all that is involved in the choices a writer must make.

4.1.2.3 The feature ±unconventionalized

Rhetorical relations classified as +unconventionalized include the following:

Antithesis	Background	Evidence	Interpretation
Justify	Motivation	Solutionhood	

For all the other relations in Mann and Thompson's system, a lexical or syntactic formula already exists for its expression. Though not always employed, the fact that a convention already exists to encode a certain relation indicates that the use of such a relation must be more common in the language as well as more accessible to the text producer than the use of a relation for which no such convention exists. Troyka's *Handbook for Writers* provides the beginning writer with a list of such conventions. This

is reproduced in table 4.4. In this table, Troyka's categories and conventions are given on

the left, while Mann and Thompson's corresponding relations are given on the right.

TABLE 4.4

HANDBOOK FOR WRITERS CONVENTIONS AND RST RELATIONS
(ADAPTED FROM TROYKA 1993:82)

COMMON TRANSITIONAL EXPRESSIONS AND THE RELATIONSHIPS THEY SIGNAL		RST RELATIONS
Relationship	Words	
ADDITION	also, in addition, too, moreover, and, besides, furthermore, equally important, then finally	*Joint*
EXAMPLE	for example, for instance, thus as an illustration, namely specifically	*Elaboration*
CONTRAST	but, yet however, on the other hand, nevertheless, nonetheless, conversely, in contrast, still, at the same time	*Contrast*
COMPARISON	similarly, likewise, in the same way	*Contrast/Analogy*
CONCESSION	of course, to be sure, certainly, granted	*Concession*
RESULT	therefore, thus, as a result, so, accordingly	*Non-Vol / Vol Result Non-Vol / Vol Cause*
SUMMARY	hence, in short, in brief, in summary, in conclusion, finally	*Restatement, Summary*
TIME SEQUENCE	first, second, third, next, then, finally, afterwards, before, soon, later, meanwhile, subsequently, immediately, eventually, currently	*Sequence, Circumstance*
PLACE	in the front, in the foreground, in the back, in the background, at the side, adjacent, nearby, in the distance, here, there	*Circumstance*

As one might expect, a greater use of such conventionalized relations is found among undergraduates of both language groups. Figure 4.8 shows that there is almost a 100% increase in the use of unconventionalized relations after four years of academic development. Hispanics increase from 9% usage to 21% by graduate school, while the Anglos move from 8% usage as undergraduates to 19% usage as graduate students. The model writers fall about midway between the two extremes, which is consistent with expectations that they would either line up with the graduate Anglos or at least be at a mid-point between the Anglo undergraduates and graduates, acting as an attainable model for the undergraduates on their way upward toward cognitive maturity.
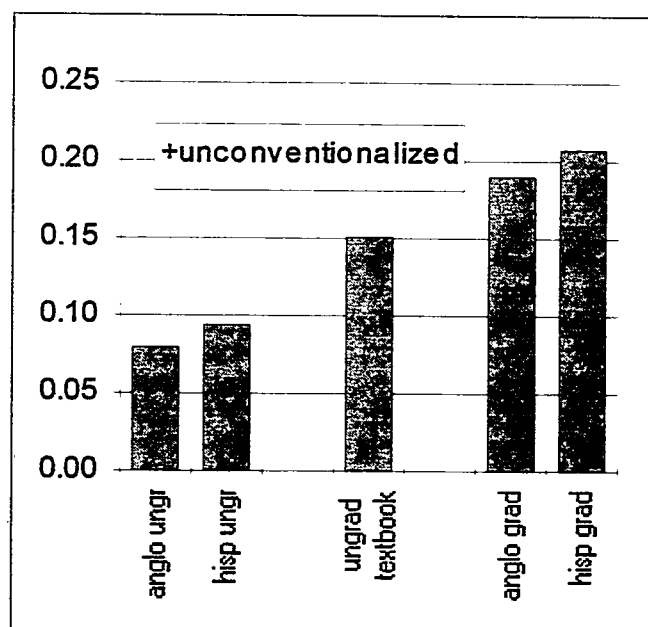
Figure 4.9. Percentage of total relations possessing the feature +unconventionalized.

Two contrasting text samples follow to illustrate the use of conventionalized and unconventionalized relations. The first was written by an Anglo undergraduate.

Text One

One show I find particularly boring, but still sometimes watch is "Saved by the Bell." This show is so boring and fake, but I still watch it. I think the reason I watch it is just to see how dumb it really is. Sometimes I do find myself laughing at certain parts. I think the reason I laugh is because it's so dumb its funny. Its got the worst acting and a horrible plot, but every once in a while when I'm flicking through the channels I do watch it.   Anglo undergraduate

Segment 1	One show I find particularly boring,
Segment 2	but still sometimes watch is "Saved by the Bell."
Segment 3	This show is so boring and fake,
Segment 4	but I still watch it.
Segment 5	I think the reason I watch it is just
Segment 6	to see how dumb it really is.
Segment 7	Sometimes I do find myself laughing at certain parts.
Segment 8	I think the reason I laugh is
Segment 9	because it's so dumb its funny.
Segment 10	Its got the worst acting and a horrible plot,
Segment 11	but every once in a while when I'm flicking through the channels
Segment 12	I do watch it.
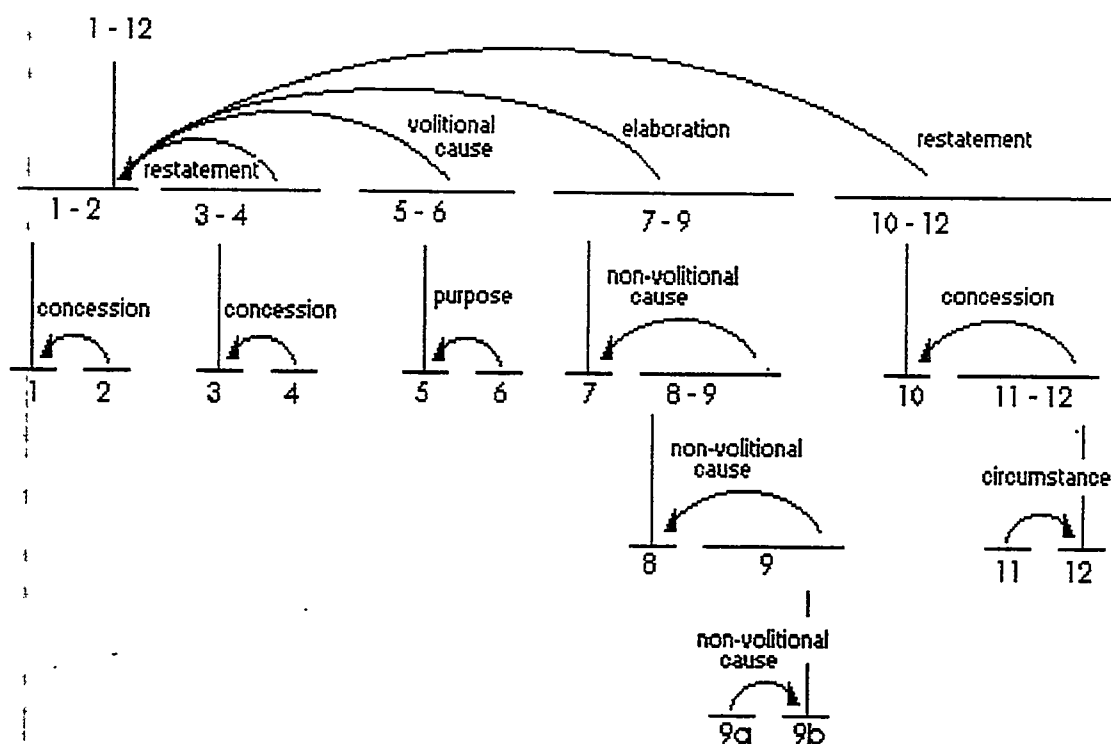
Figure 4.10. Example of an undergraduate text illustrating the use of -unconventionalized relations (text: ua-7).

In this text there are no unconventionalized relations. In fact, of the twelve conventionalized relations, six employ an explicit formulaic expression. The three Concession relations are each marked with "but." The Purpose relation is marked by the use of an infinitive ("to see" meaning "in order to see"). Two of the three Non-Volitional Cause relations are marked with "the reason" and "because." The Circumstance relation is marked with the word "when." This text possesses few subtleties; the writer's message does not move beyond what the conventions of the language provide.

Text Two

It would be unjustified to claim this because speakers of other languages (that do not follow the No V negation) also go through Stage 1 (external

negation) of negation in English. That is all L2 English learners begin negation by placing No before the verb (because there is no systematic variation in Stage 1, this claim must hold true since all speakers experience Stage 1).

Sources of data that claim L1 influence as a cause of L2 error include markedness (the theory that all languages have certain things in common), rate of acquisition is longer and there may be more stages involved if the learner's native language is much different. Also, when viewing a case of several speakers of different languages who are all learning English, we may see that some of these languages are much different than English and some may be very similar—but error will still occur.   Anglo graduate (AG-5)

Segment 1	It would be unjustified to claim this
Segment 2	because speakers of other languages (that do not follow the No V negation) also go through Stage 1 (external negation) of negation in English.
Segment 3	That is, all L2 English learners begin negation by placing No before the verb
Segment 4	(because there is no systematic variation in Stage 1,
Segment 5	this claim must hold true since all speakers experience Stage 1).
Segment 6	Sources of data that claim L1 influence as a cause of L2 error include markedness (the theory that all languages have certain things in common), rate of acquisition is longer
Segment 7	and there may be more stages involved
Segment 8	if the learner's native language is much different.
Segment 9	Also, when viewing a case of several speakers of different languages who are all learning English,
Segment 10	we may see that some of these languages are much different than English
Segment 11	and some may be very similar—
Segment 12	but error will still occur.
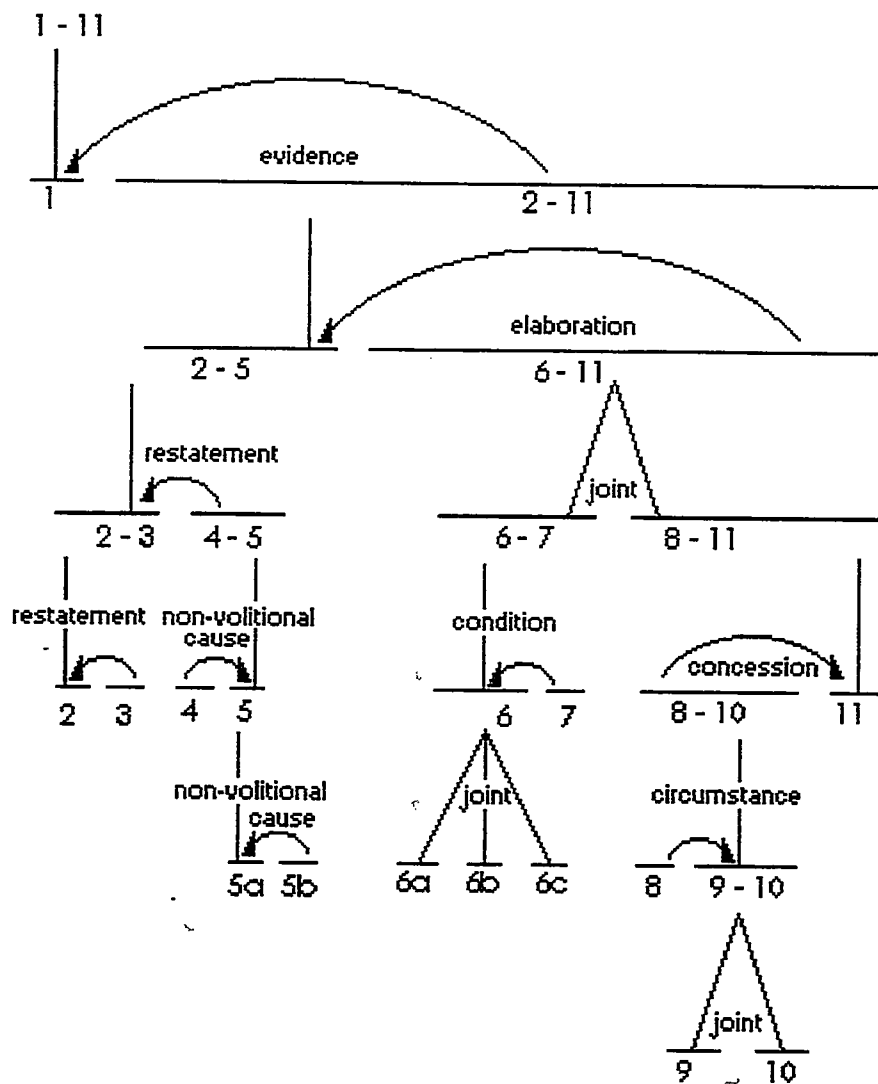
Figure 4.11. Sample Anglo graduate text illustrating the use of
unconventionalized relations (text: ga-6).

Over 44% of the relations employed in this graduate text are unconventionalized.

The governing relation Evidence is not marked at all, but is understood to be such by the

nature of the material contained in the text spans involved. An Antithesis relation is also

suggested by the use of the conditional (would) in Segment 1, indicating some contradiction or counterfactuality. The first formulaic relational marker employed in the text is "also" at the beginning of span 9, which actually should have been "such as" because it links a specific example to the word "factors" in the preceding span. The second and third relational markers, "also" and "and" in the 10th Segment do mark Joint relations. The message and cohesion of the text do not much rely on these markers or on the relations they represent. The message itself is somewhat innovative, contradicting what one might think at first without serious reflection (that "no have money" is a clear case of L1 transfer). It is reasonable to expect that such a message would require a rhetorical structure beyond the formulaic provisions of the language.

Here, regarding use of +unconventionalized relations, and in section 4.1.2.4 below, regarding the use of +reader-based relations, the model writers fall midway between the graduates and the undergraduates. One might expect this of writers chosen for inclusion in a textbook. Their ranking midway between undergraduates and graduates is consistent with Krashen's (1985) notion of the ideal comprehensible input being $i + 1$, that is, an input that is beyond the learner's current level but still within an attainable range.

4.1.2.4 The feature ±reader-based

The presence of +reader-based relations similarly correlates with the writer's academic level. As can be seen in figure 4.12 below, as a writer's academic level increases, so does the presence of +reader-based relations in his or her text. Among both the Anglo

and the Hispanic writers, the proportion of reader-based relations doubles after three or four years of post-secondary study, regardless of where and in what language that study is completed. For the Hispanics, it leaps from 11.6% to 22.6%; for the Anglos it leaps from 13.0% to 26.6%.
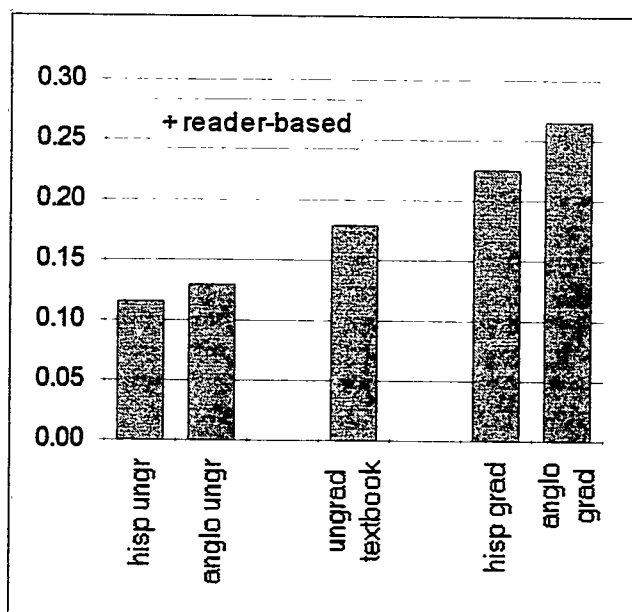
Figure 4.12. Percentage of total relations possessing the feature +reader-based.

The Troyka handbook, a text recommended for students of ENG 101, devotes approximately 80 of about 400 pages to topics such as subordination, cohesion, transitions, logical argument, and paragraph organization. These topics directly address written expression involving the relational features ±hierarchical, ±logical, and ±unconventionalized. However, on only nine pages of the same book is mention made of "audience" and of framing a text with the text receiver in mind. This illustrates how at the

early stages of a writer's development the presentational concept of "audience" does not receive as much attention as do the ideational issues of logic, subordination, and transition. Consciousness of audience, a matter very much linked to a high degree of writer responsibility, does not appear to be among the writing skills early acquired.

The two sample texts provided below exemplify the difference between a text that is reader oriented and a text that is idea oriented.

HISPANIC GRADUATE TEXT

Segment	1	I don't understand Why there isn't a firearms regulation, in US.
Segment	2	But there are regulations about the consumption of alcohol, drugs, cigarettes and etc.
Segment	3	I believe that drugs, alcohol and cigarettes are harmful, but more harmful would be a crazy man with an uzi in his hand.
Segment	4	I would like to ask to the people that are against the firearms regulation, why they aren't against to the license drive.
Segment	5	I think that they would answer " the license drive is necessary for these following reasons.
Segment	6	First, we need to know if the person know all the transit regulations.
Segment	7	Second, if the person know how to drive the car.
Segment	8	Third, we need to know if the person doesn't has any physical or emotional problem to drive.
Segment	9	Fourth, we need to know all his personal information (home and phone address)".
Segment	10	After this answer, I would like to ask to them. How they know that the person that it is buying a gun Know how to use the gun and doesn't has any physical or emotional problem.
Segment	11	I think that the government doesn't want to restrict the use of all firearms.
Segment	12	It only want to has a better control about some firearms to avoid facts like Waco and Oklahoma.
Segment	13	I believe that terrorist actions are to difficult to avoid, but maybe firearms will be a good solution.

1 - 13

Ⓜ solutionhood   evaluation Ⓜ

1   2 - 12   13

motivation Ⓜ   concession

2 - 10   11 - 12   13a 13b

background   antithesis Ⓜ   restatement

2   3   4 - 10   11   12

Ⓜ antithesis   antithesis   antithesis Ⓜ   purpose

3a 3b   4a 4b - 9   10   12a 12b

Ⓜ elaboration

4b   5 - 9

non-volitional
result

5   6 - 9

joint

6 7 8 9
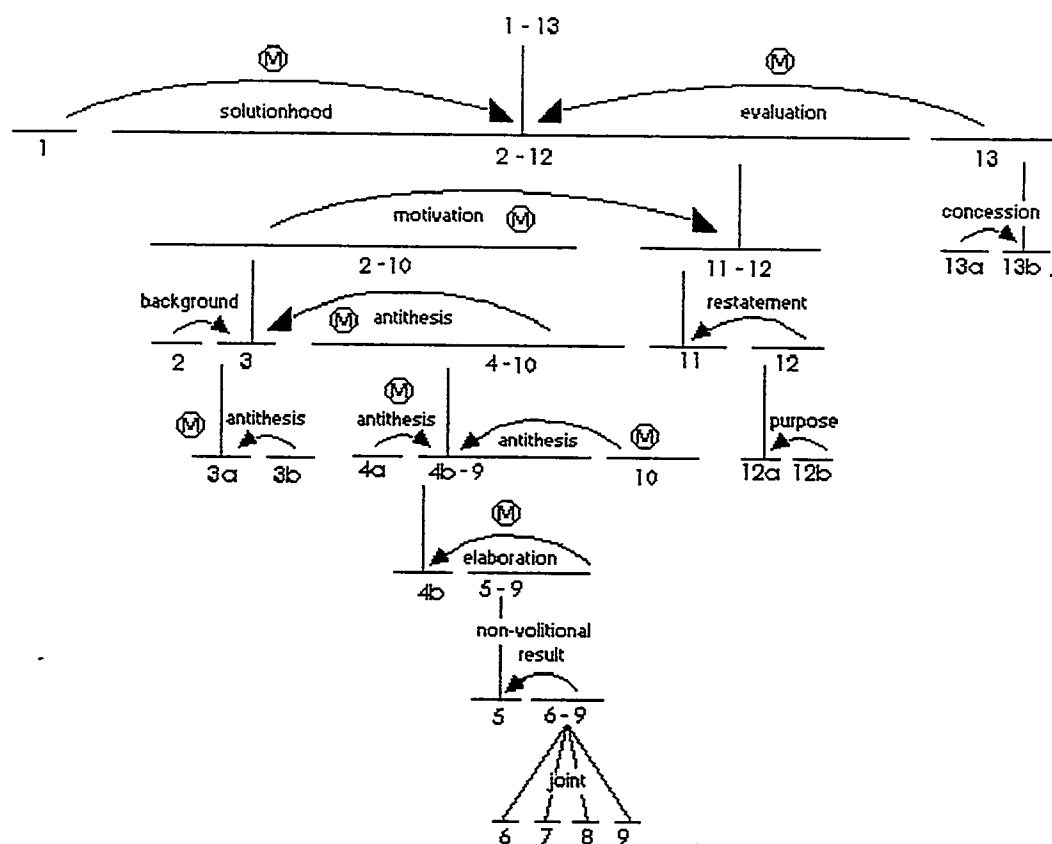
Figure 4.13. Example of a Hispanic graduate text illustrating the use of
reader-based relations (text: gh-9).

The first text, figure 4.13, was written by a Hispanic graduate student. Exactly

50% of its relations are reader oriented. A problem is stated immediately in the opening

sentence: "There isn't a firearms regulation, in U.S." The text is then constructed around a

central Solutionhood relation. However, this solution will require a change of heart on the

part of many Americans, so the writer supports the Solutionhood relation with a lengthy

Motivation schema underpinned by a number of Background, Antithesis and Non-

Volitional Result relations. Motivation, itself reader-based, is thus buttressed by a

relational configuration that is itself nearly two thirds presentational. In fact, the writer is

so conscious of his intended audience that he even names them in Segment 4 ("the people that are against the firearms regulation") and refers to them again in Segments 5 and 10. His writing is almost a dialogue with these people, as he anticipates their responses and counters them. The Antithesis relation is the workhorse of the supporting cluster, drawing heavily upon the writer's knowledge of the audience's value system.

Text Two

There are many reasons as to why people live in poverty, and the abuse which they take from more privileged people is not necessary. No matter a person's social or monetary standing, all people should be treated with respect. Children and adults should not have to hang their heads because they are less fortunate. No one should be ashamed of who they are, and if they are ashamed then this is a personal sign that they are not trying to make things better. As Scheller says, "But they're not the ones who should feel ashamed." She is speaking of children, because they have little control over their lives. They live with their parents and because their parents are not wealthy, then the children are not wealthy.

If anyone should feel ashamed for the poverty stricken, it should be the parents and/or the people who laugh at the poor. The parents should be ashamed if they are not doing everything possible to solve their income problem. The parents are the ones in control. Also, if people feel the need to laugh or belittle the less fortunate, then they are no more of a person then the homeless person living under a bridge. People should be more mature and be willing to help others who are less fortunate.

Segment 1	There are many reasons as to why people live in poverty,
Segment 2	and the abuse which they take from more privilege people is not necessary.
Segment 3	No matter a person's social or monetary standing,
Segment 4	all people should be treated with respect.
Segment 5	Children and adults should not have to hang their heads
Segment 6	because they are less fortunate.
Segment 7	No one should be ashamed of who they are,
Segment 8	and if they are ashamed
Segment 9	then this is a personal sign that they are not trying
Segment 10	to make things better.
Segment 11	As Scheller says, "But they're not the ones who should feel ashamed."
Segment 12	She is speaking of children,
Segment 13	because they have little control over their lives.
Segment 14	They live with their parents
Segment 15	and because their parents are not wealthy,
Segment 16	then the children are not wealthy.
Segment 17	If anyone should feel ashamed for the poverty stricken,
Segment 18	it should be the parents and/or the people who laugh at the poor.
Segment 19	The parents should be ashamed
Segment 20	if they are not doing everything possible
Segment 21	to solve their income problem.
Segment 22	The parents are the ones in control.
Segment 23	Also, if people feel the need to laugh or belittle the less fortunate,
Segment 24	then they are no more of a person
Segment 25	then the homeless person living under a bridge.
Segment 26	People should be more mature
Segment 27	and be willing to help others who are less fortunate.

1 - 25

elaboration

restatement   restatement   restatement

1 - 2   3 - 4   5 - 6   [7]   11 - 25   ?   26 - 27

non-volitional cause   antithesis   contrast   contrast   volitional result

1   2   3   4   [7]   8-10   11 - 16   17 - 25   26   27

non-volitional cause   volitional cause   condition   elaboration

8   9-10   11 - 12   13-16   17   18   19 - 25

purpose   interpretation   joint

9   10   11   12   19 - 22   23 - 25

volitional cause   condition

19-21   22   23   24-25

condition   contrast

19   20-21   24   25

purpose

20   21

Figure 4.14. Example of an Anglo undergraduate text illustrating reduced use of reader-based relations (text: ua-10).

This text, figure 4.14, was written by an Anglo undergraduate student. Only 5% of its relations possess the +reader-based feature. In this text the writer addresses the issue of poverty and the toll it takes on the young. However, the audience of this text is unclear. At first the audience seems to be the public in general, since the writer appeals to a sense of justice ("all people should be treated . . ."). However, in Segments 5 and 7 he seems to turn to the poor to say "no one should be ashamed of who they are." He then seems to rebuke parents who do not work ("if anyone should feel ashamed . . . it should be the

parents"), and after that he has a word for those who laugh at the poor ("people should be more mature . . ."). Even so, out of the four possible audiences, not one is addressed directly; the one reader-based relation, Antithesis (Segments 3 and 4), appears directed at a general audience with whom the writer shares the assumption that all are endowed with rights by birth, not by wealth.

This text is structured ideationally, depending on Elaboration, Restatement, Contrast and Cause. However, one feels while reading it that the writer, like the writer of the graduate text above, actually desires to change certain reader behaviors (indicated by the frequent use of "should"). However, perhaps because at this stage of development his concept of audience has not yet crystallized, he is hindered from constructing a more compelling text.

This writing sample contrasts sharply with that of the graduate student, who named a specific group of people as his audience and worked systematically to motivate them, structuring the text around his knowledge of their beliefs. These two texts illustrate what a powerful organizing principle consciousness of audience can be, and how communication can be impaired by its absence.

More importantly, these texts also illustrate how the use of presentational relations correlates with a writer's cognitive maturity rather than with his or her first language. Though the Anglo undergraduate's control of sentence grammar, transition, word choice and spelling surpasses that of the Hispanic graduate, the Hispanic graduate is ten times stronger in the matter of reader regard. Looking at these texts alone, then, one might

wonder if reader-consciousness is a Hispanic specialty. As we have seen, however, the statistics indicate otherwise (see table 4.2). In the use of reader-based relations neither Hispanic nor Anglo undergraduates average more than half that of their graduate counterparts, who, regardless of first language, are statistically parallel in the use of presentational relations.

4.1.3 Rate of overall relational complexity

It must be kept in mind that since no relation is made up of a single feature, no rhetorical choice is made with only one feature in mind. Rather, each decision to employ a rhetorical relation is in fact a decision to employ a bundle of features that will interact to link two propositions and at the same time establish some measure of connectivity with the relations above and below. In this respect, measures of single features in isolation do not adequately reflect the complexity of the actual rhetorical choices being made by the writer as he or she structures a text.

To pursue the question of whether in the patterns of the actual rhetorical choices being made, clear correlations with academic level or first language could be found, further study was carried out in two stages: first by charting patterns of rhetorical choice according to the five major categories or "types" defined in section 3.3.3 (see table 3.2); second, by calculating an overall complexity index (based upon these types) by which to compare degrees of relational intricacy across groups.

As described in section 3.3.3, to more accurately reflect the complexity involved in the choice of each relation, the twenty-four relations were categorized by feature and "typed" from the least to the most complex. This method of categorization is detailed in section 3.3.3. The resulting five relational types were then surveyed across the texts. Table 4.5 below displays the distribution of these relation types per group. The features that characterize each category are given in abbreviated form.

TABLE 4.5

DISTRIBUTION OF RELATION TYPES, EXPRESSED AS THE PERCENT
OF ALL RELATIONS BY WRITER GROUP

	type 1 - h, - l, - u, - r	type 2 + h, - l, - u, - r	type 3 + h, + l, - u, - r	type 4 ± h, + l, ± u, ± r	type 5 + h, + l, + u, + r
grad hisp	18.29	30.49	23.78	16.46	10.98
grad Anglo	17.72	32.91	22.78	17.72	8.86
model	29.25	16.98	33.96	9.43	10.38
ungr hisp	24.86	35.36	27.07	6.63	6.08
ungr Anglo	20.22	32.49	33.21	8.66	5.42

It is noteworthy that although the total number of relations and individual relations chosen vary greatly among the groups, the distribution of relation types is relatively uniform with regard to academic status, the more complex occurring more frequently among the graduate texts and the less complex, among the undergraduates.

4.1.3.1 Use of Type 1 Relations

Figure 4.15 reveals that undergraduates are greater users of members of the simplest relation category, type 1, which includes the relations Joint, Sequence and Contrast. The graduate Anglo and Hispanic writers both employ a reduced number, and are in fact within 0.5% of one another. Figure 4.15 shows how the use of the simplest relations is reduced as the student writer's academic level increases.
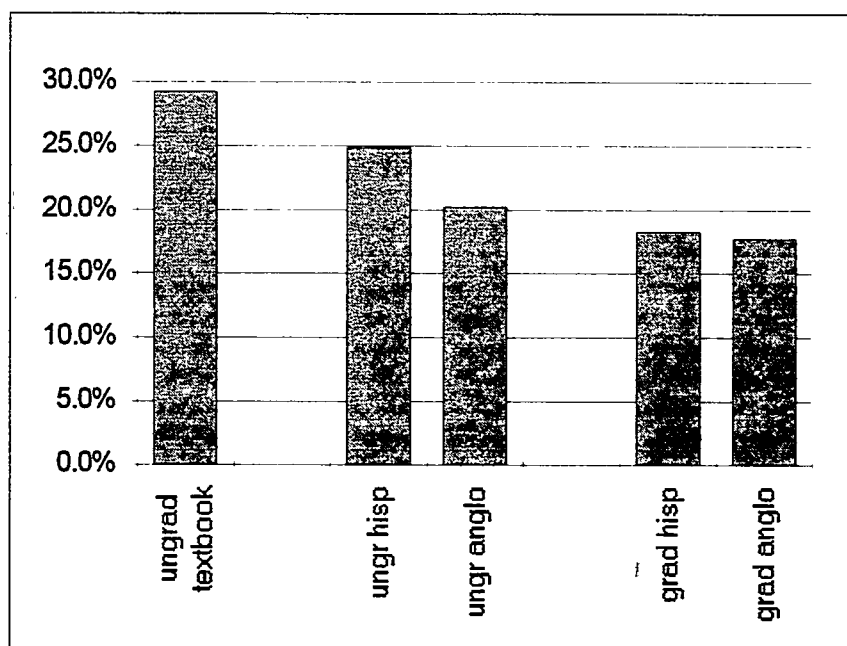
Figure 4.15. Frequency of type 1 relations across writer groups.

Since type 1 relations are the only category that contain feature -hierarchical, their patterns of use parallel those described in section 4.1.2.1.

4.1.3.2 Use of type 2 relations

Relation type 2 includes the relations Elaboration, Restatement, Summary, Evaluation, and Circumstance. This category of relation contributes little more to the rhetorical structure of a text than hierarchy, that is, the simple subordination of one thought to another. Relations from categories 3, 4, and 5 also entail hierarchy, but in addition they may contribute logic, original thought or audience consciousness.
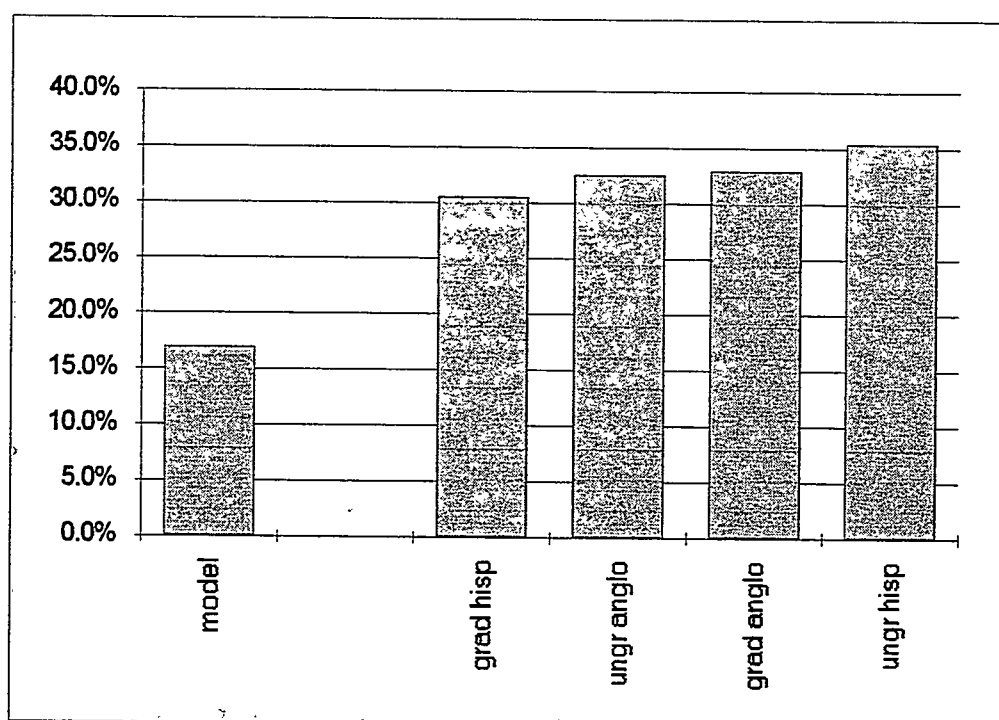
Figure 4.16. Frequency of type 2 relations across writer groups.

As pictured in figure 4.16, in the use of type 2 relations, we see the student writers clustered at one extreme and the model writers at another. In section 4.1.2.1, the model writers already surprised us by using a greater proportion of the very simplest non-hierarchical relations. Referring back to the five category table (table 4.5), we can see that

when the model writers decide to use hierarchical relations, they seem to favor those that include logical dependence (33.96%) or some degree of reader impact (10.38%). (See sections 4.1.2.3 and 4.1.2.4 for a discussion of the use of relations with those features.) Regarding our original research questions, however, concerning correlations between rhetorical choice and academic level or first language, no pattern emerges here along either line.

4.1.3.3 Use of type 3 relations

In contrast, regarding the choice of relation type 3, we can observe in figure 4.17 that the undergraduates make great use of this mid-range relation type. These relations (Condition, Non-Volitional Result and Cause, Volitional Result and Cause, Purpose and Otherwise) are both hierarchical and logically dependent. Yet they are not non-conventional, that is, their expression is formulaic and readily accessible. Although these relations are more complex, the graduate writers did not use them in markedly large proportions. Rather it is the undergraduates who employ them with greater frequency. Apparently, the graduate writers, when seeking to express greater complexity, employ relations higher up the ladder. In contrast, the highest degree of rhetorical complexity normally employed by the undergraduates is found here.
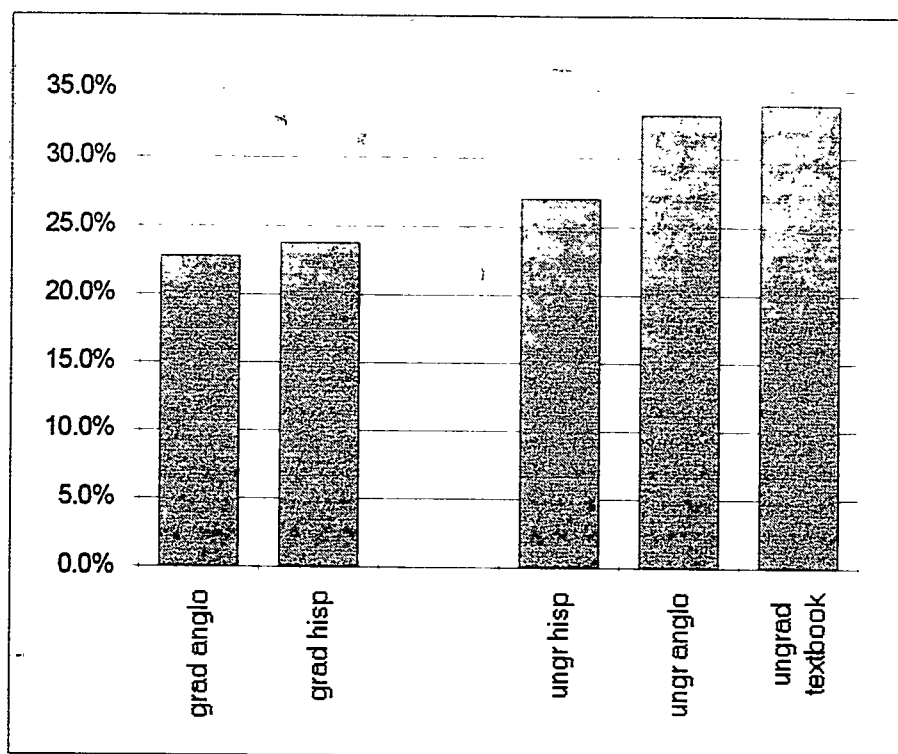
Figure 4.17. Frequency of type 3 relations across writer groups.

In this chart we can see that the Anglo and Hispanic graduates are quite close in their usage of this type of relation. On the other hand, though the Anglo and Hispanic undergraduates both surpass the graduates, there is still a marked difference in their use of this category of relation. The Hispanic undergraduates fall about six percentage points below their Anglo counterparts. This is the third instance where the Hispanic undergraduates, though generally clustered with the Anglo undergraduates, show a greater preference for less complex rhetorical relations.

To understand this, we must remember that while the graduate Hispanic writers included here are certain to have completed at least four years of post-secondary study in

their native land, the undergraduate Hispanic writers included here may not have completed high school. In the Dallas area it is not unusual to meet Mexican-born adults in ESL courses who completed only six, eight or ten years of school before leaving their country to find work in the U.S. Open enrollment practices do not exclude such students from attempting coursework at the junior college level. The written behavior of these students is consistent with observations made by Mohan and Lo (1985) in their study of transfer versus developmental factors in second language writing. Their findings point to "native literacy and educational experience as factors influencing the development of academic writing in a second language" (515). They go on to conclude:

> Ability in rhetorical organization develops late, even among writers who are native speakers, and because this ability is derived especially from formal education, previous educational experience may facilitate or retard the development of academic writing ability. (1985:528)

Of all the groups present in this study, the foreign born undergraduates may be at the greatest disadvantage with regard to native literacy and educational experience, which may explain why in the matter of rhetorical complexity they are found at the other end of the spectrum from their graduate level counterparts and often below their Anglo peers. Although the difference here appears to be between language groups, no such difference is reflected at the graduate level. Instead what we observe is more likely the transfer of a disadvantage in cognitive/academic language proficiency.

We also see in this chart that the undergraduate textbook model writers join the undergraduate students in the use of type 3 relations. The English 101 classroom is not

normally a place of innovation. Rather it is where the freshmen learn to use well what is already available in the language. It may be for this reason that the model writings they are given to study would stay well within the range of prescribed and formulaic speech.

4.1.3.4 Use of type 4 relations

The type 4 relational category includes relations that possess three positive rhetorical features. The type 4 relations are:

- solutionhood   (+h/+l/+u/-r)
- interpretation   (+h/+l/+u/-r)
- concession   (+h/+l/-u/+r)
- analogy   (+h/+l/-u/+r)
- background   (+h/-l/+u/+r)

These represent a higher degree of complexity. In figure 4.18 we can see that at this point there is a shift in trends.
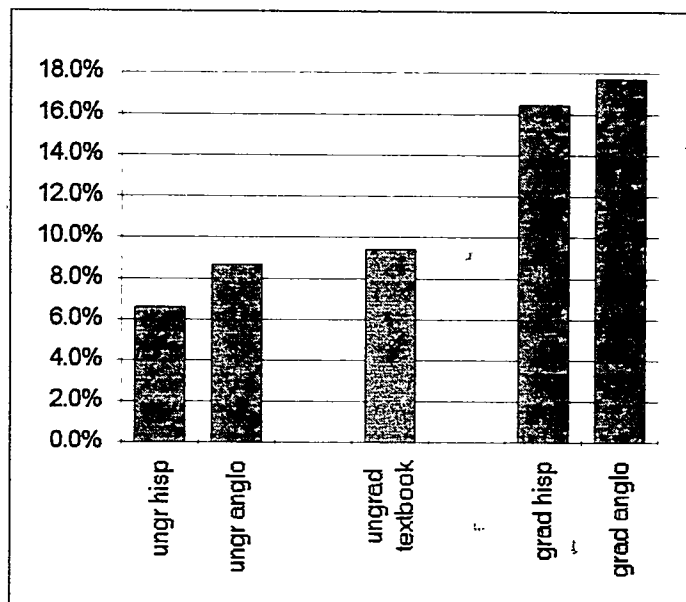
Figure 4.18. Frequency of type 4 relations across writer groups.

In figure 4.18 we see that the greater users are not the undergraduates, as was the case with types 1 and 3. This time usage of the relation type increases with the increase in academic level. In fact, its use has nearly doubled by the time the students have completed the transition from undergraduate to graduate level (Anglo: 8.66% to 17.72%; Hispanic: 6.63% to 16.46%, see table 4.5).

4.1.3.5 Use of type 5 relations

The type 5 relations possess all four rhetorical features and are therefore considered the most complex. They are:

- antithesis
- evidence
- justify
- motivation

These relations are not only hierarchical and logically dependent, but involve non-conventionalized linguistic expression as well as reader-consciousness. Here the undergraduates, both Anglo and Hispanic, show a marked disinclination to use such complex relations, while the Hispanic and Anglo graduates score far above their undergraduate counterparts.
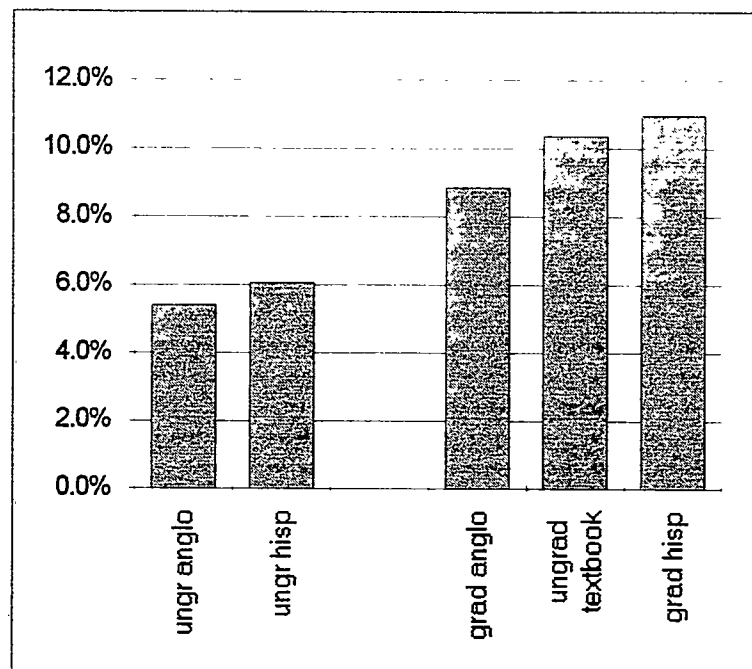
Figure 4.19. Frequency of type 5 relations across writer groups.

Again we see a near doubling of the use of relations possessing a high degree of complexity by the time the writers reach graduate level. Figures 4.18 and 4.19 portraying the use of type 4 and type 5 relations especially highlight the development of writers in the area of non-conventionalized expression and reader-consciousness. These figures indicate that both native speakers of English educated in the U.S. and Hispanics educated abroad make parallel progress in these two areas.

To this point a trend has emerged indicating that the use of simpler relations correlates with undergraduate status, and the use of more complex relations correlates with graduate status, regardless of first language. Table 4.6 below compares the combined

percentage of the simplest types (1 and 2) with the combined percentage of the most complex (types 4 and 5).

TABLE 4.6

RATIO OF LESS COMPLEX TO MORE
COMPLEX RELATION TYPES
(TYPES 1 & 2 VS. TYPES 4 & 5)

	type 1&2	type 4&5	ratio
grad hisp	48.8	27.4	1.78
grad Anglo	50.6	26.6	1.90
model	46.2	19.8	2.33
ungr hisp	60.2	12.7	4.74
ungr Anglo	52.7	14.1	3.74

The result of this comparison again revealed a sharp line of demarcation between graduate and undergraduate writers. The bar chart in figure 4.20 represents these distinctions across all groups. The ratio of the less complex relations versus the more complex relations is roughly 2 to 1 among graduates and model writers, while it is 4 to 1 among Anglo undergraduates, and 5 to 1 among Hispanic undergraduates. Thus, in addition to the sharp distinction between the graduate writers and the undergraduate writers, there is a slight difference between the language groups at the undergraduate level.
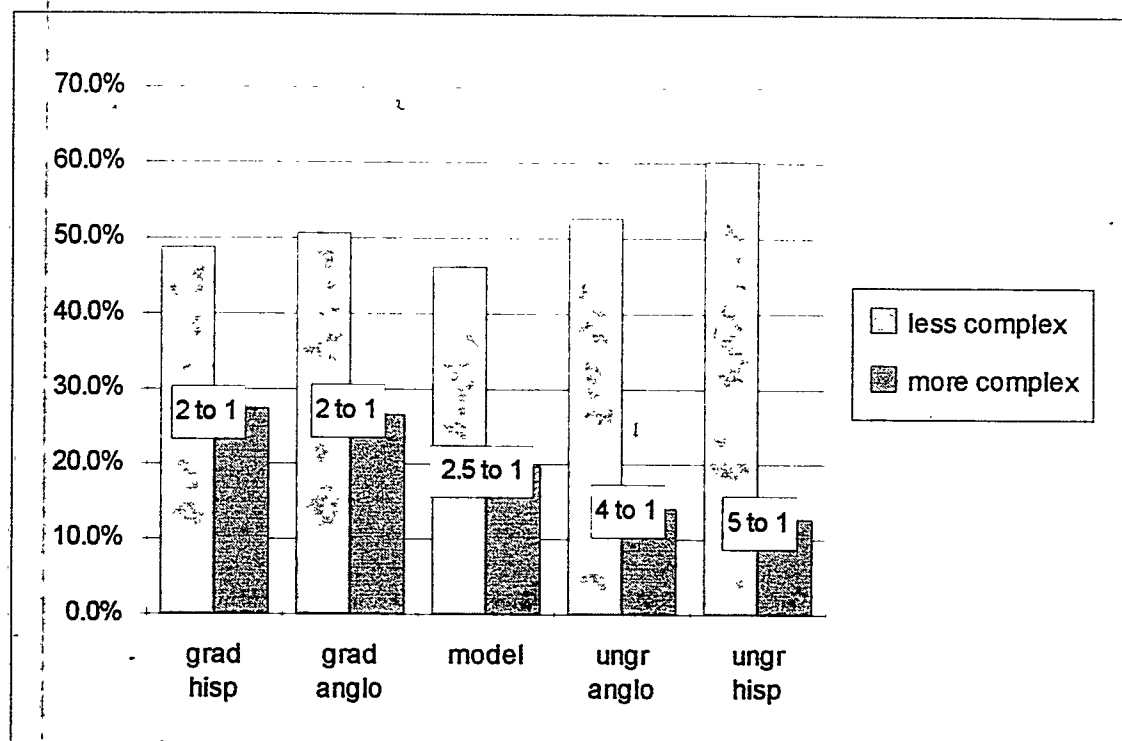
Figure 4.20. Ratios comparing utilization of less complex (types 1 & 2) against more complex relations (types 4 & 5).

This kind of ratio is seen quite strikingly in the sample writing presented in section 4.1.2.3. The discussion there concerned the students' use of non-conventionalized relations. Here, we continue the discussion using a similar text to illustrate the difference in complexity between the type 1 and 2 relations and the type 4 and 5 relations. The text was written by an English speaking graduate student.

Segment 1   Yes, it would be unjustified

Segment 2   to claim that "No have money" by a Spanish speaker is a clear case of L1 transfer.

Segment 3   This student may be just in a Stage 1, external, or preverbal stage of learning sentence negation.

Segment 4   Research findings reported in our book show that all L2 learners go through a series of four stages in their IL development on their way to learning the TL.

Segment 5   It has been shown in the research provided that a negative + (verb) is the first stage of L2 sentence negation.

Segment 6   A teacher would have to look at several factors

Segment 7   to justify L1 influence as the cause of L2 error,

Segment 8   also the surrounding that the error was made in.

Segment 9   It may have been a mistake caused by the excitement of playing a game.

Segment 10   Also the teacher should examine the NL and compare sentence negation to the TL.

Segment 11   Examination of other IL language patterns would also be helpful

Segment 12   in determining L1 influence as the cause of L2 error.
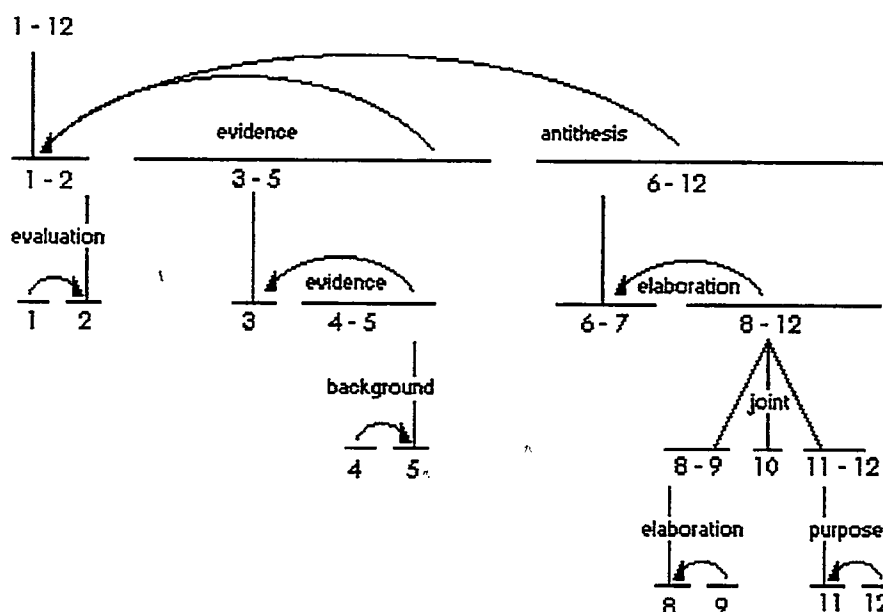
Figure 4.21. Example of an Anglo graduate text illustrating a high rate of relational complexity (text: ga-1).

The development of the text is founded upon an Evidence and an Antithesis relation, both belonging to type 5. In the Evidence relation the writer provides the reader

with material the reader is predisposed to believe (research findings) in order to increase the credibility of a less certain point (that "no have money" is not a clear case of transfer). This differs from a simple type 2 Elaboration relation, in that it not only provides greater detail, but does so under stricter logical constraints and with a view to influencing the positive regard of the reader. The Antithesis relation (type 5) depends on a basic incompatibility between two text spans (evidence from research vs. lack of evidence regarding important factors contributing to the error). It differs from a Contrast (type 1) relation in that an Antithesis relation is constructed in such a way that makes it impossible for the reader to maintain positive regard for both text spans. This is a relation that also requires that the writer correctly estimate the positive regard that the reader brings to the text and at the same time frame a significant contrast that can move the reader from one position to another. In a text of only nine relations, this writer includes four type 4 and type 5 relations and four type 1 and type 2 relations. The ratio of simple to complex is nearly 1 to 1. Among the undergraduates, no comparable texts were found.

As discussed in chapter 3, non-conventionalized relations require more from the writer, because in order to convey his or her meaning the writer must manipulate the language more, adapting syntax or making a new application of the lexicon. To use a Presentational or Reader-based relation, the writer must be conscious of the reader's probable reaction, the degree of the reader's positive regard, what will increase the reader's willingness to believe the writer's statements, or what will motivate the reader to take action. We can see that at the graduate level, both Hispanic and Anglo students have

achieved a greater degree of rhetorical skill in these areas. This strongly supports the notion that the use of complex relations depends more on the transfer of cognitive development than on any predisposition for complexity that might be present in either language of origin.

4.1.3.6 Degree of overall relational complexity

At this point we turn from charting patterns of individual relational choices to measure comparative degrees of overall relational complexity. This measure seeks to establish whether the overall relational complexity of a text correlates with the writer's first language or with the writer's level of cognitive maturity. To accomplish this, the relation types were given a numeric value so that texts could be ranked by their degree of relational complexity. A numeric value was assigned to each category, from the least complex (-h/-l/-u/-r), valued at "1," to the most complex (+h/+l/+u/+r), valued at "5." (see table 3.2 in chapter 3). A complexity index was calculated for each text by summing up the combined worth of all the relations and dividing that score by the total number of relations present in the text. Those texts whose writers employed mostly type 1, 2 or 3 relations would bear scores below 2.5, and those texts whose writers employed a greater proportion of more complex relations (that is, reader-based, nonconventionalized, logically dependent, hierarchical) would bear a score above 2.5.

This method of scoring yielded interesting results. The calculations are summarized in table 4.7.

TABLE 4.7

RATE OF RELATIONAL
COMPLEXITY

	overall rate of relational complexity
grad hisp	2.71
grad Anglo	2.67
model	2.55
ungr hisp	2.34
ungr Anglo	2.47

In this measure of the average rate of rhetorical complexity, we again find that the writers group themselves principally by academic level, without significant variation between language groups. Although the numbers are close, the undergraduates fall below the mean, and the graduates rise above it. Figure 4.22 graphically demonstrates this point.
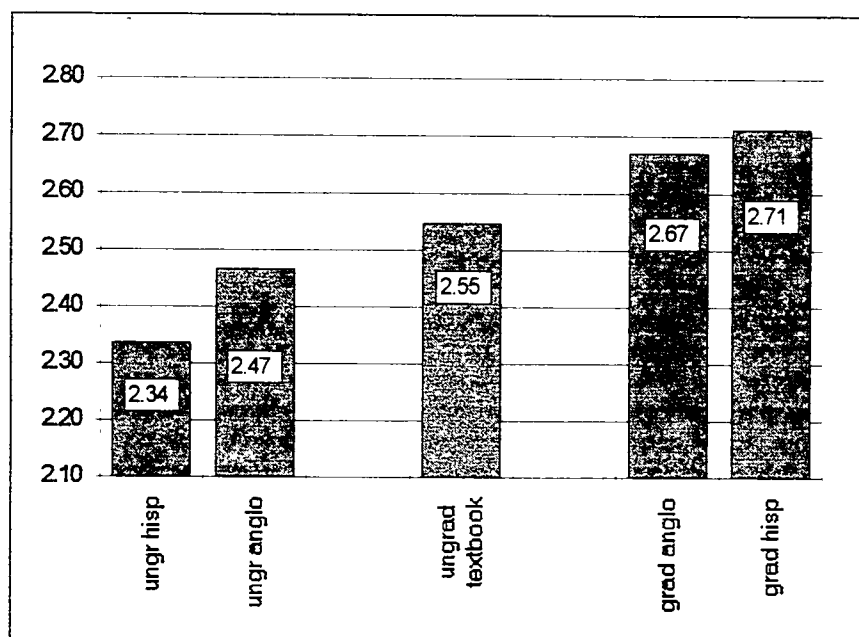
Figure 4.22. Comparative rates of relational complexity.

With regard to rhetorical complexity, there is considerable uniformity among the writers at the 'upper academic levels. In this matter the model writers fall midway between the undergraduates and the graduates, a position we would expect them to occupy as writers chosen to exemplify good writing in an undergraduate writers' manual.

4.1.4 Depth of embedding, patterns of development and the macro feature

This aspect of the study seeks to establish whether a text's depth of embedding, pattern of development and use of +macro relations can be shown to correlate with either the writer's academic level or native language. This part of the study does not center on the relations that hold between text spans, but charts matters related to the text's physical structure. Whereas in the matter of relational complexity, we considered the quality of the "rhetorical glue" employed by the writers, in this part of the study, we examine features of the "rhetorical shape" of the texts.

Results reveal that choices regarding a text's rhetorical shape correlate more with native language than with academic level.

4.1.4.1 Depth of embedding

The term depth of embedding refers to the extent of development found in a text, measured by how many levels of embedding a writer achieves in any given writing. If we look at the sample tree below (figure 4.23), reprinted from chapter 3, we observe a text of 6 levels. This text was produced by Eric Sevareid (in Troyka, 1990:115).

Segment 1   A thousand years ago in Europe,

Segment 2   acres of houses and shops were demolished

Segment 3   and their inhabitants forced elsewhere

Segment 4   so that great cathedrals could be built.

Segment 5   For decades, the building process soaked up all available skilled labor;

Segment 6   for decades the townspeople stepped around pits in the streets,

Segment 7   clambered over ropes and piles of timber,

Segment 8   breathed mortar dust,

Segment 9   and slept and worked to the crashing noise of construction.

Segment 10   The cathedrals, when finished, stood half-empty six days a week,

Segment 11   but most of them at least had beauty.

Segment 12   Today, the ugly skyscrapers go up,

Segment 13   shops and graceful homes are obliterated,

Segment 14   their inhabitants forces away,

Segment 15   and year after year New Yorkers step around the pits,

Segment 16   stumble through wooden catwalks,

Segment 17   breathe the fine mist of dust,

Segment 18   absorb the hammering noise night and day,

Segment 19   and telephone in vain for carpenter or plumber.

Segment 20   And the skyscrapers stand empty two days and seven nights a week.

Segment 21   This is progress.

Figure 4.23. Text and RST diagram illustrating six levels of embedding.

The depths across writer groups ranged from as few as 2 levels to as many as eleven. Upon closer examination of the whole population, it was found that no Hispanic writer produced a text with fewer than three levels of embedding, while no English native writer produced one with more than seven. It should be noted also that it was not unusual for the Hispanic writers to carry a thought to eight or nine levels of development. In fact, in a brief discussion (24 segments in length) of poverty and drug trafficking in her native country, one Hispanic graduate achieved eleven levels of embedding. In contrast, in a text of similar length (22 segments) an Anglo graduate, although also developing a complex proof, employed embeddings extending to only the sixth level. One Anglo undergraduate

also developed a text of similar length (27 segments, also concerning poverty) but only to a depth of seven. This was the outer limit for any Anglo text.

To measure this trend in a way which would allow for clear comparison among the groups, the highest level of development achieved in each text was taken, these numbers were added together per group and a group average was calculated. The resulting numbers point to the influence of native language in this area of rhetorical choice (see table 4.8).

TABLE 4.8

AVERAGE NUMBER OF LEVELS OF
DEVELOPMENT ACHIEVED PER TEXT

	average depth of embedding
graduate (hisp)	6.5
graduate (Anglo)	4.6
model (Anglo)	4.9
undrgrad (hisp)	6.2
undrgrad (Anglo)	4.1

Here we see that the Anglo undergraduates achieve an average of 4.1 levels of development, while the Anglo graduates achieve 4.6. The Anglo model writers displayed a slightly more extensive development, but only to the figure 4.9. In contrast, the Hispanic undergraduates began their college writing career with an average depth already of 6.2;

their graduate counterparts wrote with an average depth of embedding of 6.5. This distinction is represented graphically in figure 4.24 below.
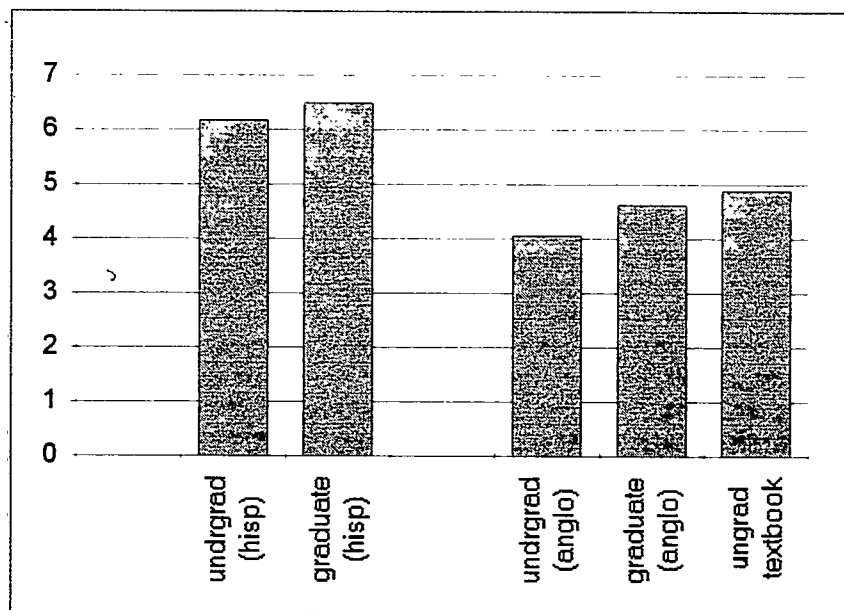
Figure 4.24. Average depth of embedding per text.

This chart shows that while within each language group the extent of development increases with academic level, the greatest distinction is found between the language groups themselves, with the Hispanics averaging depths of embedding approximately 50% greater than those of the Anglo writers.

As we can see, the findings of this part of the study reveal a very different kind of correlation. While in previous sections we observed that the factor that correlated most significantly with academic level was what could be termed Rhetorical Complexity, in this section, we see that the factor most strongly correlated with first language is the degree of what we might call Structural Economy. It has been observed that English and the Anglo

cultures seem to value a kind of efficiency or economy of effort. In this study this seems to have translated into structural brevity in the Anglo texts observed. By structural brevity I do not mean the Anglo texts were any shorter than the Hispanic ones, but that their rhetorical development was more conservative, less apt to move too freely from the central theme, from the focus of the writing. Kaplan describes what he considers culturally conditioned preferences held by Americans regarding structure. He notes that in the United States there is a great emphasis on structure. "The traditional school rhetorics, from the middle of the eighteenth century well into the twentieth . . . placed great value on clarity and precision in the framework of a rigorously logical system" (1988:290). This observation is supported by the writing of Anglos in the present study. In contrast, the Hispanic writers in this study, both graduates and undergraduates, evince a liberal style that, far from being thematically rigorous, allows for the expansion of thoughts to the ninth or even the eleventh level of embedding before returning, if at all, to the central theme of the text.

The following text sample (figure 4.25), written by a Hispanic graduate student who had been in this country only a few months, provides a picture of the Hispanic type of branching.

Segment   1   Today we were reading an article about the Colombian Drug Traffickers.

Segment   2   I have to say that so many things are true

Segment   3   but I also have to say that there was a lot of things that the American Government wants to hear

Segment   4   The USA Government gives some economic helps to Colombia for the war against drugs and annually they revise the results of this war.

Segment 5   At the first semester of this year, USA had to order the expedition of the certificate of the fight against drugs for Colombia,

Segment 6   but there was so many troubles because the Senator Helms don't seems so convinced of the effort of Colombia to destroy the drugs.

Segment 7   Finally Colombia had a Conditional Certificate;

Segment 8   that means: if Colombia don't destroy the drougs this year or make significant accomplishment then USA will never give more money.

Segment 9   Now that Colombia is capturing the most important people of Cali Cartel, U.S.A. say that Colombia will never be free about drugs.

Segment 10   In the other hand they are asking about the power of the traffickers to people of low resources that never have seen the cocaine or any drug;

Segment 11   I am saying that in Colombia is easiest to find rich people with illegal drugs than poor people with cocaine

Segment 12   because it is too expensive;

Segment 13   I lived there for more than seventeen years

Segment 14   and I never saw drugs like I see them here: everywhere.

Segment 15   I am not saying that in Colombia there aren't drugs,

Segment 16   the true is that there are so many drugs, but this drugs aren't sold such freely like here

Segment 17   and I guess that it is the real drug problem:

Segment 18   the drug demand is very big and the USA Government don't take enough care about this situation.

Segment 19   I believe that all this decisions are made by the convenience of each country

Segment 20   because if USA wants that the drugs reach the end in all South America,

Segment 21   why don't legalise it like in Switzerland?;

Segment 22   in this place the results were that the price of drugs became very low and the drug business was not good anymore.

Segment 23   The answer is very easy:

Segment 24   U.S.A. is a "country with worldwide power" and could never accept an error in front of all the other countries.
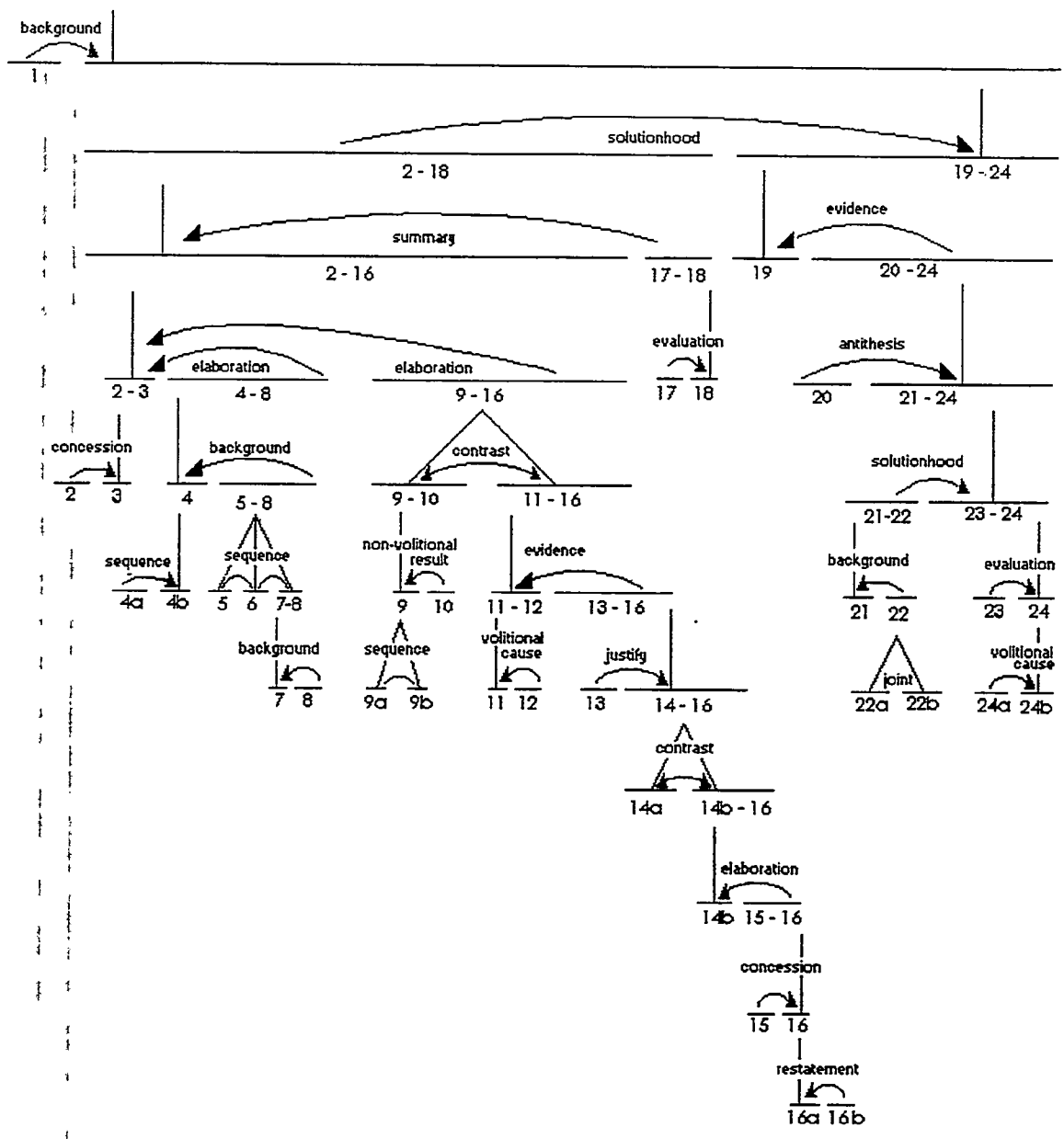
Figure 4.25. Example of a Hispanic graduate text illustrating extensive embedding (text: gh-3).

In this text no branching terminates before the fourth level, where out of four relations, only one, Evaluation, is employed without further comment. At the fifth level, though there are 5 relational nodes, there is only one terminal node (Concession), and at the sixth level, where there are 6, only one is terminal (Sequence). All other branchings continue until the seventh level, where five out of six end. This sixth branch (a development of contrasting evidence) continues on to the eleventh level, where it ends in Restatement. It is important to note that in the above example not only is one theme carried to an extreme, but nearly all are carried to the sixth or seventh level before returning to a central focus. In this text the student deals with government policy, reversals in political behavior, underlying causes of drug traffic, hidden motives for U.S. government action and comparative social norms. In fact, such multiplicity of theme was not an uncommon trait among the graduate hispanic texts.

4.1.4.2 Patterns of development

Surveying texts such as the one presented in figure 4.25 above can give us insight into not only the extent but also the patterns of development employed by a writer. To this end a count was made of all texts to determine how many relations are found on each level of development. This kind of survey can give us an idea of how many themes are typically developed and to what extent they are developed in an average text. The results reveal patterns that correlate with both academic level and first language. Table 4.9 below begins with the raw count and resulting percentages.

TABLE 4.9

NUMBER OF RELATIONS FOUND ON EACH LEVEL

	level 1	level 2	level 3	level 4	level 5	level 6	level 7	level 8	level 9
grad hisp	15	24	33	33	24	20	11	1	3
	9.1%	14.6%	20.1%	20.1%	14.6%	12.2%	6.7%	0.6%	1.8%
ungr hisp	17	28	28	41	35	21	8	2	0
	9.4%	15.6%	15.6%	22.8%	19.4%	11.7%	4.4%	1.1%	0.0%
model	15	20	23	27	16	5	0	0	0
	14.2%	18.9%	21.7%	25.5%	15.1%	4.7%	0.0%	0.0%	0.0%
ungr anglo	46	74	67	45	33	8	2	0	0
	16.7%	26.9%	24.4%	16.4%	12.0%	2.9%	0.7%	0.0%	0.0%
grad anglo	11	17	16	19	12	4	0	0	0
	13.9%	21.5%	20.3%	24.1%	15.2%	5.1%	0.0%	0.0%	0.0%

Based on the information in table 4.9, a set of line graphs was drawn to serve as a means of comparing the shape of the rhetorical development preferred by each group. The patterns that emerged are represented below in figure 14.26. Looking at the numbers, it appears the Anglo writers place a larger proportion of relations at levels 1 and 2. Anglo graduates place 35.4% of all relations at the first and second levels while Hispanic grads place 23.7% of their relations at those levels. There is a similar contrast between the Anglo and Hispanic undergrads, the Anglos placing 43.6% at those levels while their Hispanic counterparts place 25% there.

However, the line graphs (figure 4.26) drawn from these numbers reveal another tendency. Although the graphs' starting points may vary by first language, there is an overall similarity in the shape of theme development.

hispanic graduate

hispanic undergradaute
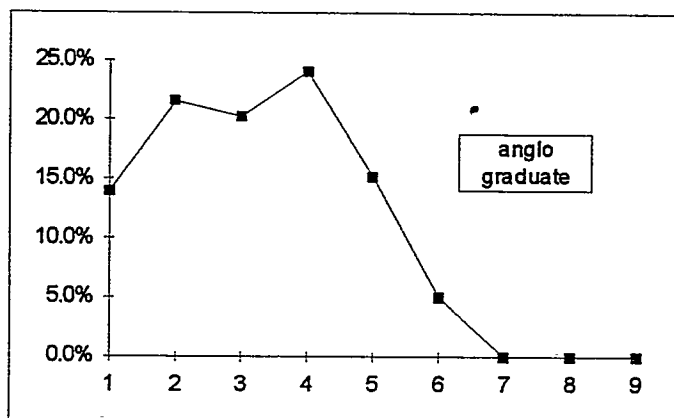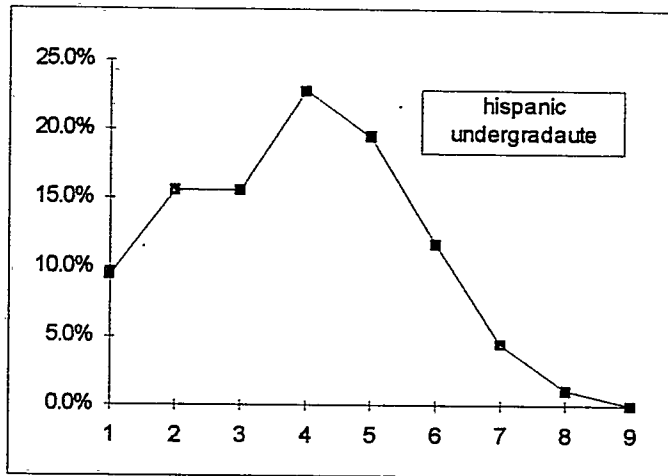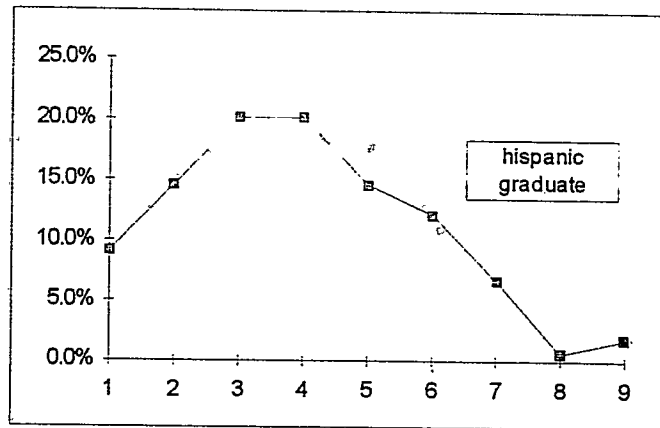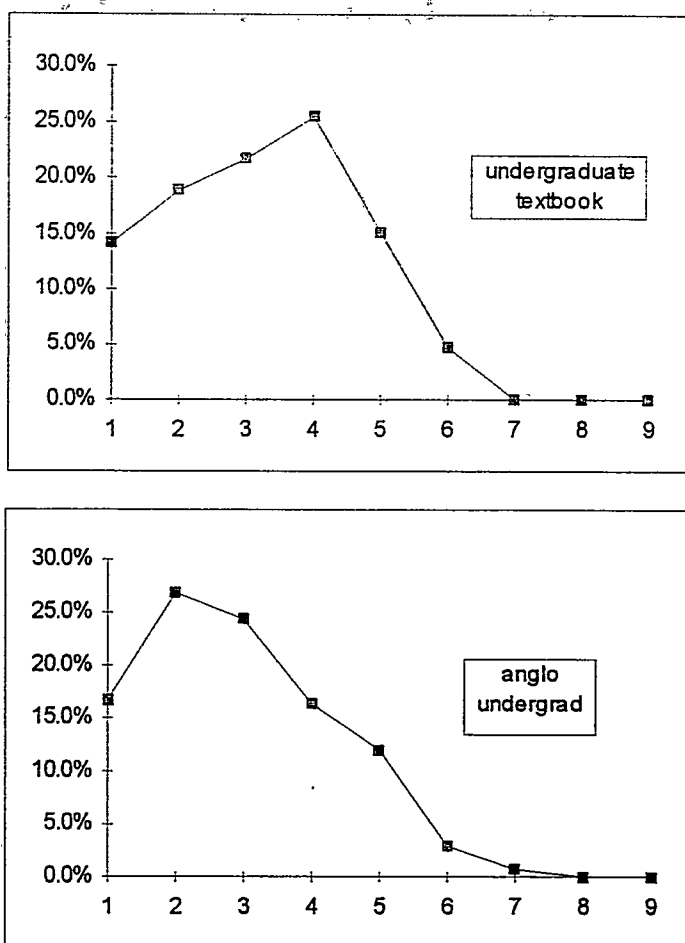
anglo graduate

Figure 4.26. Pattern of development compared across groups by pecent of all relations found on each level.

It is worthy of note that the development pattern of all groups except that of the Anglo undergraduates peaks at the fourth level. In fact, even though the Hispanic writers continue development beyond the sixth level, they show a pattern of decline similar to that of the Anglo graduates after about the fourth level of embedding. Only the Anglo undergraduates contrast with this pattern. The Anglo undergraduates spend a great number of relations quickly at a shallow depth. On average, the developmental pattern of these writers peaks at the second level of embedding and declines from there. That in four

out of five groups a common pattern across language and academic level emerges here

points to the existence of a larger principle at work. It may suggest a universal shape that

correlates with either text length or text type. However, processing of a larger sampling of

texts across groups would be necessary to either confirm or invalidate such a claim. See

appendix B for a table of text lengths expressed in terms of the total number of segments

per text as well as average text lengths per writer group.

4.1.4.3 The macro feature

In the search for patterns of rhetorical choice that correlate with either the writer's

academic level or first language, the use of relations possessing the +macro feature was

also charted. A +macro relation is one which possesses a feature that makes it well suited

to be the overarching relation governing a text's organization (see explanation in section

3.3.2 and table 3.1). Since the macro feature is related to a text's ability to remain

cohesive under extensive development, a statistical analysis of its use is included in this

section investigating the overall structural patterns of texts. A preference for macro

relations among the Hispanic writers, regardless of academic level, was revealed by a

careful survey of the original RST trees themselves. The findings of this examination are

summarized in tables 4.10 through 4.12 below.

TABLE 4.10

NUMBER OF LEVELS WHERE MACRO RELATIONS ARE FOUND

	maximum	minimum	average
grad hisp	8	3	4.6
grad anglo	4	1	2.8
ungr textbk	4	1	2.9
ungr hisp	6	3	4.2
ungr anglo	4	2	3.3

Table 4.10 records the number of levels on which +macro relations are found on any given text. The columns labeled maximum and minimum display the range of possibilities found across the groups. The column labeled average displays the average number of levels where +macro relations were found in the texts of a given group. While the Hispanics (both grad and undergrad) average +macro relations on more that four levels, the Anglo writers, whether grad, undergrad or model, hover around 3. In fact, the Hispanics in this study employ macros on at least three levels at all times, while the Anglos may employ a macro on just one. Furthermore, the Hispanics distributed macro relations on as many as eight different levels within one text, while the Anglos only employed macros on a maximum of four levels. These facts are summarized in table 4.11.

TABLE 4.11

NUMBER OF MACRO RELATIONS ENCOUNTERED PER TEXT

	maximum	minimum	average
grad hisp	16	5	7.6
grad anglo	6	1	3.4
ungr textbk	5	1	3.2
ungr hisp	9	4	6.5
ungr anglo	9	3	3.5

Table 4.11 records the number of +macro relations found in any given text. The columns labeled maximum and minimum display the range of possibilities across groups. The column labeled average displays the average number of macro relations found in the texts of a given group. Again we find that the Hispanic writers distinguish themselves. The Hispanic writers, regardless of academic level, average more than 6 macro relations per text, while the Anglos average about 3 per text. Looking at the range of behavior in this regard points to an interesting trend within each language group. The range of frequency among the Anglos drops from 9 (max) and 3 (min) among the undergraduates to 6 (max) and 1 (min) among the graduates. Just the opposite, however, occurs among the Hispanics, whose range of frequency increases from 9 (max) and 4 (min) as undergraduates to 16 (max) and 5 (min) as graduates. Figure 4.27 below represents these ranges graphically; the averages are also included.
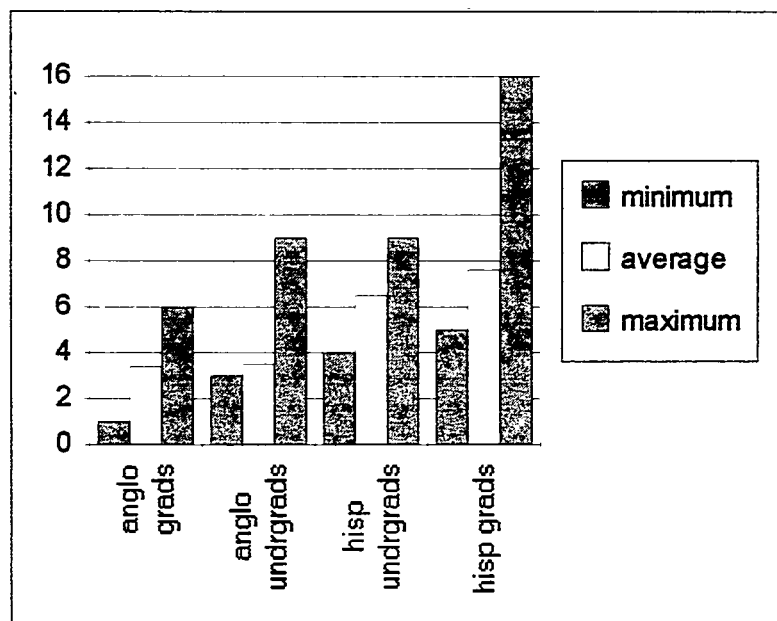
Figure 4.27. Ranges in the use of the macro feature.

This tendency may correlate with the cultural preference of each language. Whereas the Anglo undergraduates mature though their college career to a point of employing fewer expansive relations in their texts, the Hispanic writers mature to employ many more expansive relations. While the Anglo writer cultivates his or her skill in tightening the focus of the text, the Hispanic writer is cultivating his or her skill in expanding the text's themes. Although in many respects cognitive/academic development brings the Anglo and the Hispanic writers together into parallel behaviors, the maturing of their respective L1 rhetorical skills in this case takes them farther apart. This is evidenced by the increasingly expansive L1 structural patterns found in the Hispanic students' interlanguage texts.

TABLE 4.12

NUMBER OF NON-LOGICALLY RESTRICTED VS.
LOGICALLY RESTRICTED MACRO RELATIONS

	macro (-l)	macro (+l)	ratio (-l / +l)
grad hisp	53	22	2.4
grad anglo	16	7	2.3
ungr textbk	19	13	1.5
ungr hisp	49	8	6.1
ungr anglo	35	9	3.9

Table 4.12 compares the number of non-logically restricted versus the number of logically restricted macro relations encountered per group. The column marked macro(-l) displays the count of relations lacking logical restriction. The column marked macro(+)

displays the count of relations that possess it. The column marked ratio(-l,+l) displays the ratio of non-logically restricted to logically-restricted macro relations employed per group. Figure 4.28 graphically represents the groupings that emerged.
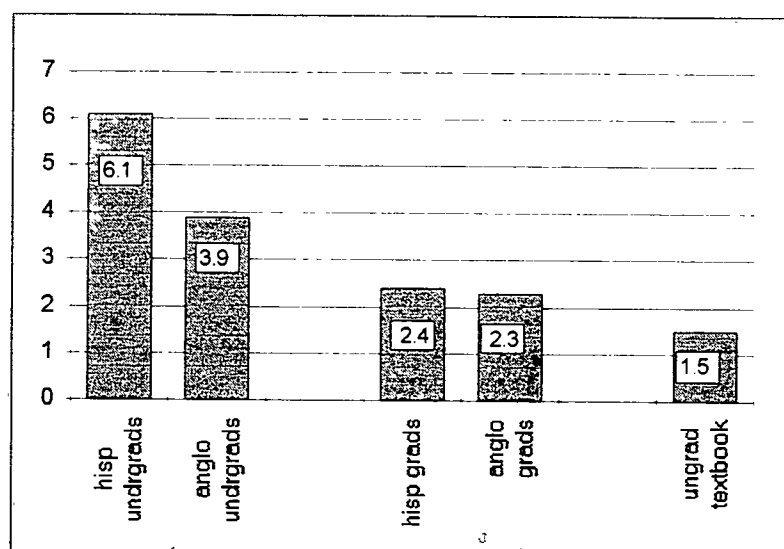
Figure 4.28. Ratio of non-logically restricted versus logically restricted macro relations.

Figure 4.28 above illustrates a marked difference between the Anglo and Hispanic undergraduates in another area. In this chart we can see that the Anglo undergraduate is using non-logically restricted macro relations at a rate of 3.9 to every logically restricted one, while the Hispanic undergraduate is using them at a rate of 6.1. Because the presence of the +l feature requires that the writer pay closer attention to content and theme development, macro relations that possess this feature are understood to be more complex. By the graduate level both Hispanic and Anglo writers, although they differ as to the number of macro relations they use, employ logical restriction within the macro

relations at the same rate. In this we can see the effects of cognitive development washing out the differences that existed between the two language groups in the earlier stages of their academic career.

In reviewing the trees themselves alongside the statistics considered to this point, we might characterize the rhetorical structures we see among the Anglo writers, especially those of the model texts, as "economical," with branching rarely extending beyond the 6th level, and with a tendency to use each relation only once or twice within a short text (see section 4.1.5 below). The Hispanic writings, on the other hand, exhibit what might be called a more "expansive" rhetorical structuring, with branching on occasion to the 9th level and beyond, having at once a greater variety of relations and a greater repetition of the same (the Hispanic graduate averages 9.8 unduplicated relations and the Hispanic undergraduate averages 9.4 per text; the Anglo graduate and undergraduates average about 7.1 unduplicated relations per text. See table 4.13). It is for this reason that the more expansive macro relations are found in much greater proportions among the Hispanic writers. To the Hispanic writer, who favors extensive embedding and branching of thought, such macro relations are of great value. On the contrary, the Anglo writer, who favors greater structural economy, employs macro relations with caution. Even among the Anglo undergraduates, who exhibit a more frequent application of macro relations, there is still evidence of a reluctance to scatter them too widely among the levels.

4.1.5 Frequency of recurrence of relation types

While examining the RST trees for frequency and placement of macro relations, an additional survey was made to discover how many times relations would be repeated within a text. This was undertaken in order to discover whether the extensive development encountered among Hispanic writers was accomplished by employing a greater variety of relations or by practicing greater repetition. It also had to be determined if the use of repetition correlated with first language or academic level. To accomplish this, a count was taken per text of the total number of relations encountered and another count was taken per text of the total number of relation types. An average number of relation types was then calculated for each group and an average number of relation tokens was likewise calculated. Then the percentage of repeated relations was calculated for each group. The results are presented in table 4.13 below.

TABLE 4.13

COMPARISON OF UNREPEATED RELATIONS VS. TOTAL
RELATIONS EMPLOYED

	number of unrepeated relations (type)	total number of relations (token)	percent of repeated relations
graduate hisp	9.8	16.5	40.6%
graduate anglo	7.1	10.0	28.7%
model anglo	6.9	9.5	27.4%
undrgrad hisp	9.4	16.6	43.8%
undrgrad anglo	7.1	10.4	32.4%

These calculations indicate that repetition correlates with first language rather than with academic level. The percent of repeated relations employed by each group is represented graphically in figure 4.29.
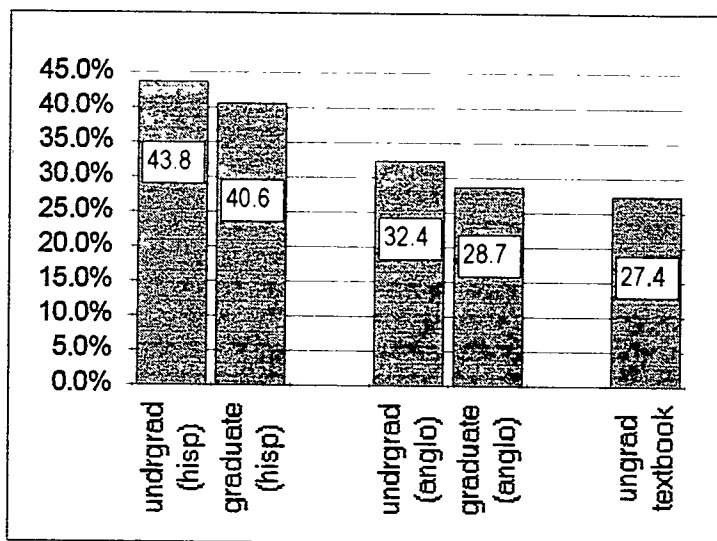
Figure 4.29. Percent of repeated relations that constitute total relations per text.

Figure 4.30 below allows us to compare the actual token count across groups while noting how the degree of repetition employed affects the relative quantities. While the Hispanic writers generally have a much higher token count of relations, not all of it is due to use of repetition. As is demonstrated below, their count of unrepeated relations is also higher, though not by as much.
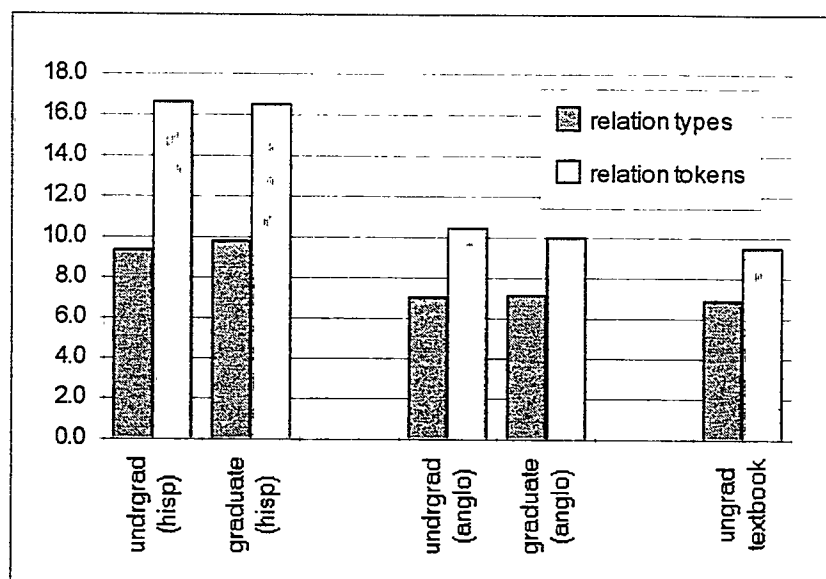
Figure 4.30. Average number of relation types vs. average
number of relation tokens.

These charts indicate a lower use of repetition among Anglo writers. The greatest

contrast in the matter of repetition of relations is found between the Anglo model writers

and the Hispanic undergraduates, the latter employing almost twice as many repeated

relations as the Anglo model writers. Here it can also be seen that Hispanic writers tend to

write longer texts, as evidenced by the larger number of relations, perhaps even 50%

more, than the Anglo writers. This is quite compatible with their predilection for extensive

development. It also reveals that since a significant proportion of those relations are

duplicates, a larger number of relations in a text does not necessarily imply a richer variety

of rhetorical moves. These numbers show us how a longer text with a greater token count

of relations can in fact have the same index of rhetorical complexity as a shorter one. In

this matter we can see a cultural influence affecting Structural Economy can operate independently of the cognitive/academic level influencing Rhetorical Complexity.

4.2 VARBRUL results

To measure the degree to which each of the various factors contributed to the observed results, three sets of VARBRUL runs were performed. These runs measured significance with regard to the choice of individual relations, depth of embedding, choice of single shared features, usage of relation type, and ordering of relation type as these correlate with first language and academic level.

4.2.1 Choice of individual relations and depth of embedding

An initial VARBRUL series took the individual relation name as the dependent variable in runs that included the independent variables undergraduate, graduate or model writer status, Hispanic or Anglo language origin, and the relation's placement level in the text. Although this series did not indicate a large number of preferences related to first language, it did note a correlation between first language and the use of seven out of 24 relations and two out of seven levels of placement (see table 4.14).

According to VARBRUL, out of the 24 individual relations, the choice of seven is correlated with the writer's first language. Of these seven, four (Elaboration, Evidence, Solutionhood, and Summary) possess the +macro feature (refer to table 3.1 for a full list). As discussed, relations with this feature are of special value to the Hispanic writers, who appreciate extensive development in a text. The relation Justify was also marked as a

preferred relation among Hispanic writers. The Justify relation is one in which the writer seeks to increase the reader's willingness to accept the text producer's right to say what he or she is saying. A point made with the help of the Justify relation is in essence an argument made by appeal to *ethos*, to the character or authority of the writer. This may point to a tendency among Hispanic writers to support their arguments personally rather than objectively. The relation Volitional Result was also marked as significant. This relation is present in this group perhaps not because it is a Hispanic favorite in itself, but because consequence (result) is a concept necessarily involved in developing Solutionhood, which is a preferred relation. Finally, Analogy was also tagged as significant. An argument from analogy is one which seeks to build upon the text receiver's predisposition toward a certain matter. Working not from objective data, but from the receiver's own bias, the writer introduces his or her point as analogous and therefore equally acceptable. This might be considered a personal rather than objective form of argumentation.

TABLE 4.14

VARBRUL RESULTS REGARDING SPECIFIC RELATIONS
AND DEPTH OF EMBEDDING

Dependent Variable: *HISPANIC* vs. *ANGLO*
Application Value: **HISPANIC**
Significant Factor Groups:
    INDIVIDUAL RELATION
    PLACEMENT OF RELATION

INDIVIDUAL RELATION

antithesis	0.553	**justify**	**0.859**
background	0.572	motivation	0.449
circumstance	**0.352**	non-volitional result	0.487
concession	0.421	**non-volitional cause**	**0.220**
condition	0.421	otherwise	0.505
contrast	0.493	**purpose**	**0.301**
elaboration	**0.727**	**restatement**	**0.303**
analogy	**0.681**	sequence	0.481
evaluation	0.409	**solutionhood**	**0.846**
evidence	**0.650**	**summary**	**0.821**
interpretation	------	**volitional result**	**0.723**
joint	0.456	volitional cause	0.553

PLACEMENT OF RELATION

1st level	**0.278**	5th level	0.594
2nd level	**0.358**	**6th level**	**0.812**
3rd level	0.421	**7th level**	**0.958**
4th level	0.549		

As noted in section 4.1.4.1, Kaplan characterizes American rhetorical style as placing great emphasis on "precision" within "a rigorously logical system" (1988:290). The VARBRUL findings regarding Anglo preference for the relations Purpose,

Circumstance and Non-Volitional Cause are consistent with his observations. While the use of Circumstance and Purpose may correlate with the notion of precision, a preference for Non-Volitional Cause (the designation I used to identify relations involving support by reason) correlates with his notion of a "rigorously logical system." The use of the Restatement relation, on the other hand, more likely correlates with what has already been observed regarding the Anglo disinclination toward extensive branching. Whereas the Elaboration relation, a Hispanic favorite, opens up a text to further development, the Restatement relation may serve to close it down, or to neatly tie off a branching. While Summary, a Hispanic favorite, is used to wrap up a text as a whole, Restatement is used to conclude internal branchings, something which Anglos may do with greater frequency.

We must also note that the highest proportion of Restatement relations was found among the Anglo undergraduates, while the highest proportion of Elaboration relations was found among the Hispanic undergraduates (see table 4.1). Since Anglo rhetorical style seems to favor stricter adherence to a central theme, Anglo undergraduates, when required to produce a text of a certain length, may tend to simply repeat the same point in different words. In this way they manage to do what may seem to them most important, that is, to not deviate from the central theme. On the other hand, when similarly pressed to produce a text, the Hispanic undergrads set out to elaborate and expand, though like the Anglo undergrads, they may have very little to say. To their way of thinking, perhaps, they must take care of what is most important to them, that is, they must expand the text beyond a single theme. Thus in the choice of these particular relations, all the undergraduates,

whether repeating a single point (by Restatement) or rambling through many (with Elaboration), may be emulating the norms of their respective cultures.

Figure 4.31 below is a sample text written by a Hispanic graduate student. Its rhetorical structure employs many of the relations identified above as expected of a Hispanic writer, i.e. Elaboration, Solutionhood, and Volitional Result.

> Actually, there are something that do not work in the proper way in my country. Police department, politicians and behavior's population. In my country usually the people that work in the police department do not earn a good wage and do not have a good education. These factors have made that the police officers look at other way to earn more money . For this reason all the police officers or a big part of them are bribed by the drug trafficker and robbers. I believe that the best solutions for this are: hire only people with university degree and increase the wage of the police officers. Usually the politicians, in my country, work for their own benefit and do not for the benefit of the country. I believe that this is a problem not so easy to resolve in a short time. I think that main point to avoid this problem is educate the population and in this way will be more difficult to deceive them.

Segment 1	Actually, there are something that do not work in the proper way in my country.
Segment 2	Police department, politicians and behavior's population.
Segment 3	In my country usually the people that work in the police department do not earn a good wage and do not have a good education.
Segment 4	These factors have made that the police officers look at other way to earn more money .
Segment 5	For this reason all the police officers or a big part of them are bribed by the drug trafficker and robbers.
Segment 6	I believe that the best solutions for this are: hire only people with university degree and increase the wage of the police officers.

Segment 7   Usually the politicians, in my country, work for their own benefit and do not for the benefit of the country.

Segment 8   I believe that this is a problem not so easy to resolve in a short time.

Segment 9   I think that main point to avoid this problem is educate the population

Segment 10   and in this way will be more difficult to deceive them.
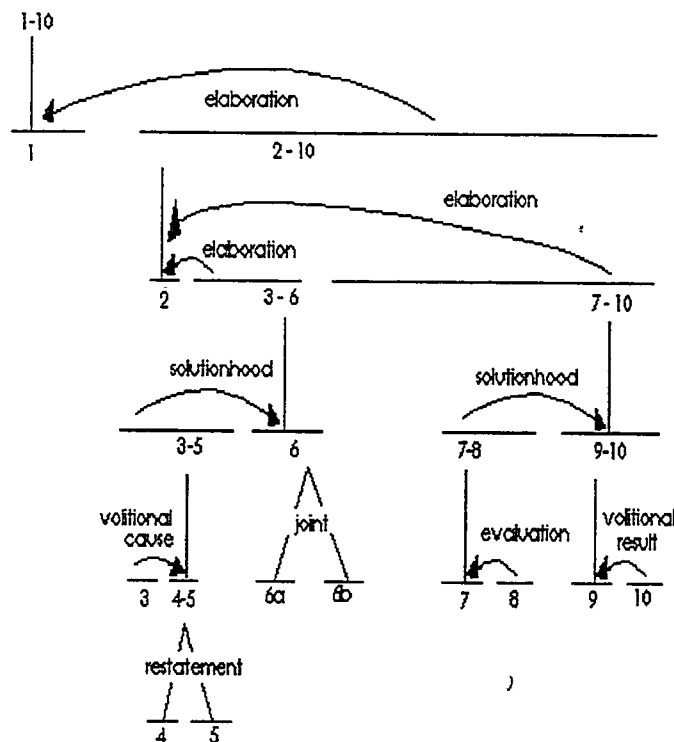
Figure 4.31. Example of a Hispanic graduate text illustrating
the use of certain preferred relations (text: gh-5).

Out of the ten relations employed by this Hispanic writer, five are of an expected

variety, namely Elaboration and Solutionhood (Volitional Result, a relation predicted by

VARBRUL, is also included, see section 4.2.1 below). The preponderance of Elaboration

in this short text actually delays introduction of the purpose of the writing until the third

tier of development. Although the main point is to discuss solutions to the problems

named, the Solutionhood relation does not enter the tree until the third level down. This may be consistent with what has been noted in other studies, that "Spanish rhetoric requires longer introductions than English does" (Leki 1991:137). As we will see, the Hispanic predilection for extensive development influences a significant number of the writer's choices regarding relation and relation type.

Table 4.14 above also indicates that first language is a significant factor in choices regarding level of placement (depth of embedding). VARBRUL has determined the Hispanic writer is much more inclined than the Anglo writer to place relations at the sixth or seventh level of embedding. This confirms our earlier statistical observations regarding the difference between the Anglo and Hispanic developmental styles.

VARBRUL conversely indicates that the Anglo writer is more inclined to have relations populating the upper levels (1st and 2nd) than to have them populating the lower ones. This was noted in section 4.1.4.2 already, and is here confirmed as significant by VARBRUL. This may reflect a tendency among Anglo writers to employ a fuller, broader-based pattern of development in the initial positions of the rhetorical structure.

4.2.2 Common relational feature preferences

In order to investigate whether significant patterns could be observed in the writers' use of the individual relations, a series of VARBRUL runs designed to detect preferences among writer groups was performed. This series employed each single feature (±hierarchical, ±logical, ±unconventionalized, ±reader-based, ±macro) as the dependent

variable, using academic level, first language, and relation feature above and below as independent variables. The series found significant correlations in three of the five runs, determining that there was a correlation with academic level, in two cases, and with first language, in another, in regard to the three features shown in tables 4.15 through 4.17 below.

Table 4.15 presents the results of the run which employed the feature ±unconventionalized as the dependent variable. These results confirm what was noted in sections 4.1.2.3 and 4.1.3.4 above, that graduate students, regardless of first language, are more likely (0.649) than undergraduates to use non-conventionalized relations. It should also be noted that in this run VARBRUL determined a preference for placing +unconventionalized relations in initial position (0.704) and following them with +macro featured relations (0.677). This is consistent with expectations, since one would anticipate further explanation and development following a non-conventionalized relation, that is, a relation that requires new syntax or lexicon for its expression. On the other hand, the results also note a general disinclination to employ +unconventionalized relations in terminal position, favoring the use of conventionalized relations there instead. This is consistent with the claim that +unconventionalized relations are not part of the standard set of relational assumptions of the language. Because of this, the writer normally must provide further explanation so that the reader can grasp his or her intended meaning. This explains why VARBRUL finds a significant correlation between +unconventionalized relations and further rhetorical development.

TABLE 4.15

ACADEMIC LEVEL AS A PREDICTOR OF THE FEATURE
+UNCONVENTIONALIZED.

Dependent Variable: *±UNCONVENTIONALIZED* Application Value: **+UNCONVENTIONALIZED** Significant Factor Groups: *ACADEMIC LEVEL* *RELATION ABOVE* *RELATION BELOW*	
ACADEMIC LEVEL	
graduate	**0.649**
undergraduate	0.407
model	0.556
RELATION ABOVE	
− macro	0.409
+ macro	0.520
"0" (initial)	**0.704**
RELATION BELOW	
− macro	0.517
+ macro	**0.677**
"0" (terminal)	**0.398**

The results of a following run, with the single feature ±reader-based as dependent variable (table 4.16) confirm what was noted in sections 4.1.2.4 and 4.1.3.5 above, that graduate students, regardless of the writer's first language, are more likely than undergraduates to use reader-based relations, that is, relations whose locus of effect is the reader's positive regard or willingness to act. Increased use of this feature is a sign of an advanced writer. In table 4.16 academic level is a predictor of the presence of the single feature +reader-based.

TABLE 4.16

ACADEMIC LEVEL AS PREDICTOR OF THE SINGLE
+READER-BASED

Dependent Variable: *±READER-BASED*	
Application Value: ***+READER-BASED***	
Significant Factor Groups:	
ACADEMIC LEVEL	
RELATION BELOW	
ACADEMIC LEVEL	
graduate	**0.615**
undergraduate	0.430
model	0.541
RELATION BELOW	
− macro	0.454
+ macro	**0.638**
"0" (terminal)	0.478

It should also be noted that in this run VARBRUL determined a preference for following reader-based relations with +macro featured relations. This indicates that a relation seeking to directly affect the reader's inclinations would be more likely to receive the support of additional comments than to be itself the terminal comment in a line of development.

In a run using ±macro as the dependent variable (see table 4.17) VARBRUL noted a tendency for Hispanics to employ relations with this feature somewhat more frequently (0.583) since this feature marks the developability of a relation, it is not surprising that Hispanic writers, who favor extensive development, would also be tagged by VARBRUL as somewhat more likely to use +macro featured relations. Among those that use this kind

of relation, VARBRUL also pointed to a strong preference to place +macro relations in initial position (0.795) and an equally strong disinclination to place such relations in terminal position (0.345). Since it is the presence of the +macro feature that indicates a relation's suitability to serve as the governing relation of a text, it only stands to reason that such relations would most frequently occupy positions allowing for further development.

TABLE 4.17

NATIVE LANGUAGE AS A PREDICTOR OF THE
FEATURE +MACRO

Dependent Variable: *±MACRO* Application Value: ***+MACRO*** Significant Factor Groups: *NATIVE LANGUAGE RELATION ABOVE RELATION BELOW*	
NATIVE LANGUAGE	
Hispanic	**0.583**
Anglo	0.438
RELATION ABOVE	
− unconventionalized	0.416
+ unconventionalized	**0.605**
"0" (initial)	**0.795**
RELATION BELOW	
− logically dependent	**0.653**
+ logically dependent	0.559
"0" (terminal)	**0.345**

These results also indicate that a +macro relation is more likely to be preceded by a +unconventionalized relation·(0.605), that is, a relation which lends itself to further explanation. It also notes that a +macro relation is less likely (0.653) to be followed by a relation that lacks logical restriction. One would expect this as the writer moves from general (+macro) to specific (+logical).

Two other VARBRUL runs, one with ±logic and one with ±hierarchical as the dependent variables, did not encounter significant correlations with academic level or native language and did not find significant ordering restrictions related to these features. All factors, that is, academic level, first language, along with all ordering preferences, were eliminated, that is, considered non-significant in both the stepping up and stepping down runs.

4.2.3 Choice of relation type

A series of VARBRUL runs designed to detect use and ordering preferences regarding relation type (see section 3.3.3 for the type definition by feature bundle) determined there was a correlation between academic level and the use of type 4 relations (see table 4.18 below). Type 4 relations (Solutionhood, Interpretation, Concession, Analogy, and Background) must possess at least three of the four features that determine rhetorical complexity, which means that they are typically non-conventionalized and/or reader-based, usually having both logical dependence and hierarchical structuring.

TABLE 4.18

ACADEMIC LEVEL AS A PREDICTOR OF
RELATION TYPE 4.

Dependent Variable: *RELATION TYPE*	
Application Value: *TYPE 4*	
Significant Factor Group: *ACADEMIC LEVEL*	
graduate	**0.645**
undergraduate	0.425
model	0.489

Although independent variables marking native language and preferences of relation type above and below were included in this run, no L1 related preferences or ordering restrictions were identified as significant with regard to this relation type. This VARBRUL finding is, however, consistent with observations made in section 4.1.3, that a relation involving greater complexity is more likely to be found in a text produced by an advanced writer, regardless of first language.

4.2.4 Ordering trends among all writers

This section presents ordering trends and preferences which VARBRUL determined to be significant, but which could not be attributed to either academic status or first language. They are of interest in this study because they point to the existence of other factors which influence predictability of rhetorical style.

In this series of runs, the relation type was positioned as the dependent variable with the independent variables being factor groups involving relation type above and below, level of embedding, native language and academic level. In all but the fourth run

(see section 4.2.3 above) both native language and academic level were discarded as significant factor groups, while ordering of relations and their location were noted as significant.

TABLE 4.19

VARBRUL RESULTS REGARDING ORDERING PREFERENCES
SURROUNDING TYPE 1 RELATIONS

Dependent Variable: *RELATION TYPE* Application Value: *TYPE 1 (-h,-l,-u,-r)* Significant Factor Group: *RELATION TYPE ABOVE*	
type 1	**0.360**
type 2	0.408
type 3	0.572
type 4	0.413
type 5	**0.265**
"0" (initial)	0.596

Table 4.19 indicates that the simplest of all relation types (Joint, Sequence and Contrast) are very unlikely to be preceded by the most complex and are similarly unlikely to be preceded by one of their own. They are not unlikely, however, to be in initial position, although they are non-hierarchical. This is due to the fact that two of the type 1 relations, Sequence and Contrast, possess the macro feature, and are able to serve as the organizing principle of a text.

The second table, table 4.20, displays four significant factor groups with regard to type 2 relations. Type 2 relations are hierarchical but otherwise unrestricted. VARBRUL

TABLE 4.20

VARBRUL RESULTS REGARDING ORDERING PREFERENCES
SURROUNDING TYPE 2 RELATIONS

Dependent Variable: *RELATION TYPE* Application Value: **TYPE 2 (+h,-l,-u,-r)** Significant Factor Groups: *RELATION TYPE ABOVE* *RELATION TYPE BELOW* *TOTAL LEVELS OF EMBEDDING* *ACADEMIC LEVEL*	
RELATION TYPE ABOVE	
type 1	0.382
type 2	0.403
type 3	0.582
type 4	0.593
type 5	0.578
"0" (initial)	**0.665**
RELATION TYPE BELOW	
type 1	**0.696**
type 2	0.428
type 3	0.562
type 4	0.585
type 5	0.528
"0" (terminal)	0.403
TOTAL LEVELS OF EMBEDDING	
two	**0.262**
three	**0.262**
four	0.421
five	0.528
six	0.543
seven	0.557
eight	0.563
nine	0.334
ACADEMIC LEVEL (no significant difference between undergraduate and graduate levels)	
graduate	0.499
undergraduate	0.554
model	**0.286**

indicates that these are likely to be found in initial position. These relations apparently set up a hierarchical structure amenable to text development, and are simple enough not to prematurely limit the development of a theme. The table also shows they are unlikely to be preceded with an equal or less complex relation. They are more likely to be followed by a type 1 relation, marking perhaps a non-restrictive opening of a long line of development. They are less likely to be found in terminal position. The probability of finding a type 2 relation in a text of only two or three levels of development is quite small.

The table also shows a strong disinclination among model writers to employ type 2 relations. To understand this, it must be kept in mind that while both graduate and undergraduate student writings were produced as timed in-class essays, the texts of the model writers were most likely produced under circumstances which allowed a much greater amount of revision. It may be that given the opportunity to make multiple revisions, the model writers were able to move, through successive revisions, from the general hierarchical relations (type 2), to the more specific and more tightly restricted relations (types 3, 4, and 5). It is unclear whether, if given the time and opportunity, the student writers would have done the same.

The third table, table 4.21 below, shows a single significant factor group influencing the use of type 3 relations. This run indicates that type 3 relations are extremely unlikely to be found at the top of a rhetorical structure. These are logically restricted relations which apparently derive their existence from relations holding above them.

The fourth run, which determined significance of factors contributing to the use of type 4 relations, is discussed in section 4.2.3 above.

TABLE 4.21

VARBRUL RESULTS REGARDING ORDERING PREFERENCES
SURROUNDING TYPE 3 RELATIONS

Dependent Variable: *RELATION TYPE* Application Value: *TYPE 3 (+h,+l,-u,-r)* Significant Factor Group: *RELATION TYPE ABOVE*	
type 1	0.690
type 2	0.545
type 3	0.544
type 4	0.495
type 5	0.393
"0" (initial)	**0.180**

Table 4.21 below presents results from the fifth run of this series. It indicates that the most complex relations, the type 5 relations, are very much favored as overarching relations occupying the upper levels of a rhetorical structure. It also shows that they are unlikely to be placed at extended levels of development.

TABLE 4.22

VARBRUL RESULTS REGARDING ORDERING PREFERENCES
SURROUNDING TYPE 5 RELATIONS

Dependent Variable: *RELATION TYPE* Application Value: *TYPE 5 (+h,+l,+u,+r)* Significant Factor Group: *PLACEMENT*	
1st level	**0.771**
2nd level	**0.602**
3rd level	0.393
4th level	0.414
5th level	0.500
6th level	**0.308**
7th level	**0.318**

The fact that a number of significant patterns of rhetorical structure have been detected by VARBRUL apart from the influence of either academic level or native language suggests the existence of universal rules of ordering and placement. These rules may correlate with such factors as text type, topic, text length and the like. Such factors, however, lie outside the scope of this study.

4.3 Summary

The findings for this chapter are summarized in tables 4.23 through 4.25. Table 4.23 provides an overview of the text features that show significant correlations in this study. Depth of embedding, the use of the +macro feature relations, and the amount of relations repeated in a text are indicators of Structural Economy. An upward trend in these features indicates a reduction in Structural economy. As the table shows, reduced

Structural Economy correlates with Spanish as the writer's first language. Hierarchical, unconventionalized and reader-based relations are indicators of Relational Complexity. A greater measure of these signals increased Relational Complexity. As the table indicates, increased Relational Complexity correlates with a higher academic level. In this table, the (+) and (−) do not indicate absolute values, but rather relatively increased (+) or decreased (−) occurrence of the feature described.

TABLE 4.23

SUMMARY OF FINDINGS

	graduate	undergraduate
hispanic	−Structural Economy • (+)deep embedding • (+)macro feature • (+)repetition ± Relational Complexity • (+)hierarchical • (+)unconventionalized • (+)reader-based	−Structural Economy • (+)deep embedding • (+)macro feature • (+)repetition −Relational Complexity • (−)hierarchical • (−)unconventionalized • (−)reader-based
anglo	+ Structural Economy • (−)deep embedding • (−)macro feature • (−)repetition + Relational Complexity • (+)hierarchical • (+)unconventionalized • (+)reader-based	+Structural Economy • (−)deep embedding • (−)macro feature • (−)repetition −Relational Complexity • (−)hierarchical • (−)unconventionalized • (−)reader-based

Table 4.24 abstracts out the correlation between first language and Structural

Economy. Table 4.25 abstracts out the correlation between academic level and relational

complexity.

TABLE 4.24

CORRELATION BETWEEN STRUCTURAL ECONOMY AND FIRST LANGUAGE

	graduate	undergraduate
hispanic	–Structural Economy	–Structural Economy
anglo	+Structural Economy	+Structural Economy

TABLE 4.25

CORRELATION BETWEEN RELATIONAL COMPLEXITY AND ACADEMIC LEVEL

	graduate	undergraduate
hispanic	+ Relational Complexity	–Relational Complexity
anglo	+ Relational Complexity	–Relational Complexity

These charts summarize the two types of transfer that are uncovered by the study:

the one a transfer of L1 preferences regarding structural economy (table 4.24); the other a

transfer of cognitive/academic language proficiency (table 4.25).

CHAPTER FIVE

CONCLUSIONS AND IMPLICATIONS

5.0 Conclusions to be drawn from the findings

The initial questions asked by this study were whether significant patterns could be detected in regard to choice of individual relations, application of common relational features, overall relational complexity, depth of embedding, repetition of relations and ordering of relations. It was also asked to what extent writers' preferences in these areas could be attributed to their first language or to their level of cognitive development.

The results of this study have pointed to clear correlations in both respects. It was found that choices regarding top level relational organization, overall rhetorical complexity, choice of rhetorical relations, and their ordering correlated with the writer's academic level, while depth of embedding and frequency of repetition of relational types pointed to correlations with the writer's first language. The results of this study also indicate that there are some significant patterns regarding the ordering of rhetorical relations which cannot be attributed either to academic status or to native language.

The types of features correlating with the student's academic status could be categorized under the heading of Rhetorical Complexity. The features shown to be most closely correlated with the writer's first language could be characterized as those related to Structural Economy. Each of these concepts is elaborated further below.

5.1 Rhetorical complexity

With regard to Rhetorical Complexity, it has been demonstrated that Hispanic graduates and Anglo graduates both achieve similar levels of skill, although they were educated in different cultures. Those educated in English in the U.S. and those educated in Spanish outside the United States were shown to make parallel progress in regard to consciousness of audience and innovative logical expression. Progress in these areas from the undergraduate to the graduate level was evidenced by a doubling of the amount of reader-based relations used by graduate students in both language groups, and also by the strong tendency of graduate students of both language groups to use non-conventionalized relations, that is, relations which require the writer to formulate new syntax or make new applications of lexicon in order to convey less common modes of thought.

Evidence of parallel rhetorical development was also seen in the use of relations involving logical dependence. In the matter of logically restricted macro relations, both American-educated and Latin-educated graduate students evidenced the same degree of preference for logical specificity in their writings. As already pointed out, the use of logically dependent relations requires greater rigor and forethought as well as greater rhetorical dexterity in fitting more finely sculpted relations into an unbroken, cohesive whole. We may assume, then, that a relation with logical dependence would be preferred by a writer whose thinking processes involve greater precision. In this study we must conclude that by the graduate level, both the native speaker of Spanish and the native speaker of English have achieved a significantly increased level of proficiency in this

regard. The results thus reveal clear signs of the positive transfer of higher level cognitive skills occurring in second language rhetorical operations among Hispanic graduate students. This strongly supports Cummins' theory that cognitive/academic language proficiency is directly transferable to academic level performance in a second language.

The results of this study also serve to explain the puzzling findings of Ramon Santiago (1970) in his study of writings of both Anglo and Hispanic college students. Although he did find a language based difference in theme development, he failed to find dissimilarities in choice of relations or in ordering of relations. In his study, he attributed the lack of difference to the anglicization of his Puerto Rican Spanish speakers. The present study, however, suggests that the reason Santiago found no dissimilarity between the groups in this regard was because his data sample was drawn from Anglo and Hispanic students of the same academic level. The present study shows that academic level, not first language, influences the choice of relations and that the ordering of relations is related to more universal principals such as text type and a relation's rhetorical features.

5.2 Structural economy

At the same time as this study's measures of Rhetorical Complexity point clearly to shared and transferable language proficiencies among both Hispanic and native English speaking writers, the study's measures of Structural Economy indicate just the opposite.

The rhetorical structures observed among the Anglo writers can be characterized as more "economical," with branching extending on average to about the fourth level. In

contrast, the Hispanic writings were observed to be more "expansive," with branching reaching on average to about the sixth level and on occasion even to the eleventh. In the matter of repetition of rhetorical relations, I also found that while the Anglo writers tend to use each relation only once or twice within a short text, the Hispanic writers use at once a greater variety of relations and a greater degree of repetition of the same. Finally, the results show that the Hispanic writers greatly favor the use of relations with the macro feature, that is, relations that are well suited to the top levels of a discourse and that facilitate extensive development under the topic they introduce. The Anglo writers use these kind of relations quite sparingly, while the Hispanic writers use them much more liberally.

These three observed areas of preference in regard to Structural Economy can be explained in terms of differences in the Anglo and the Latino cultures. In English we say "time flies" but in Spanish we say "el tiempo anda"—time walks. In English we say "time is money" but in Spanish we say "Hay tiempo para todo"—there's time for everything. While in Spanish and the Spanish language cultures time is portrayed as a generous and slow-moving friend, in English and the Anglo cultures time is portrayed as a valued commodity that is escaping us.

This distinction is illustrated in a Spanish language textbook which contains many "Notas Culturales" in which the authors seek to contrast the Anglo and the Hispanic cultures. In one such portion two friends, Tomás and Mark, are conversing. At one point Mark, the North American, challenges Tomás saying, "¿No sabes que el tiempo es oro?

[Don't you know that time is gold?]" To this Tomás responds, "Nunca voy a ser esclavo del reloj como tú. La buena amistad vale mucho más que el oro. [I will never be a slave of the clock like you. Good friendship is worth more than gold.]" Tomás goes on to explain something about the Latin way of conducting business, which many have observed involves warm and lengthy greeting and leave-taking: "Para nosotros, por ejemplo, la conversación tiene que acompañar los contratos y el trabajo, y si no, el hombre es como una máquina [For us, for example, conversation must accompany contracts and work, otherwise man is like a machine.]" (Hansen & Wilkins, 1982:446). Kaplan (1980) has made a similar observation along these lines about that culture's linguistic expression: "Much greater freedom to digress or to introduce extraneous material is available in French, or in Spanish, than in English" (408).

Multiplicity of theme and unresolved conflict is not uncommon in Latin literature (Gallagher 1973). In fact, the plurality of conflicting factors in the graduate Hispanics texts is reminiscent of the complexity of plot and theme found in many Latin American novels, and may be reflective of the kind of world view embodied there. D.P. Gallagher, in his description of modern Latin American fiction, notes that the new literature is "wholly free of didacticism. It has deliberately overthrown the rigid dichotomies . . . There is good and evil in all men—the world is not neatly divided between those that are unremittingly vicious and those that are uncorruptibly gentle" (1973:87). In discussing the structure of the new novel, he observes, "The new novelists rather trust the reader's intelligence and invite his active participation. He must disentangle the novel's complexities as strenuously

as the characters have to ... Life is puzzling, so why should not a novel be?" It may be that in a culture where the popular writers hold such a view, other texts that employ a rhetorical style involving extensive and at times enigmatic branching also are more likely to be appreciated.

In contrast, the kind of focus and efficiency of effort valued by English and the Anglo cultures seems, in this study, to translate rhetorically into structural brevity. Structural brevity does not mean that the Anglo texts are shorter, but that their structural development is more conservative, less apt to advance too many steps away from center. In contrast, the Hispanic writers, both undergraduates and graduates, demonstrate a much more expansive tendency, developing their thoughts to the ninth or even to the eleventh level of embedding before returning, if at all, to the main line of thought. In fact, this study shows that there is little motivation among Hispanic writers to abandon elaborate branching, even at the graduate level. On the contrary, expansiveness appears to be a desired trait, something cultivated throughout the course of the student's academic career, which in certain areas almost doubles by the time the student reaches graduate level.

The observations made by Olga Santana-Seda in her study of Spanish and English texts are particularly relevant here. Concerning English paragraph samples she wrote:

> The subordinate paragraph structure with its variety of methods of development and its forward movement creates an effect of swiftness, of departure, progression and arrival. This description seems to be in keeping with a culture in which time and purposeful activity are high on the value scale. (98)

In her study she also noted the tendency of English texts not to repeat rhetorical relations. She also observed that due to a proportionately large number of what she called "coordinate" relations (which in this paper are the non-hierarchical, non-logically dependent relations) in the Spanish texts and a tendency to write significantly longer sentences, the Spanish texts seemed "heavier." In our study as well, it was noted that the Hispanic writers exhibited a preference for non-hierarchical and for the less restrictive "umbrella" relations, which serve the Hispanic writer's preference for extensive branching. Santana-Seda observed that, as a result, in the Spanish texts "movement is slower," and made the following comments concerning the cultural influences potentially responsible for this:

[First,]

The attitude toward time would be the first obvious implication for anyone familiarized with Spanish-American culture. Life moves at a slower pace in Spanish America; time is not supreme ... (99)

[Second,]

It was as if some of the writers were not just trying to express their views on a subject for the purpose of communications, but were, at the same time, trying to create an artistic form of expression... (100)

In the light of Santana-Seda's remarks, we may imagine that while the Anglo writing teacher may become impatient with elaborately branching rhetorical structures and may interpret them as rambling, as evidence of a lack of organization, a lack of rhetorical control, or a lack of focus, actually, to the Hispanic text producer, these may be not only unconscious reflections of cultural values but also conscious choices cultivated as a sign of genius, of thoroughness, and of a generous mind.

5.3 Model writers

In this study the model writers did not consistently pattern with any particular group. Although they patterned with the Anglo students in the matter of Structural Economy, in the matter of Relational Complexity they followed trends of their own. Table 5.1 summarizes their preferences in comparison with those of the other groups.

TABLE 5.1

SUMMARY OF MODEL WRITERS' PREFERENCES IN COMPARISON WITH THOSE OF THE OTHER WRITER GROUPS

	w/ undergrad	middle	w/ grads	w/ anglos	w/ hisp
+ h	X (greater)				
+l		unclear pattern			
+u			X		
+r			X		
type 1	X (greater)				
type 2		unclear pattern			
type 3	X (esp. anglo)				
type 4	X				
type 5			X		
complex vs less complex relations			X		
rate of overall relational complexity		X			
depth of embedding				X	
patterns of development			X	X	X
use of the macro feature				X	
use of logically restricted macro relations			X		
repetition				X	

One might expect the model writers to pattern consistently with the Anglo graduate writers, because they should represent a high level of cognitive/academic development, or

between the undergraduate and the graduates, because they represent at least an attainable level of proficiency to which the undergraduates should aspire. There are a number of reasons, however, why their writings might not be expected to coincide closely with the student writings in this study. First, the student writings were in-class timed writings, while the model texts were presumably produced under less restrictive circumstances. This would have allowed for more extensive revision, and perhaps for the utilization of more specific or restricted rhetorical relations. Second, the student writings were directed at a known, academic audience, while the model writings appear to have been directed at an unknown audience that at times was general in nature, that is, not specifically academic. This might have resulted in the use of simpler structures. Third, while the purpose of the student writings was to demonstrate knowledge or language proficiency, the texts of the model writers appeared intended to communicate ideas. A greater similarity of social context and of the nature of the speech acts themselves would have to be achieved before strong claims could be made regarding differences between student writer and model writer preferences.

5.4 Implications

Among Hispanic graduate students, then, we find both positive transfer of cognitive/academic language proficiency and negative transfer of L1 rhetorical structure norms. This has implications for L2 writing pedagogy. Unfortunately, however, when the writings of Hispanic graduates are evaluated for class placement, their more obvious

deficiencies in grammar and structural economy usually overshadow their just-as-real proficiency in rhetorical complexity. As a result, Hispanic graduates with advanced critical thinking skills developed in their native country are placed in beginning writing courses with English speaking freshmen, working through a curriculum designed to cure the ills of the first year Anglo's who are just beginning to learn how to think at all. English 101 students are often put through elaborate activities involving brainstorming, mapping, free-writing, and the like, so that they might learn to expand their thoughts and to discover all possible variations on a theme. However, according to this study, what the Hispanic graduate student needs to learn is not to expand, but to economize. Yet instead of focusing on this skill, a graduate Hispanic writer placed in a freshman English class will sit through hours of practice aimed at developing his or her ability to expand, to embellish and to elaborate on a theme, a skill which the graduate Hispanic already possesses in abundance. In the light of these findings, we can only conclude that one of the least effective places to put graduate Hispanic students is in a freshman English class with native speakers. Yet this is where they often end up.

The findings of this study also hold implications for further discussions of transfer in language acquisition theory. In the light of this study, we see that claims concerning the influence of rhetorical transfer versus the influence of transferable cognitive proficiency do not need to be mutually exclusive, as some might claim. To make non-contradictory claims in this area, however, researchers must be careful to specify which aspects of rhetorical skill their claims seek to explain.

5.5 Suggestions for further research

This project was originally undertaken to discover to what degree rhetorical anomalies in second language writings of Spanish speakers are due to transfer of culturally based rhetorical preferences and to what degree they are simply reflective of a particular level of cognitive development. To measure the degree to which each of these two factors affected the rhetorical behavior of the groups involved, it was not necessary to establish rhetorical structuring norms in order to measure "error." It was only necessary to establish relative influence. However, this investigation has shown the power of using RST analysis in tandem with a variable rule analysis program. Such a combination of theory and technology could in fact provide a way to establish the existence of rhetorical structuring norms across text genres, by analyzing texts in much the same way as they were analyzed here, but drawing from a data base of model or "normal" writers. Such a study could yield up for the discourse of any given language an entirely new set of norms and expectations. Even more than this, it could potentially refine and clarify our understanding of text type universals.

In the identification of relational categories, this study made certain assumptions about underlying rhetorical factors that constitute the relations (section 3.3). Although these assumptions were, in a sense, validated by the patterning of the results, further research could be done to determine not only the validity of these factors, but also their respective degree of contribution to the actual rhetorical complexity of a text. A body of

data made up of complex texts could be employed and a post-RST analysis VARBRUL analysis could be performed to determine the actual significance of each factor's contribution to the make-up of the texts.[1]

In this study, writer preferences that patterned along first language lines were credited to cultural preferences assumed to be influencing the writers. However, to be able to claim conclusively, for example, that the Hispanic writers' preferences regarding Structural Economy were transferred from rhetorical preferences already at work in their first language, a body of data drawn from standard L1 texts would need to be analyzed using the same methods as used in this study, and then compared with the L2 text analyses.

Concerning the question of the transfer of cognitive/academic language proficiency, a longitudinal study might be undertaken, monitoring over a period of four or six years the rhetorical development of a body of students, both foreign-born Hispanic and native-born Anglo. In this way a measurement could be made of the influence of academic advancement in the English writings of the same students, with rhetorical structure "snapshots" taken at various stages of their academic careers. It might be beneficial to add into such a study L2 writers from a variety of first language bases. In this way, correlations with first language rhetorical preferences could be verified. If all the L2 writers exhibit the same behavior, through they come from different first language

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[1] Such an analysis could be carried out by systematically excluding each factor as follows: 1) +h vs. -h; 2) exclude -h, and take +l vs. -l, +r vs. -r, and +u vs. -u; 3) exclude -l, and take +r vs. -r, +u vs. -u; 4) exclude -r, and take +l vs. -l and +u vs. -u; 5) exclude -u and take +l vs. -l and +r vs. -r.

backgrounds, then assumptions about first language could be disproved. However, if L2 writing behaviors pattern along first language lines, there would be stronger support for findings like those of the present study.

APPENDIX A

CHART COMPARING FOUR RELATIONAL TAXONOMIES

WITH THAT OF MANN AND THOMPSON

1.	ELABORATION
	Longacre
		GENERIC-SPECIFIC PARAPHRASE .
		ILLUSTRATION
		INTRODUCTION
	Grimes
			SPECIFICALLY - including:
			ABSTRACT:CONCRETE
			LITERAL:METAPHORICAL
			DENOTATIVE:CONNOTATIVE
	Halliday and Hasan
		EXPOSITION
		EXEMPLIFICATION
		CLARIFICATION
	Beekman and Callow
			SUPPORT BY CLARIFICATION - including:
			GENERAL-SPECIFIC
			AMPLIFICATION-CONTRACTION

2.	CIRCUMSTANCE
	Longacre
		(cf. Temporal Overlap)
	Grimes
			SETTING - including:
			LOCATION
			TIME
	Halliday and Hasan
			ENHANCEMENT - including
			TEMPORAL
			SPATIAL
	Beekman and Callow
			SUPPORT BY ORIENTATION - including:
			TIME
			LOCATION
			CIRCUMSTANCE

3.	SOLUTIONHOOD
	Longacre
		PRESENTATION OF PROBLEM/QUESTION (1992)
				(cf. Conditionality - including:
				Hypotheticality

Grimes
  RESPONSE
Halliday and Hasan
  (cf. Cause and Condition)
Beekman and Callow
  (cf. Condition-Consequence)

4. VOLITIONAL CAUSE,

5. NON-VOLITIONAL CAUSE,

6. VOLITIONAL RESULT &

7. NON-VOLITIONAL RESULT

Longacre
  EFFICIENT CAUSE
  CIRCUMSTANCE
Grimes
  EXPLANATION
  COVARIANCE
Halliday and Hasan
  CAUSE:REASON/PURPOSE
Beekman and Callow
  MEANS-RESULT
  REASON-RESULT

8. PURPOSE
Longacre
  FINAL CAUSE
Grimes
  COVARIANCE:PURPOSE
Halliday and Hasan
  CAUSE:PURPOSE
Beekman and Callow
  MEANS:PURPOSE

9. CONDITION
Longacre
  CONDITIONALITY - including:
   HYPOTHETICALITY
   UNIVERSAL QUANTIFIER
   CONTINGENCY
   PROPORTIONS
  CONTRAFACTUALITY

Grimes
    CONDITION
Halliday and Hasan
    CAUSAL:CONDITIONAL - including:
        CONDITION:POSITIVE
        CONDITION:NEGATIVE
Beekman and Callow
    CONDITION-CONSEQUENCE

10. OTHERWISE
Longacre
    WARNING:COUNTER-CONSIDERATION
Grimes
    (cf. Alternative)
Halliday and Hasan
    (cf. Variation)
    (cf. Alternation)
Beekman and Callow
    (cf. Alternation)

11. INTERPRETATION &

12. EVALUATION
Longacre
    SIMILE
    AUTHOR INTRUSION (1981)
    (cf. Amplification Paraphrase)
Grimes
    (cf. Attributive)
    (cf. Equivalent)
Halliday and Hasan
    (cf. Clarification)
Beekman and Callow
    (cf. Comment)

13. RESTATEMENT
Longacre
    EQUIVALENT PARAPHRASE
Grimes
    EQUIVALENT
Halliday and Hasan
    EXPOSITION
Beekman and Callow
    EQUIVALENCE

14. SUMMARY
> Longacre
>> SUMMARY PARAPHRASE
>
> Grimes
>> - 0 -
>
> Halliday and Hasan
>> - 0 -
>
> Beekman and Callow
>> AMPLIFICATION-CONTRACTION

15. SEQUENCE
> Longacre
>> SUCCESSION - including:
>>> SPAN-SPAN
>>> EVENT-SPAN
>>> SPAN-EVENT
>>> EVENT-EVENT
>
> Grimes
>> COLLECTION
>> TRAJECTORY
>
> Halliday and Hasan
>> TEMPORAL:LATER
>> TEMPORAL:SOONER
>
> Beekman and Callow
>> CHRONOLOGICAL SEQUENCE

16. CONTRAST
> Longacre
>> CONJOINING:CONTRAST
>> FRUSTRATION
>
> Grimes
>> - 0 -
>
> Halliday and Hasan
>> ADDITION:ADVERSATIVE
>
> Beekman and Callow
>> CONTRAST

17. JOINT
> Longacre
>> CONJOINING - including
>>> COUPLING
>>> ALTERNATION

Grimes
> COLLECTION
> ALTERNATIVE

Halliday and Hasan
> ADDITION:POSITIVE
> ADDITION:NEGATIVE
> VARIATION
> ALTERNATION

Beekman and Callow
> SIMULTANAEITY
> ALTERNATION

18. MOTIVATION

Longacre
> WARNING
> RESORT TO MOTIVATION (1992)

Grimes
> - 0

Halliday and Hasan
> (cf. Enhancement:Means)

Beekman and Callow
> GROUNDS-CONCLUSION

19. ANTITHESIS

Longacre
> cf. SIMILE

Grimes
> cf. ANALOGY

Halliday and Hasan
> - 0 -

Beekman and Callow
> cf. COMPARISON

20. BACKGROUND

Longacre
> FURTHER VARIETIES OF DEIXIS - including:
> INTRODUCTION
> IDENTIFICATION
> (cf. Equivalence Paraphrase)

Grimes
> (cf. Equivalence)

Halliday and Hasan
> (cf. Exposition)

Beekman and Callow
IDENTIFICATION

21.   ENABLEMENT
Longacre
- 0 -
Grimes
- 0 -
Halliday and Hasan
- 0 -
Beekman and Callow
- 0 -

22.   EVIDENCE
Longacre
- 0 -
Grimes
EVIDENCE
Halliday and Hasan
(cf. Cause:Reason)
Beekman and Callow
GROUNDS-CONCLUSION

23.   JUSTIFY
Longacre
ESTABLISHMENT OF AUTHORITY/CREDIBILITY (1992)
Grimes
(cf. Explanation)
Halliday and Hasan
CAUSAL:CONDITIONAL
Beekman and Callow
REASON-RESULT

24.   CONCESSION
Longacre
FRUSTRATION
Grimes
(cf. Covariance)
Halliday and Hasan
CONDITION:CONCESSIVE
Beekman and Callow
CONCESSION-CONTRAEXPRECTAION

APPENDIX   B

TEXT LENGTHS BY GROUP

TEXT LENGTHS BY GROUP

grad (hisp)	number of segments
gh-1	15
gh-2	18
gh-3	24
gh-4	23
gh-5	10
gh-6	8
gh-7	14
gh-8	19
gh-9	13
gh-10	16
avg.	16
ungr (hisp)	
uh-1	7
uh-2	13
uh-3	20
uh-4	20
uh-5	12
uh-6	34
uh-7	23
uh-8	10
uh-9	15
uh-10	19
uh-11	14
avg.	16.64

model	number of segments
Winn	7
Miller	12
Fielden	13
Manning	9
Wellborn	8
Howard, B	16
Daniel	13
Howard, J	11
Sevareid	21
Zinzer	13
avg.	13.67
ungr 1 (anglo)	
ua-1	14
ua-2	16
ua-3	17
ua-4	11
ua-5	9
ua-6	17
ua-7	12
ua-8	9
ua-9	6
avg.	12.33

ungr 2 (anglo)	segments
ua-10	27
ua-11	18
ua-12	13
ua-13	13
ua-14	12
ua-15	12
ua-16	12
ua-17	13
ua-18	10
ua-19	9
ua-20	8
ua-21	7
ua-22	7
ua-23	6
ua-24	5
ua-25	11
avg.	11.44
grad (anglo)	
ga-1	12
ga-2	22
ga-3	7
ga-4	12
ga-5	8
ga-6	11
ga-7	17
ga-8	8
avg.	12.13

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