Rhetorical Structure Theory: A Framework for the Analysis of Texts

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1 Introduction

Our purpose in this paper is to informally outline an approach to the study of text organization and to demonstrate how this approach can be used to describe the structure of short edited texts in English.[1] This research thus falls squarely into the area of pragmatics as broadly defined: it considers analyses of texts to crucially involve an account of the interaction between writers and readers.

2 Rhetorical Structure Theory

2.1 Overview of the Theory

We assume that a theory of text organization should account not only for the kinds of parts in a text, the arrangements of the parts, and the way they are connected to form a whole text, but should also provide a natural descriptive account of any particular text.

The Rhetorical Structure Theory of text organization was designed to provide such an account by revealing the functional hierarchical relationships in short texts.

Our interest has been to develop a theory to help us understand texts as instruments of communication. We have been developing RST, with valuable input from Christian Matthiessen, Cecilia Ford, and Barbara Fox, at the USC Information Sciences Institute (ISI) in Los Angeles. The original development context of work was text generation, designing computer programs with some of the capabilities of authors. Thus, while we will introduce and discuss this theory as an analytical tool in the description of text, it might also serve as a generational tool in the construction of texts.

In the construction of this theory we have analyzed more than 400 texts, from one paragraph to several pages in length, of the following types: administrative memos, personal letters and letters to the editor, advertisements, Scientific American articles and abstracts, newspaper articles, organizational newsletter articles, public notices in magazines, travel brochures, and recipes.

Early in the series of studies that led to RST, we examined particular texts and observed that many phenomena of text structure involved pairs of regions of the text. The mutual relevance of the two parts, and sometimes their position and form, could be identified with recurrent relations holding between the parts. These relations, sometimes but not always indicated by conjunctions, could hold between text parts of a wide range of sizes, from clauses to groups of paragraphs.

These observations led to formation of a testable set of assumptions (described below) and to realization of the assumptions in the mechanisms of RST.

RST describes texts in a rich and highly constrained way and thus predicts much about the character and effects to be expected in natural texts. Rather than characterize the "boundary" of the set of texts, RST describes functions and structures that make texts effective and comprehensible in human communication. Section 2.4 discusses the implications of RST in terms of various tests and uses of the theory.

The above considerations prompt three basic assumptions underlying RST:

1. Texts are not just strings of clauses. Instead, they consist instead of hierarchically organized clauses clauses and groups of clauses that relate to one another in various ways.

2. These relations, which can be described functionally in terms of the purposes of the writer and the writer's assumptions about the reader, reflect the writer's options for organizing and presenting the concepts.

3. The most common type of text relation is that which we call a **nucleus-satellite** relation, in which one part of the text is ancillary to the other.

These assumptions are realized in the mechanisms of the theory, to which we now turn.

2.2 An Informal View of the Mechanisms of RST

RST has three principal mechanisms: defined <u>relations</u>, <u>schemas</u> and <u>text structures.</u>

Given two distinguished regions of a text, a defined relation specifies a pattern of conditions that might be true of the pair. If it is, we say that the relation holds.[2]

Schemas are simple predefined patterns specifying how regions of text combine to form larger regions, up to whole texts. The simplest and most numerous patterns consist of a single relation holding. A slightly more complicated schema consists of a pair of relations that can share a common part. Other schemas describe exception conditions under which a local structure consisting of nucleus-satellite relations would not describe a region well. Text structures are composed of the regions where schemas apply.

The collection of particular relations is not taken as closed and fixed, but is open to modifications and additions. Although it is an open list, it appears very stable for most uses of text. It appears to be culturally specific.

2.2.1 Text Structures and RS Schemas

For present purposes we do not need a formal definition of an RST Structure. It is simply a composition of regions where schemas apply, constrained to cover the whole text and avoid overlap of independent schema applications. Such structures are diagrammed in figures below.

RST represents the rhetorical organization of a text by **Rhetorical Structure Schemas.** Each RS Schema indicates how a particular portion of text structure, which we call a <u>text span</u>, is built of other portions. Conceptually, these Schemas are the basic organizational building blocks of the theory.

The theory recognizes about 25 RS Schemas. They are defined in terms of the set of **relations** that hold between the portions of text for which the schema accounts.

Corresponding to Assumption 3 above, the typical relations of RST are <u>nucleus-satellite</u> relations, which are asymmetric. For Example, if span A is standing as evidence for span B, then B is not standing as evidence for A. Examination of large amounts of text shows that the uses of these asymmetric relations form a pattern, in which one span is consistently more central to the writer's goals and less subject to deletion or substitution of other material. The less central, or satellite, span tends to enhance the function of the more central, or nucleus, spans.

We are suggesting that all texts can be described in terms of RS Schemas. They reflect relations that readers perceive as holding among various parts of a text. Note that RS Schemas are defined in terms of the <u>functions</u> of text spans -- in terms of the work they do in achieving the goals for which the text was written. The rhetorical structure of texts, then, is composed of function-specific elements.

As an example, consider a text extracted from a <u>Byte</u> magazine advertisement:[3] It consists of two **Units,** which are roughly equivalent to clauses. The difference is that relative clauses and complement clauses are considered part of the unit in which their governing item appears, rather than as independent units.[4]

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.

The writer clearly intends the second part of the text, or the second text span (which happens to be a Unit), to be understood by readers as a **solution to**

the first part (which is also a Unit, in this case a question). We might call this relation Solutionhood and propose an RS Schema of SOLUTIONHOOD, as diagrammed in Figure 1. In Figure 1, a vertical line points to the nucleus, Unit 2. The arch points to the satellite, Unit 1, and the arrow shows the direction from satellite to nucleus. An informal characterization of the Solutionhood relation[5] would be:

Solutionhood: The nuclear text span is presented as the solution to the problem posed in the satellite text span.
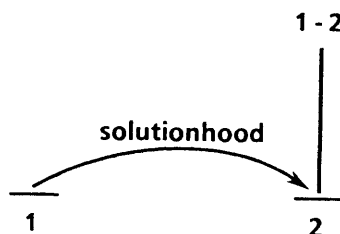

Figure 1: RST Analysis of the "Floppy Drive Heads" Text

In principle, the elements of the RS Schema can be arranged in any order and still be an instance of that Schema. Schemas do not encode the order of segments, though in presenting our analyses, we place the Schema elements in the order that reflects that of the corresponding spans in the text.[6]

Note that RST schemas represent the extent of the items connected by a relation, as well as the point of transition of the relation. Some other descriptive methods focus on conjunctions and relational transitions, but do not identify the extent of related items or the patterns in which they occur.

The vast majority of the relations in the texts we have analyzed are of the nucleus-satellite type. As we have suggested, the nucleus-satellite distinction reflects the fact that in any multi-Unit text, certain text spans realize the central

goals of the writer, while others realize supplementary or ancillary goals. Judgments about what is nuclear and what is supplementary are based primarily on recognition of the individual relations and secondarily on judgments of which goals are more central to the writer's purposes.[7] Such judgments are usually, but not always, easy to make.[8] Our RST analysis of texts into nuclear and satellite parts related in specific ways reflects the fact that readers consistently make such judgments in the act of comprehending texts, and writers construct texts expecting them to do so.[9]

The "Floppy Drive Heads" example above demonstrates the nucleus-satellite relationship in that the initial question is obviously a "set-up" for the solution, namely the injunction to buy the product. The ad writer's central goal, clearly, is to convey the "buy" message. In our discussion of a longer text in Section 3 below we will see many more examples of the distinction between nucleus and satellite.

Let us consider three further examples of the use of RS Schemas in the description of texts. The first is an item from The Linguistic Reporter entitled "Bilingual Education Resource Guide":

1. A Guide to Resource Organization for Minority Language Groups, which gives brief descriptions of 242 organizations that serve as resources for the bilingual education community, is now available from the National Clearinghouse for Bilingual Education.

2. The guide, compiled by M.T.R., M.L., and D.S., is an update of the 1979 Guide to Professional Organizations.

3. Each entry provides the name, address, and phone number of the organization, as well as information about services, publications, conferences, target languages and cultures, and other specialized information.

4. Write NCBE at 1400 Wilson Blvd., Suite 200, Rosslyn, VA 22209.

Figure 2 shows the RST analysis of this text.

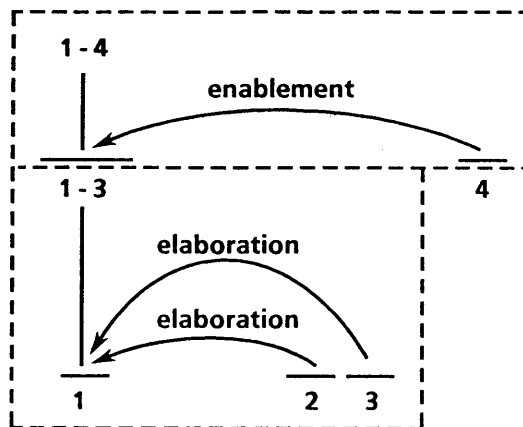How is this text organized? Essentially, it is an offer: Unit 1 expresses the

Figure 2: RST Analysis of the "Resource Guide" Text

offer in the form of a sentence announcing the availability of the Guide. Units 2 and 3 provide further details about the Guide, and Unit 4 tells readers how to accept the offer and obtain a copy.

With these informal remarks about the rhetorical organization of this text in mind, we can construct the RST analysis of the text. Beginning at the top of Figure 2, we invoke an RS Schema called MOTIVATION/ENABLEMENT. A MOTIVATION/ENABLEMENT RS Schema consists of a nucleus and one or both of two possible satellites: an Enablement satellite and a Motivation satellite, as illustrated in Figure 3.[10]

This RS Schema represents the fact that, in our culture at least, for a written directive to succeed in convince us to comply with a request or accept an offer, there may be portions of text devoted to motivating us to comply and to letting us know how to comply. As Figure 2 shows, the "Resource Guide" text expresses only the Enablement satellite.
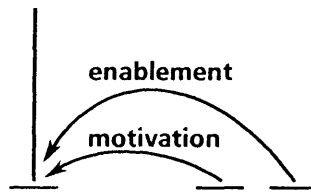
Figure 3:   MOTIVATION/ENABLEMENT RS Schema

Use of the MOTIVATION/ENABLEMENT RS Schema to represent the relation between Unit 4 and the rest of the text captures the fact that Unit 4 is in an Enablement relation with the rest of the text; in the RST analysis of this text, Unit 4 appears as an Enablement satellite to the nucleus, Units 1 - 3.

But, as Figure 3 shows, Units 1 - 3 themselves have rhetorical structure. The RS Schema that best describes this structure is ELABORATION.

The Elaboration relation is particularly versatile. An informal characterization is:

> *Elaboration: a satellite text span supplements the nuclear text span with one of the following kinds of detail:*

1. set : member
2. abstraction : instance
3. whole : part
4. process : step
5. object : attribute
6. generalization : specific

Since Units 2 and 3 in the "Resource Guide" text provide details about attributes of the Guide being offered, they are in an Elaboration relation of type 5 with the nuclear Unit 1. Accordingly, Figure 2 shows Units 2 and 3 (jointly in a JOINT Schema) in an Elaboration relation with the nuclear Unit 1.

As a second illustration of the application of RS Schemas in the analysis of very short texts, consider this invitation, which appeared on the electronic "bulletin board" at the Information Sciences Institute.

1. As members of the University's staff, you are cordially invited to attend the 1983 Annual Staff Breakfast presented by President James Zumberge and the Staff Assembly.

2. The continental breakfast and get-together will be held in the Town and Gown Auditorium (on Main Campus) at 8:30 AM on Thursday 11/3.

3. This is an opportunity to meet some of the other staff members affiliated with the University, as well as the Staff Assembly representatives and President Zumberge.

As an invitation, the text as a whole can be described by a MOTIVATION/ENABLEMENT RS Schema. As in the "Resource Guide" text, there is an Enablement relation, realized by Unit 2. There is also a Motivation relation, realized by Unit 3. Figure 4 shows the RST analysis of this text.
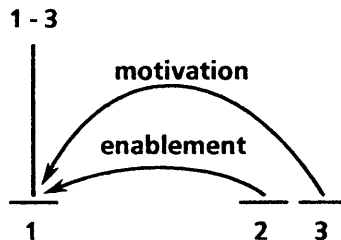

Figure 4:   RST Analysis of the "Staff Breakfast" Text

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As a final illustration of the application of RST to the analysis of short texts, consider this 2-unit text, which also appeared on the ISI electronic bulletin board:

   1. I am having my car repaired in Santa Monica (1522 Lincoln Blvd.) this Thursday 19th.

   2. Would anyone be able to bring me to ISI from there in the morning or drop me back there by 5 pm please?

The rhetorical relation here is Background. This relation is characterized as follows:

   Background: The satellite text span provides information that increases the ability of the reader to comprehend an element in the nuclear text span.

In this text, the need to have a ride to and from the address at 1522 Lincoln Blvd., is not likely to be comprehensible without the information in Unit 1. So the RST analysis of this text is as shown in Figure 5.
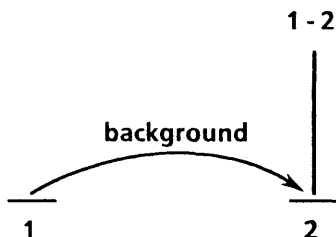

Figure 5: RST Analysis of the "Car Repair" Text

Analysis of these simple texts shows how the mechanisms of RST reveal nucleus-satellite relationships, which we suggest are pervasive in text.

The pervasiveness of nuclearity is further demonstrated by the results of removing the nucleus (replacing pronouns by full NP's as needed to keep reference undisturbed) from a given text span. The significance of the remaining satellites tends to be lost. Removal of the satellite, however, leaves a nucleus whose significance is clear.

For example, removing the nucleus (Unit 1) from the "Resource Guide" text analyzed in Figure 2 makes the significance of the remaining satellites, Units 2-4, unclear. We do not know what guide is being discussed or why we should write NCBE. Similarly, in the "Car Repair" text diagrammed in Figure 6, removal of the nucleus, Unit 2, drains the significance from the remaining satellite, Unit 1, which states that the writer is having a car repaired.

2.2.2 The Content of Relation Definitions

To complete our description of the mechanisms of RST, we note that the relations within an RS Schema are defined by specifying three kinds of information:[11]

  1. A characterization of the nucleus,

  2. A characterization of the satellite,

  3. A characterization of the rhetorical interactions between the nucleus and the satellite.

As an example, let us consider again the Motivation relation, which was introduced in the analysis of the "Staff Breakfast" text. To define the Motivation relation, we would include the following specifications:

  1. The nucleus is an action performable but not yet performed by the reader.

  2. The satellite describes the action, the situation in which the action takes place, or the result of the action in ways that help the reader associate value assessments with the action.

  3. The value assessments must be positive, to lead the reader to want to perform the action.

For an application of this definition, here is another example of this relation, excerpted from an ad for floppy disks:

1. Now, buy a specially marked box of 10 Memorex 5 1/4" mini flexible discs

2. and we'll send you an additional mini disc FREE.

3. Features like our uniquely sealed jacket and protective hub ring make our discs last longer.

4. And a soft inner liner cleans the ultra-smooth disc surface while in use.

5. It all ads up to better performance and reliability.

As Figure 6 shows, the second text span (Units 3 - 5) in this ad is designed to motivate the addressee to comply with the directive issued in the first text span (that is, the command expressed in Units 1 - 2).
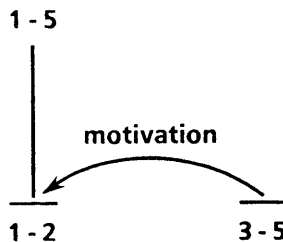
1 - 5

motivation

1 - 2   **3 - 5**

Figure 6:   RST Analysis of the "Memorex" Text

As we have seen in the discussions of the "Staff Breakfast" and "Memorex" texts, the Motivation relation occurs in RS Schemas that represent directives, requests, or offers.

2.2.3 Other Relation Definitions

In addition to the Motivation relation, our examples have illustrated Solutionhood, Elaboration, Background, and Enablement relations. We have found many other relations useful in the analysis of texts. Six of them follow, each with an example.

EVIDENCE:

From a letter to the editor of <u>BYTE</u> magazine:

1. The program [a Federal Income Tax program reported in an earlier issue] really works.

2. In only a few minutes, I entered all the figures from my 1980 tax return and got a result which agreed with my hand calculations to the penny (no mean feat).

Evidence: The satellite text span presents a credible statement that increases the reader's belief in the nuclear text span.

Here Unit 2 presents evidence for the claim in Unit 1.

ANTITHESIS:

From the same letter to the editor of <u>BYTE</u>:

1. I recently purchased a text which purported to be a guide to Pascal for engineers.

2. It totally ignored the subtleties of the language and made no bones about it.

Both the Antithesis and Concession relations involve the notion of **positive regard**. Writers pursue different sorts of goals with different texts and text spans. Some are intended to persuade, i.e., to create belief. Others are intended to create an attitude of approval or interest. Others are intended to create desire (specifically, an intention to act.) All are varieties of positive

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regard. In analyzing any text span and breaking it into parts, we use a single, primary notion of positive regard -- belief, approval, or desire -- chosen on the analyst's perception of the writer's intent.

Antithesis:

a. The writer has positive regard for the nucleus and wants the reader to also have the same kind of positive regard for the nucleus;

b. the satellite and nucleus text spans are perceived as being in contrast;

c. because of an incompatibility arising from the contrast, one cannot have positive regard for both the nucleus and the satellite;

d. comprehending the satellite and the incompatibility between the nucleus and the satellite increases the reader's positive regard for the nucleus.

In the extract above, the writer contrasts the idea in Unit 1 -- that the textbook he bought was a guide to Pascal -- with the idea in Unit 2 -- that it was no such thing. The verb complex <u>purported to be</u>, in Unit 1, signals his positive regard for Unit 2. The writer believes that the reader's recognition of the incompatibility between these two ideas will increase the reader's positive regard for the nuclear Unit 2.

For further discussion of the Anthithesis relation, see Thompson and Mann (to appear a).

CONCESSION:

From a personal letter:

1. Your kind invitation to come and enjoy cooler climes is so tempting,

2. but I have been waiting for the outcome of medical diagnosis and the next 3 months will be spent having the main thumb joints replaced with plastic ones.

Concession:

a. The writer has positive regard for the nucleus;

b. the writer acknowledges a potential or apparent incompatibility between the nucleus and the satellite, but regards them as compatible;

c. recognizing the compatibility increases the reader's positive regard for the nucleus

In this extract, the writer acknowledges the apparent incompatibility between the tempting invitation and the three months of thumb surgery, but affirms them as compatible, hoping that the reader will share her positive regard for (in this case, her belief in) the nucleus.

For more discussion of Concession, see Thompson and Mann (to appear b).

CIRCUMSTANCE

From the same Byte magazine advertisement for Syncom diskettes as the "Floppy Drive Heads" example in Figure 1.

1. As your floppy drive writes or reads,

2. a Syncom diskette is working four ways to keep loose particles and dust from causing soft errors, dropouts.

Circumstance: The satellite text span sets a temporal, spatial, or situational framework in the subject matter within which the reader is intended to interpret the situation presented in the nuclear text span.

Here, the satellite Unit 1 names a state of affairs -- your floppy drive writing or reading -- that provides a temporal setting of simultaneity for nuclear Unit 2.

PURPOSE

From the beginning of a newspaper column called "Tennis Tips":

1. We repeatedly are told we have to move

2. to hit the ball

3. - but it's just as important to move after you hit it.

In this extract, there is a Purpose relation between Unit 1 (the nucleus) and Unit 2 (the satellite).

Purpose: the satellite text span presents the effect intended by the actor of the action presented in the nuclear text span.

As we suggested above, not all RS Schemas consist of a nucleus and a satellite. In fact, not all schemas represent a relation. There is one, the JOINT Schema (similar to Grimes "collection" (1975:212)), which is used for lists and consists of as many nuclei as there are items in the list and no satellites.

JOINT

1. Skies will be partly sunny in the New York metropolitan area today.

2. It will be more humid, with temperatures in the middle 80's.

3. Tonight will be mostly cloudy, with the low temperature between 65 and 70.

So far, then, we have outlined the basic mechanisms of Rhetorical Structure Theory, the Rhetorical Structure Schemas and the relations that appear in the schema definitions.

Now we would like to show how the theory can be applied to the analysis of a longer text.
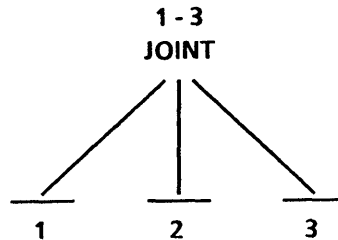
1 - 3
JOINT

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      1 - 3
     JOINT
      /|\
     / | \
    /  |  \
  ___ ___ ___
   1   2   3
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Figure 7: JOINT RS Schema

2.3 RST Analysis of a Longer Text

For an illustration of the value of RST as a tool for the analysis of expository texts, let's consider this gardening advice item from the Christian Science Monitor, April, 1983:

Bouquets in a basket - with living flowers

1. There is a gardening revolution going on.

2. People are planting flower baskets with living plants,

3. mixing many types in one container for a full summer of floral beauty.

4. To create your own "Victorian" bouquet of flowers,

5. choose varying shapes, sizes, and forms, besides a variety of complementary colors.

6. Plants that grow tall should be surrounded by smaller ones and filled out with others that tumble over the side of a hanging basket.

7. Leaf textures and colors will also be important.

8. There is the silver-white foliage of dusty miller, the feathery threads of the lotus vine floating down from above, the deep greens, or chartreuse, and even the widely varied foliage colors of the coleus.

How is this text organized? For the sake of this discussion, we will take the title as an "announcement" of what is in the article and not consider it part of the text. At the most general level, the text presents background information about the "gardening revolution" (Units 1 - 3). The rest of the text presents specifics of what a flower basket should contain, commencing with the purpose clause in Unit 4. That clause presents the possible goal of creating "your own" planter, Units 5 - 8 provide the method.

Units 2 - 3 elaborate on the *revolution* mentioned in Unit 1; Unit 3 elaborates on *planting* in Unit 2; Unit 6 and the span consisting of Units 7 - 8 elaborate in different ways on Unit 5, with Unit 6 elaborating on the *varying shapes, sizes and forms* and Units 7 - 8 elaborating on the choosing; Unit 8 elaborates on *textures and colors* in Unit 7. The RST analysis of this text is in Figure 8.

In this section, we have considered one short text and shown sorts of claims RST makes for its organizational structure. The features in the above examples have been found in many texts, including over 400 we have analyzed. Virtually every text we encounter has an RST analysis.

These analyses validate the restrictive assumptions built into RST — assumptions of the functional character of text structure, hierarchy, the essential role of relations and nuclearity.

2.4 Implications of the Findings of Descriptive RST

2.4.1 The Nucleus-Satellite Distinction

RST analysis reveals a text's organization into successive nucleus-satellite pairs of text spans.

We can further illustrate some of the consequences of adopting a theory in which nuclearity is claimed to be a central organizing principle of text structure. On this basis we would predict that if a particular nucleus is removed, then the significance of the material which is in its satellite(s) should be unclear. Many
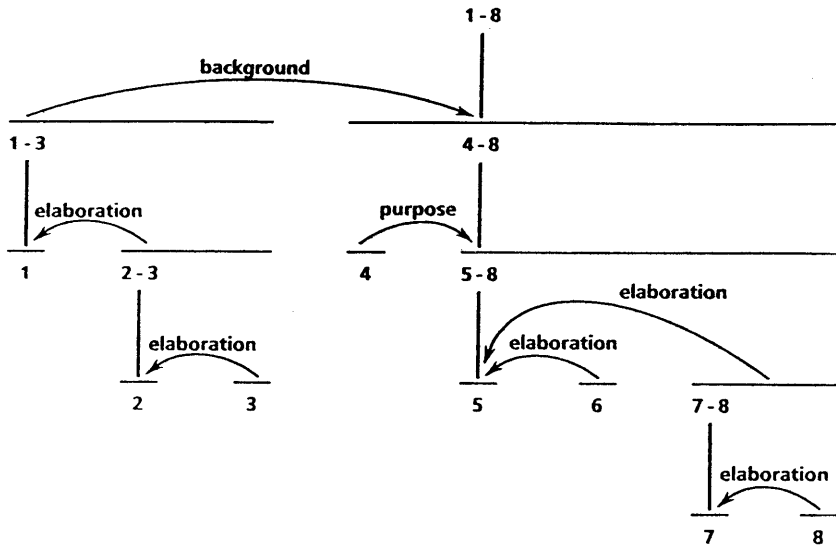
Figure 8: RST Analysis of the "Bouquets in a Basket" Text

very clear examples of this are seen when the "most-nuclear" unit of a text is removed (a single unit identified by tracing down through the text structure to the nucleus at each level.)

In the following text, again from the ISI electronic bulletin board, for example, apart from questions of anaphora, the text cannot function as an announcement without the most-nuclear unit, Unit 1:

1. The new Tech Report abstracts are now in the journal area of the library near the abridged dictionary.

2. Please sign your name by any that you would be interested in seeing.

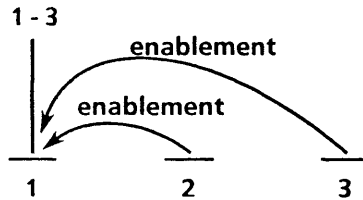3. Last day for sign ups - 31 May.

Figure 9: RST diagram for "Tech Reports" Text

Another prediction which might follow from the centrality of nuclearity is this: if units which only function as satellites, but never as nuclei, in a text, are deleted, we should still have a coherent text whose message is similar to that of the original text, something like a synopsis of the original text. In the "Tech Reports" text, unit 3 functions only as a satellite. We see that deleting it leaves the text coherent and understandable, with its general purposes intact.

2.4.2 Relating Text Structure to Functions and Goals

By means of the relational definitions, the theory describes how the text and portions of it serve the writer in meeting certain goals,such as motivating, conceding, providing evidence, elaborating, and opposing thesis to antithesis.

2.4.3 Hierarchical Organization

An RST analysis reveals the hierarchical organization of coherent texts by indicating the scope relationships among text spans.

2.4.4 Other Studies

Several studies have successfully used RST as a descriptive framework for investigating linguistic issues, thus serving as one kind of validation of its assumptions. Some of these studies are described below.

First, RST has served as a general way to describe the relations among clauses in a text, whether or not they are grammatically or lexically signalled. Thus, RST is a useful framework for relating the meanings of conjunctions, the grammar of clause combining, and non-signalled parataxis (for discussion, see Matthiessen and Thompson (to appear), Thompson and Mann (to appear a) and Thompson and Mann (to appear b)).

Second, descriptive RST has been used as an analytical tool for a wide range of text types. Noel (1986), for example, shows how it can be used for a characterization of news broadcasts. Fox (to appear) demonstrates how explanations for the choice between pronoun and full NP in expository English texts can be derived from the organizational structure revealed by RST.

Third, descriptive RST provides a foundation for studies in contrastive rhetoric (see Cui's analysis of Mandarin and English essays (1986), for example).

Finally, RST provides a framework for investigating Relational Propositions, that is, unstated but inferred propositions that arise from the text structure in the process of interpreting texts (see Mann and Thompson (1986)). Since the coherence of a text depends in part on these Relational Propositions, RST has been useful in the study of text coherence.

In a more extensive treatment (see Mann & Thompson (to appear a)), the functions of RST relations are given formal status as part of their definitions. It turns out that the Relational Propositions a text asserts can be derived through use of these functional statements. Because the relations are defined partly in terms of their intended effects, RST can be part of an account that relates discourse to the purposes, goals and intentions for which it is produced.

3 Conclusions

As a descriptive framework for text, Rhetorical Structure Theory provides a combination of features that has turned out to be useful in several kinds of discourse studies. It identifies hierarchic structure in text. It describes the relations between text parts in functional terms, identifying both the transition point of a relation and the extent of the items related. It provides comprehensive analyses rather than selective commentary. It is insensitive to text size, and has been applied to a wide variety of sizes of text.

Because RST makes the nucleus-satellite distinction, it is a descriptive basis for studying clause combining. And because text relations have particular assertional effects, RST provides a basis for studying coherence in discourse.

Thus, RST is a linguistically useful account of the nature of text, because it describes phenomena such as nuclearity and hierarchy and because it provides a viable descriptive starting point for a wide variety of studies.

NOTES

[1]The work of Beekman and Callow (1974), Grimes (1975), Longacre (1976), (1983), McKeown (1982), and Meyer (1984) has influenced our work. We are grateful to the Netherlands Institute for Advanced Study for fellowship support for S. Thompson during part of the preparation of this paper. We are also grateful to Joan Bybee, Erica Garcia, Nikolaus Himmelmann, Teun Hoekstra, Lynell Marchese, and Livia Polanyi for discussion of some of the ideas in it. We are especially grateful to Christian Matthiessen for invaluable discussion of text relations. None of these people necessarily agrees with the way we have interpreted their advice. Authorship of this paper is shared equally. This material is based in part upon work supported by the National Science Foundation under Grant IST-8408726, and in part by AFOSR contract FQ8671-84-01007. Any opinions, findings and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the sponsors.

For a much more extensive and theoretical presentation of this theory, including a description of how the key judgments are made and interpreted, see Mann and Thompson (to appear a). The process of analysis and the definitional basis of RST are outside of the scope of the present paper. For other brief introductions to this theory, see Mann (1984) and Mann and Thompson (1985), (to appear b)).

[2]Although we cannot present the process of analysis in this paper, it is important to note that the relation definitions and the text analysis process never rely on syntactic or morphological criteria.

[3]For the sake of exposition, we offer a text extract here to illustrate the mechanisms of RST. However, the relations of RST were all discovered in the process of systematic study of complete short texts. In subsequent discussion, we will be concerned exclusively with complete texts.

[4]The size of the Units is not a theoretical matter; it varies with the needs of the analyst.

[5]For a more rigorous set of relation definitions for RST, see Mann and Thompson (to appear a).

[6]In fact, a given Schema can be described in terms of marked and unmarked orders, but we will not discuss this issue further here.

[7]The only relations for which the analysis rests on the comparative judgment of writer's goals are those having to do with cause and result. For all of the others, identification of the nucleus is a byproduct of finding that the relation holds. Detailed description of how relations are recognized to hold is beyond the scope of this paper, but is presented in Mann and Thompson (to appear a). The recognition is based on assessments of function rather than morphosyntactic signals. The same paper discusses various ways that multiple analyses of a text arise. Nucleus and satellite have been shown to pattern with hypotaxis.

[8]These judgments may be seen as the writer's use of a special case of the general cognitive tendency, widely discussed in the gestalt psychology literature (see, e.g., Koffka (1935) and Kohler (1929)), to impose figure-ground interpretations on certain types of perceptual input.

[9]This nucleus-satellite distinction resembles the "nucleus" and "margin" distinction in the tagmemic approach to text analysis of Pike and Pike (1983). The distinction between a nucleus-satellite RS Schema and a multi-nuclear RS Schema is reminiscent of that between "hypotaxis" and "parataxis" in the discourse theories of Grimes (1975) and Longacre (1983).

[10]The fact that the MOTIVATION/ENABLEMENT RS Schema has two possible satellites sets it apart from all the other RS Schemas in our inventory.

[11]Many of our relations clearly resemble those offered by Beekman and Callow (1974), Beekman, Callow, and Kopesec (1981), Crothers (1979), Grimes (1975), Hobbs (1979), (to appear), and Longacre (1976), (1983). However, for some of these writers these relations are described as holding between clauses, while our point here (as assumed by Crothers, Grimes, and Hobbs as well) is that the same relations as are found between clauses hold at all levels of text structure. While our inventory of relations and those of other researchers might differ in detail, we wish to stress the similarities among all of them and suggest that some such inventory with properties very similar to those we have ascribed to our list of relations is necessary for an adequate description of the organizational structure of texts. For further discussion of the role of these relations in text organization, see Crothers (1979), Hobbs (to appear), Mann and Thompson (1985a), (1985b), and Matthiessen and Thompson (to appear).

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