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William C. Mann
Sandra A. Thompson

Antithesis:
A Study in Clause Combining and Discourse Structure

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AI Research in text generation needs a strong linguistically justified descriptive theory as a basis for creating methods by which programs can write multiparagraph texts. This paper sketches Rhetorical Structure Theory, which has been designed to support text generation, and then applies RST to describing a particular class of discourse constructs.

There is no concensus as to the status of clause combining relations relative to larger texts. This paper demonstrates a clause combining relation that is also found as part of larger text structures, and shows how this fact can be used to explain cases in which contrastive clause combining appears between clauses that are not in fact in contrast. The appropriate generalization is that the relations of clause combining and the relations of general text structure are the same. Use of this generalization should make AI text planning and text generation significantly easier.

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Air Force Office of Scientific Research (AFOSR)
Bolling Air Force Base, Building 410
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of Southern
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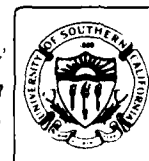
William C. Mann
Sandra A. Thompson

Antithesis:
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Antithesis:

A Study in Clause Combining and Discourse Structure

Sandra A. Thompson, University of California, Santa Barbara
and
William C. Mann, USC Information Sciences Institute

1 Introduction

Current research at the USC Information Sciences Institute (ISI) is aimed at designing computer programs with some of the capabilities of authors. This effort has involved a study of the nature of text as a medium of communication. Phenomena of clause-combining in text, described in terms of interclausal relations, have received some attention in the discourse literature (see, for example, [Beekman & Callow 74], [Beekman, et. al. 81], [Chafe 84], [Ford & Thompson 85], [Grimes 75], [Halliday & Hasan 76], [Hobbs 79], [Jordan 84], [Longacre 76], [Longacre & Thompson 85], [Mann & Thompson 85], [Mann & Thompson 86], [Mithun 84], [Thompson 85a], [Thompson 85b], [Winter 82]).

We believe that the same relations which are useful in describing clause combining also prevail between larger portions of text. In this paper we show that a description which posits the same relations at clausal and larger scales makes it possible to explain some features of clause presentation and gain insight into larger-scale text structure.

The paper first presents an informal description of a theory, called Rhetorical Structure Theory (RST), in which the same sorts of relations that characterize clause combining operate at higher levels of text structure. It then considers in closer detail one text relation as it is found in edited texts in written English. This is the text relation we call **Antithesis**. **Antithesis** is then exemplified using natural texts, which enables us to examine specific benefits of using the same descriptions for clausal and larger portions.

2 The Descriptive Framework: A Brief Overview of Rhetorical Structure Theory

Rhetorical Structure Theory is a theory of text organization. It describes the kinds of parts a text can have, how they can be arranged, and how parts can be connected to form a whole text.[1]

Relationships between parts of a coherent text are crucial to making the text function as a single unit. Writers use a small set of general, highly recurrent relations to structure most expository text. We have given these relations names such as **Cause, Solutionhood, Motivation,** and **Antithesis,** comparable to the names with which the linguists cited above describe interclausal relations.

Consider, for example, the following short text, which has been divided into **Units** prior to analysis.[2] This text, an internal memo from the librarian at Information Sciences Institute (ISI), contains a relation of **Motivation:**

1. Some extra copies of the Spring 1984 issue of AI Magazine are available in the library.

2. This issue includes a "Research in Progress" report on AI research at ISI.

In Unit 1, the librarian implicitly offers to give away copies of the magazine. Unit 2 describes a particular report in the magazine. In addition to the content expressed by each of these two Units, another implicit, relational proposition arises from their standing in a **Motivation** relation, namely that Unit 2 provides motivation for taking up the offer conveyed by Unit 1. This relational proposition is, roughly, that the report's reference to ISI research plausibly motivates obtaining a copy of the magazine. It is this implicit relational proposition of **Motivation** that makes the text cohere as a text.[3]   Relations between parts of a text can take several forms, but one form

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[1]For brief descriptions of RST, see [Mann 84] and [Mann & Thompson 85], [Mann & Thompson 87].

[2]The size of the Units is not a theoretical matter; it varies with the needs of the analyst. For the purposes of this paper, Units are roughly equivalent to clauses, except that relative clauses and complement clauses are considered parts of the unit in which their governing item appears, not as independent Units.

[3]Discussion of such relations as discourse structuring devices can be found in [Beekman & Callow 74], [Beekman, et. al. 81], [Crothers 79], [Grimes 75], [Hobbs & Evans 80], [Longacre 76], [Longacre 83], [Mann 84], [Mann & Thompson 85], [Mann & Thompson 87], [Matthiessen & Thompson 86], [Meyer 82].

predominates in expository texts. That is the **nucleus - satellite** form, in which the nuclear portion realizes the primary goals of the writer and the satellite provides supplementary material. We will focus on the nucleus-satellite form.

RST can be used to demonstrate that texts are organized hierarchically. **Text spans**, the groups into which the text is arranged, are represented in RST by **Rhetorical Structure Schemas**. Each RS Schema indicates how a particular portion of text structure is functionally decomposed into other spans, which at the finest level of decomposition are single Units.

RS Schemas of the nucleus-satellite form are defined entirely by identifying a set of relations, almost always just a single relation, which relate pairs of spans of text in a coordinated way. Each Schema is represented by a diagram in which a vertical line indicates the nucleus part and one or more dependent branches indicate that the other part is ancillary. RS Schemas thus typically consist of a core and an ancillary portion -- a **nucleus** and a **satellite**, as in Figure 1.

Relation
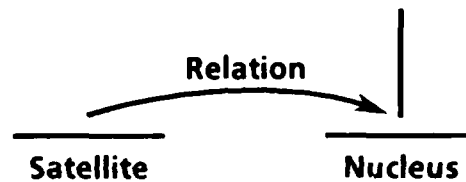
Satellite   **Nucleus**

Figure 1: The Simplest Generic Schema

In the "AI Magazine" text, the nucleus is the first part (Unit 1), and the satellite, which provides the motivation, is the second part (Unit 2). We can diagram this text schematically as in Figure 2.

1 - 2

Motivation

1   **2**
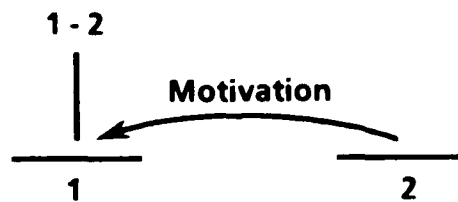
Figure 2: RST Analysis of "AI Magazine" text

Let us examine several other brief examples. First, the beginning of an advertisement for a Los Angeles tanning salon:

1. We all know about February warm spells and the beginnings of great tans - all to be ruined by rain and fog March through June!

2. But now (finally!) we have a solution to that dilemma...

This text extract embodies the relation of **Solutionhood**.[4] A problem is presented, expressing a need which is then fulfilled by a solution. Figure 3 is a diagram of the tanning ad extract. The purpose of the ad is found in Unit 2, the announcement of a Solution to the Problem posed in Unit 1.
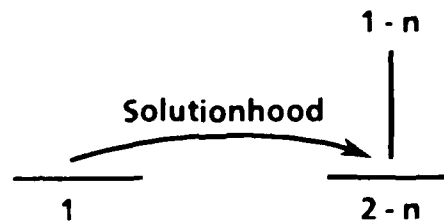
Figure 3: RST Analysis of "Tanning" Text Extract

Next is a slightly longer text, an item from the bulletin of the Academic Senate of the University of California:

1. The Academic Council has endorsed a request to establish a committee which will give retired faculty members a voice in the systemwide Academic Senate, particularly as regards retirement matters.

2. Faculty members remain Senate members after retirement,

3. but no systemwide Senate committee represents emeriti at the present time.

4. Discussions are underway about the form the emeriti committee should take.

This text illustrates three relations, as diagrammed in Figure 4. The RST analysis of this text makes several claims about its structure:

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[4]This is similar to "Response" in [Grimes 75]. See also [Jordan 84] for discussion of "Solution" as an important text-structuring relation.
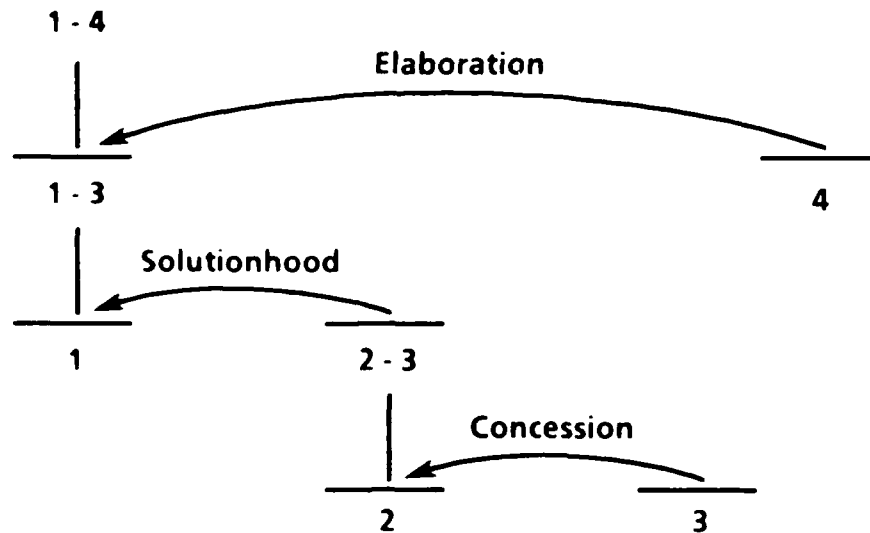
Figure 4: RST Analysis of "Emeriti Committee" text

1. The **Nuclear Unit** of the entire text can be determined by starting at the top of the RST diagram and following only nuclear (vertical) lines down to the terminal node. There is a strong tendency for the Nuclear Unit to represent the central purpose of the text. In this text the Nuclear Unit is Unit 1: this matches our judgment that the announcement in Unit 1 is the central message that the writer of this text wants to convey.

2. Units 2 - 3 are in a **Solutionhood** relation with Unit 1. Units 2 - 3 pose a problem, the lack of representation for emeriti, to which Unit 1, announcing the formation of the new committee, is the (partial) solution.

3. But Units 2 and 3 themselves manifest a relation between them, which we call **Concession**. This relation holds when a writer chooses to strengthen a point by affirming that point in the face of a potentially opposing point.

4. Finally, Unit 4 is in an **Elaboration** relation with the rest of the text. The **Elaboration** relation is particularly versatile; it supplements the nuclear portion with various kinds of detail, including relationships of:

   *set : member
   *abstraction : instance
   *whole : part
   *process : step
   *object : attribute

Since Unit 4 discusses an <u>attribute</u> of the committee, namely its form, it satisfies the definition of **Elaboration**.

As a final example, consider this text, from The Linguistic Reporter, 1971:

1. The University Press of Kentucky has announced the establishment of the Kentucky Foreign Language Conference Award to be given annually for the best manuscript dealing with some aspect of foreign language and/or literature.

2. The Award, $500 and acceptance of the manuscript for publication, is offered in conjunction with the Kentucky Foreign Language Conference.

3. The deadline for submission of manuscripts for the 1972 Award is December 1, 1971.

4. For further information, write Kentucky Foreign Language Conference Award, The University Press of Kentucky, 104 Lafferty Hall, Lexington, Kentucky, 40506.

This text makes an offer. The first part, (Units 1 - 2), and the second part, (Units 3 - 4), are connected by a relation of **Enablement**. That is, Units 3 - 4 jointly provide information enabling the reader to comply with the offer expressed in 1 - 2. Unit 2, in turn, can be analyzed as an **Elaboration** of Unit 1, since it provides a further attribute of the award.

Accordingly, we can describe these relations by invoking two RS Schemas, one containing the **Enablement** relation and the other the **Elaboration** relation. Units 3 and 4, then, are Enablement satellites.

This text can be schematically diagrammed as in Figure 5.

With these examples, we have illustrated, though by no means exhaustively presented, the basic design of Rhetorical Structure Theory as a device for analyzing texts.[5]

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[5]See especially [Mann 84], and [Mann & Thompson 87] for discussion of other uses and consequences of RST. The data base for this study consists of about 75 short texts containing from two to forty clause-length Units; of these 75, 20 contained occurrences of the **Antithesis** relation which is the focus of this paper. These texts come from a variety of sources, including: administrative memos, personal letters, advertisements, editorial notices in journals and newsletters, book jacket blurbs, letters to the editor, news articles, travel brochures, and recipes.
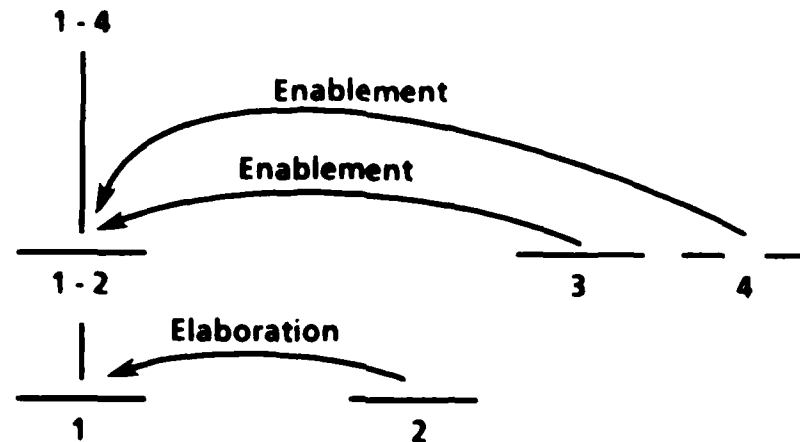
Figure 5: RST Analysis of "Kentucky Award" text

To round out our discussion of the Schemas and the relations which they represent, we note that:

1. The definition of RS Schemas allows the schema elements to be arranged in any order and still be an instance of that Schema. Although schemas do not encode the order of segments, in our diagrams we have generally ordered the segments in the same order as their text spans occur in the text.

2. As we have seen, for example in Figure 5, analyzed just above, we allow for multiple satellites within one schema.

3. Multi-nuclear schemas also appear occasionally, though they are not nearly as frequent in our data base as nucleus-satellite schemas. We will not discuss them further in this paper; for more discussion see [Mann & Thompson 87].

The definition scheme will be illustrated in detail for the **Antithesis** relation below.

In addition to **Motivation**, we have already mentioned relations of **Solutionhood, Elaboration, Concession,** and **Enablement**. Other relations which we have found to be useful in the analysis of texts include **Antithesis, Evidence, Circumstance, Concession,** and **Reason**.

This concludes our overview of the descriptive apparatus. We now pursue the goal set forth in Section 1, to demonstrate, by discussing the **Antithesis** relation in

some detail, that clause combining is a special case of the hierarchical organization of texts.

3 The Antithesis Relation

Before defining the **Antithesis** relation, we need to introduce the concept of **positive regard**.

Writers pursue different goals with different texts and text spans. Some are intended to persuade, i.e., to create belief. Others are intended to create approval or interest. Still others are intended to create desire to act. These are all varieties of positive regard. In analyzing any one text span and decomposing it into parts, we use a single primary notion of positive regard -- belief, approval, or desire to act -- with the choice depending on the analyst's perception of the writer's intent.

In analyzing the structure of a text, we recognize that a particular text span can be further analyzed as a pair of spans, Nucleus and Satellite, related by the **Antithesis** relation, provided that the five defining conditions that follow are satisfied.

1. Nucleus and Satellite are in contrast. (Two items are in contrast if they are

    a. perceived as being the same in many respects,

    b. perceived as differing in a few respects, and

    c. compared with respect to one or more of these differences.)

2. One cannot have positive regard for both Nucleus and Satellite because of an incompatibility that arises from the contrast.[6]

3. The writer has positive regard for the nucleus. Thus the nucleus is the "antithesis" span, and the satellite is the "thesis" span.

4. The writer intends that the reader have positive regard for the nucleus.

5. Understanding the satellite, and the incompatibility between the satellite and the nucleus, tends to increase the reader's positive regard for the nucleus.

---

[6] This part of the definition is compatible with the characterization offered by [Greenbaum 69], who says that an "antithetic" relation holds when "what is being said is in complete opposition to what has been said before" (pp. 36-37).

As an illustration of the **Antithesis** relation, consider the last two clauses of a letter to the editor of *The Christian Science Monitor*. The writer of this letter has been deploring US foreign policy.

1. By setting the best example possible of a thriving, generous, democratic state, with room for each of its people to pursue his highest sense of right,

2. by doing unto others as we would have them do unto us,

3. how much more we could do for our world.

4. *Rather than winning them with our arms,*

5. *we'd win them by our example, and their desire to follow it.*

Units 4 and 5 are in an **Antithesis** relation:

1. Nucleus and Satellite are in contrast, since *winning them with our arms* involves adversary relationships and to *win them by our example* involves amicable relationships.

2. One cannot have positive regard for both Nucleus and Satellite because of an incompatibility that arises from the contrast; one cannot compatibly intend both seeking approval and attacking.

3. The writer has positive regard for the nucleus, for planning to *win them by our example.*

4. The writer intends that the reader have positive regard for the nucleus, for *win[ning] them by our example.*

5. Understanding that the satellite *winning them with our arms* is violent, and therefore negative in this context, and that the nucleus *win them by our example* differs by being non-violent, and therefore positive, increases the attractiveness of the nucleus.

The definition given above thus applies to the Monitor letter extract.

Now we will take up three more substantial texts as a basis for evaluating the function of the **Antithesis** relation.

3.1 Sample Text I - Common Cause Plea

Our first text is a letter of persuasion urging members of California Common Cause, the California chapter of the national citizens' lobby, to vote against CCC endorsement of the Nuclear Freeze Initiative, then on the upcoming California ballot:[7]

1. I don't believe that endorsing the Nuclear Freeze Initiative is the right step for California Common Cause.

2. Tempting as it may be,

3. we shouldn't embrace every popular issue that comes along.

4. When we do so

5. we use precious, limited resources

6. where other players with superior resources are already doing an adequate job.

7. Rather, I think we will be stronger and more effective

8. if we stick to those issues of governmental structure and process, broadly defined, that have formed the core of our agenda for years.

9. Open government, campaign finance reform, and fighting the influence of special interests and big money, these are our kinds of issues.

10. Let's be clear:

11. I personally favor the initiative and ardently support disarmament negotiations to reduce the risk of war.

12. But I don't think endorsing a specific nuclear freeze proposal is appropriate for CCC.

13. We should limit our involvement in defense and weaponry to matters of process, such as exposing the weapons industry's influence on the political process.

---

[7]Quoted (with permission) from The Insider, California Common Cause state newsletter, 2.1, July, 1982. This text was the "con" part of a "pro" and "con" pair of letters on this issue. For further discussion of the discourse relations in this text, see [Mann 84] and [Mann & Thompson 85], [Mann & Thompson 86].

14. Therefore, I urge you to vote against a CCC endorsement of the nuclear freeze initiative.

(signed) Michael Asimow, California Common Cause Vice-Chair and UCLA Law Professor

The RST analysis of this text appears in Figure 6. The analysis shows that the entire text can be described in terms of a MOTIVATION RS Schema. Unit 14 is the Nuclear Unit. The rest of the text, Units 1 - 13, provides motivation for the request and hence is represented by a Motivation satellite.

RST predicts that Unit 14 is the nucleus of the entire text, since the top-most RS Schema directly terminates only by nuclear linkages to Unit 14. Indeed, Unit 14 provides the central message of the text. However, as we have seen with the "AI Magazine" text, the writer has provided additional text to ensure the success of his request, since bare requests and directives are more likely to succeed if accompanied by text that motivates the reader to comply.

We will not go through the entire analysis, but will just sketch the claims for the gross structure that this analysis makes. Figure 7 shows the top three levels of the RST analysis of this text.

Another major subsection lies within the Motivation section of the text: Unit 1 is presented as a claim, with two pieces of supporting evidence, represented by two Evidence satellites, Units 2 - 9 and 10 - 13. The first piece of evidence is then presented by the writer in terms of an ANTITHESIS Schema with a nuclear Antithesis span (Units 7 - 9) and a Thesis satellite (Units 2 - 6). The second piece of evidence is put forth in terms of a justification satellite (10) for the nuclear portion, Units 11 - 13.

We will return to this example of **Antithesis**, which relates a five-Unit span to a three-Unit span.

3.2 Sample Text II - Syncom Ad

Let us now consider a second text.[8]

---

[8] June, 1982, BYTE magazine; Copyright c 1982 Byte Publications, Inc. Used with permission of Byte Publications, Inc. This was a half-page ad which included a picture and several different typefaces. While one could easily argue that these features are also relevant to the message conveyed by the text, we have not considered them essential to the organizational structure of this text. For extensive discussion of the discourse relations in this text, see [Mann & Thompson 85]
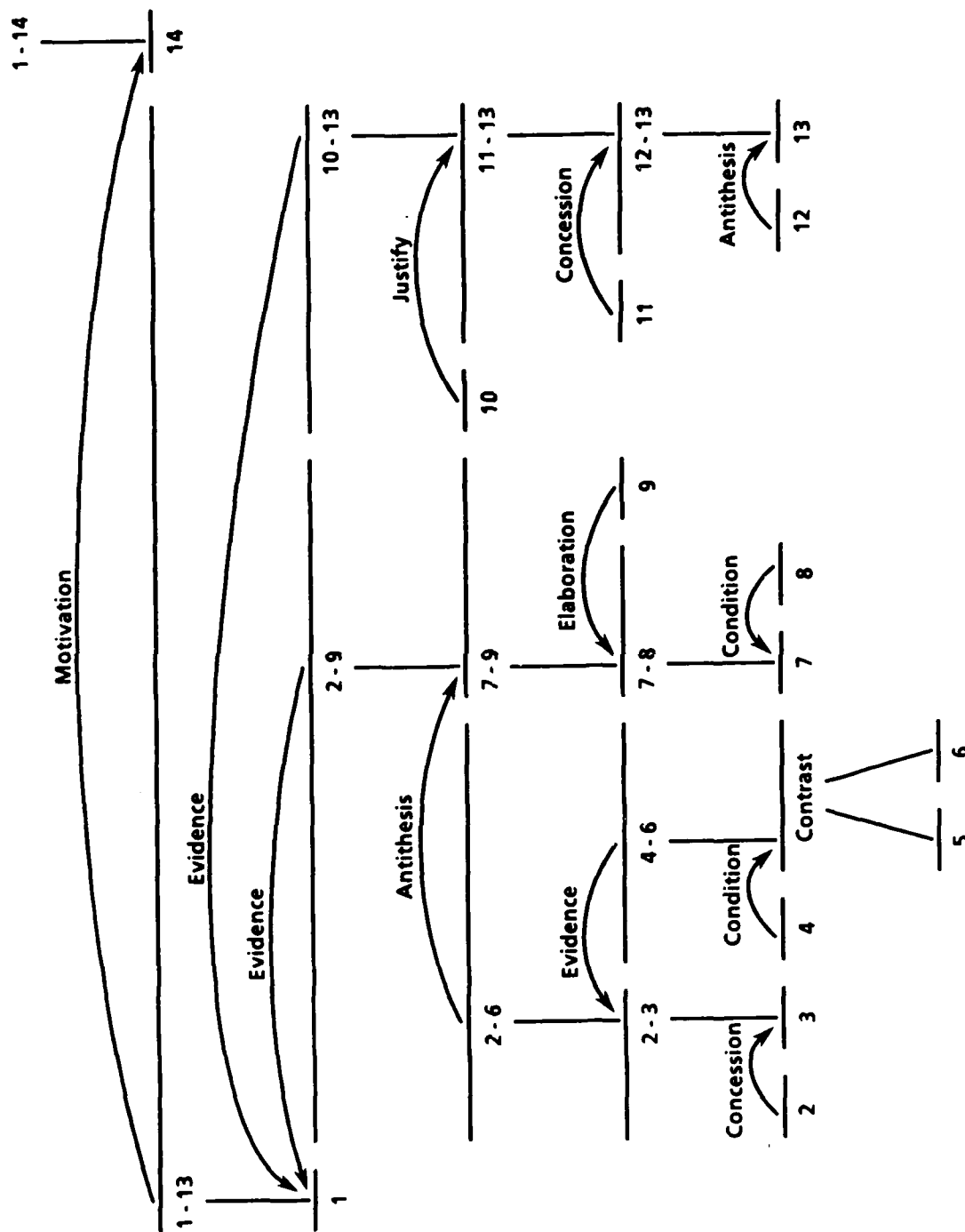
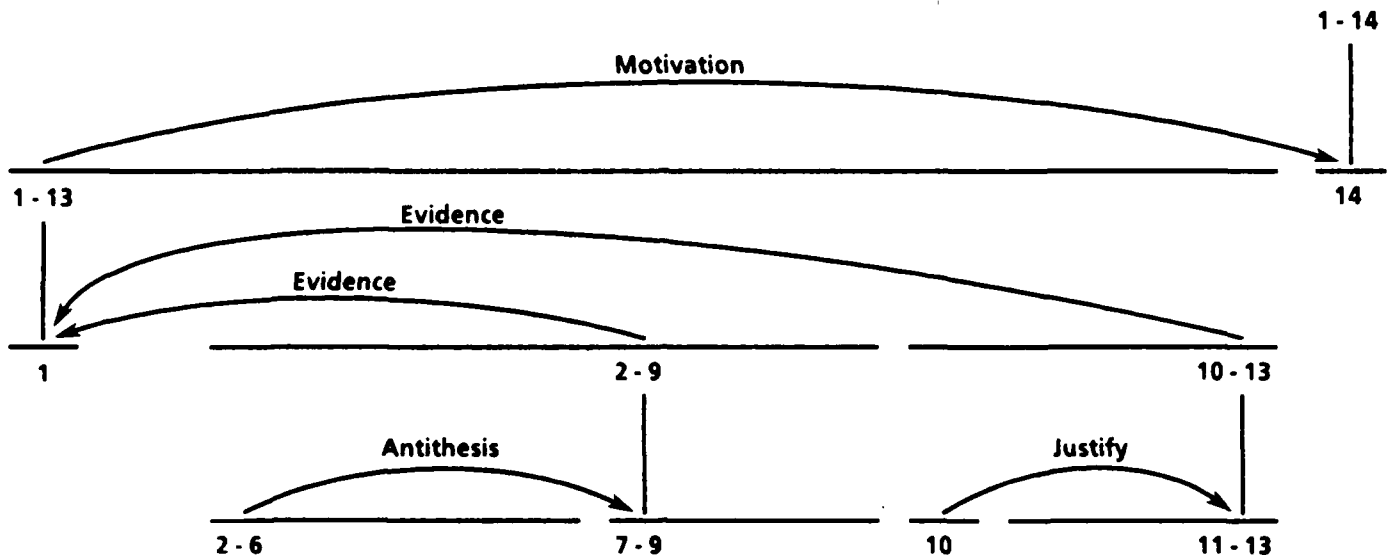Figure 6: Rhetorical Structure of the "Common Cause" text

Figure 7: Top Three Levels
of the RST Analysis of the "Common Cause" text

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.[9]

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.

The RST analysis of this text appears in Figure 8. Again, we will not discuss each part of the RST analysis in detail, but will simply outline its description of the overall structure of this text.

Starting at the top, we see a **Solutionhood** relation between Unit 1 and the rest of the text. That is, the entire text after the "What if" question is offered as a solution to the problem of having to clean floppy drive heads too often.

In the Solution portion of the text -- the stretch of text consisting of Units 2 - 14 of the text -- we see a MOTIVATION-ENABLEMENT Schema with a nucleus (Unit 2) and two satellites. One is for the **Motivation** relation (Units 3 - 12), and the other is for the **Enablement** relation (Units 13 - 14). Within the Motivation portion (Units 3 - 12), we find an ELABORATION RS Schema with a nucleus and an Elaboration portion. This Elaboration portion of the text consists of four pieces of information, which correspond to the "four ways" that your Syncom diskette is working to keep loose particles and dust from causing mischief.

An **Antithesis** relation appears in this text between Units 11 and 12:

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.

---

[9]Our analysis of this purpose clause as part of Unit 11 rather than as a separate Unit derives from our judgment that *to keep what it collects* is an infinitival relative clause on the head noun *pockets* rather than a purpose clause for the predicate *provides thousands of tiny pockets,* since it is the pockets that keep what the liner collects, not the liner itself. Our overall point, however, is not affected if the alternative analysis is adopted.
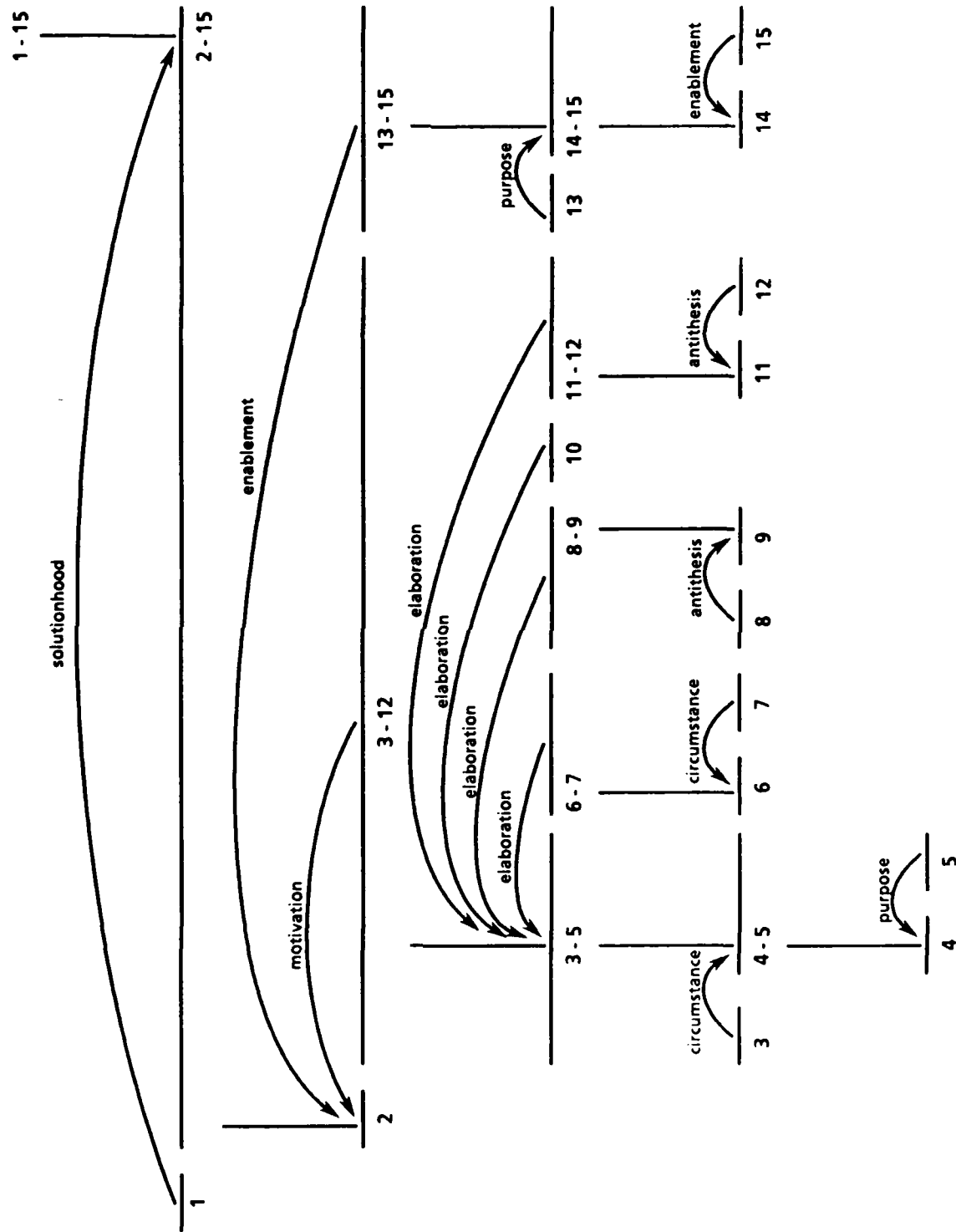
Figure 8: RST Analysis of the "Syncom" text

The writer does not view the Thesis span, expressed in Unit 12, with positive regard -- that the jacket liner <u>only</u> wipes the surface -- (signalled by *just* in Unit 12.) The writer clearly does view the Antithesis span (the two parts of Unit 11) with positive regard, that the jacket liner <u>also</u> provides pockets to keep what it collects.

3.3 Sample Text III - A Personal Letter

We have seen several examples of the **Antithesis** relation holding between a pair of adjacent clauses. The italicized Units 4 - 5 in this excerpt from a personal letter comprise another. The writer has announced that thumb surgery will be necessary and is giving the background story, which involves hereditary arthritis:

1. Thumbs began to be troublesome about 4 months ago

2. and I made an appointment with the best hand surgeon in the Valley

3. to see if my working activities were the problem.

4. *Using thumbs is not the problem*

5. *but heredity is*

6. and the end result is no use of thumbs

7. if I don't do something now.

In Unit 4, the writer offers the thesis that the use of thumbs at work might be the problem, and she signals lack of positive regard for this thesis by the use of the negative; belief is the kind of positive regard involved in this case. In Unit 5, she offers the Antithesis, which she does regard positively, that heredity is causing the problem. Units 1 - 7 of this letter can be rhetorically represented as follows, then, with 1 serving as statement of the problem solved in 2 - 3 and 1 - 3 serving as statement of the problem solved in 4 - 5.

As these examples suggest, the **Antithesis** relation can take many different forms. In each case, the statement of the Thesis span allows an inference of lack of positive regard, but the range of syntactic options used to convey this lack of positive regard is broad. For example, the Thesis span might be introduced by a conjunction such as *rather* or *instead of*, as in the foreign policy letter discussed above. In other instances, the Thesis span might contain a "hedge" word indicating lack of positive
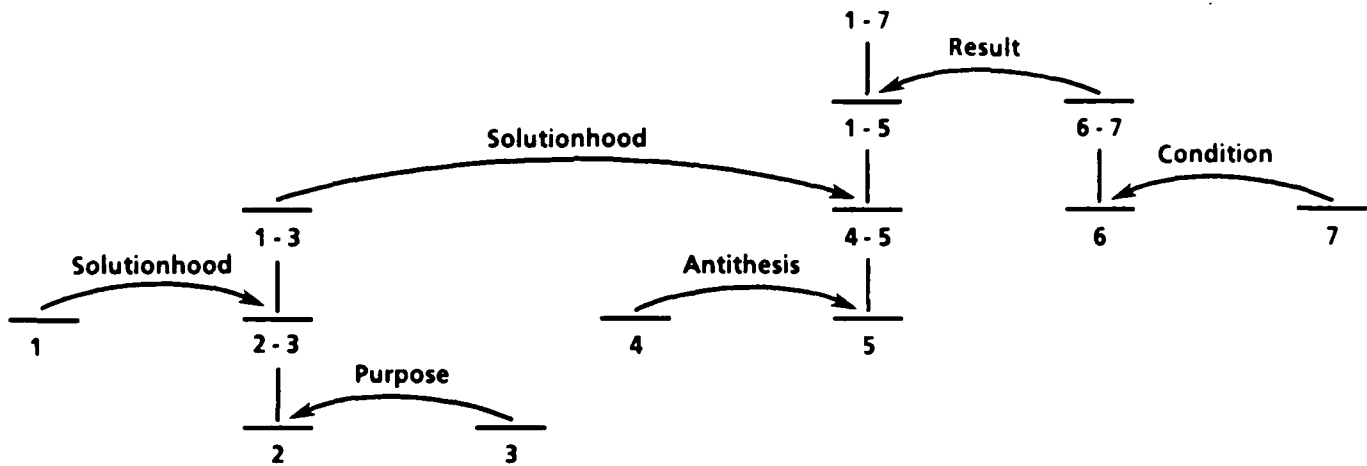
Figure 9: RST Analysis of "Thumb Heredity" text

regard. Figure 10 lists these and other syntactic options that occur in our data, without attempting to taxonomize them.

The study of text relations in general, as we would expect, reveals no one-to-one mapping of function into form. Figure 10 shows the **Antithesis** relation to be typical in this respect. Although Figure 10 doesn't show it, the **Antithesis** relation can also occur without any signal such as *Rather*; several examples will follow.

4 The Antithesis Relation and the Hierarchical Structure of Texts

In this section, we use the **Antithesis** relation as evidence that the rhetorical organization of texts is well-characterized by a theory postulating that the relations binding the parts of a text together are the same from top to bottom. In particular we demonstrate that the **Antithesis** relation can hold both between clauses and between larger parts of a text by presenting three cases and three types of evidence.

1. Rather than THESIS, ANTITHESIS.

2. Instead of THESIS, ANTITHESIS.

3. THESIS[...tempted...]. However, ANTITHESIS.

4. THESIS[... too many...]. ANTITHESIS.

5. THESIS[... some ...]. Yet ANTITHESIS.

6. THESIS[...might have...]. ANTITHESIS.

7. THESIS[...purported...]. ANTITHESIS.

8. Not THESIS, but ANTITHESIS.

9. ANTITHESIS, not THESIS.

10. ANTITHESIS <part a>, more than THESIS, ANTITHESIS <part b>.

11. ANTITHESIS without THESIS.

Figure 10:   List of Types of Syntactic Coding
for the **Antithesis** Relation

4.1 The Antithesis Relation at Both Higher and Lower Levels of the Same Text

The **Antithesis** relation strongly supports our claim that relations at the lowest levels of text structure, i.e., interclausal relations, are best viewed as special cases of relations among higher levels of text structure: our sample texts contain several instances of the **Antithesis** relation, some of which relate multi-clausal text spans and some of which relate just a pair of Units or even clauses.

This relation figures prominently in the Common Cause Text, as Figure 6 shows. The entire first piece of evidence for the central claim of the text, namely that endorsement of the nuclear freeze initiative is wrong for California Common Cause, is expressed in the form of an **Antithesis** argument (Units 2 - 9). That is, the to-be-rejected Thesis portion of this argument (comprising Units 2 - 6) is the idea that CCC should embrace every popular issue that comes along. The Antithesis span (comprising Units 7 - 9) is that CCC will be stronger and more effective if it sticks to its traditional issues.

The **Antithesis** relation appears again in this text, relating Unit 12 to 13:

12. But I don't think endorsing a specific nuclear freeze proposal is appropriate for CCC.

13. We should limit our involvement in defense and weaponry to matters of process, such as exposing the weapons industry's influence on the political process.
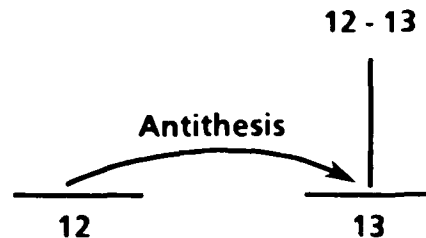

Figure 11: Units 12 - 13 of the Common Cause text analysis

Here the Thesis text span, conveying the idea that CCC might endorse the nuclear freeze initiative, is expressed by a single Unit (12), while the Antithesis text span, conveying the idea that CCC should limit its defense involvement, is also expressed by a single Unit (13). In this text, we see a single RS Schema, namely the ANTITHESIS RS Schema, instantiated once for relating higher-level text spans and once for relating Units at the clause level.

4.2 The Antithesis Relation and Grammatical Hypotaxis

Turning to the Syncom Text, we see from Figure 12 that the ANTITHESIS Schema represents the relationship between Units 12 and 11, as discussed above in Section 3.2:

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.

Something interesting appears in this instantiation of the ANTITHESIS Schema:
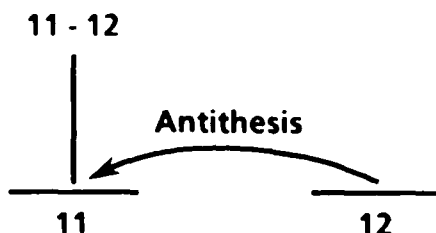
Figure 12: Units 11 - 12 of the Syncom text analysis

The Thesis span, Unit 12, is expressed by a hypotactic "subordinate" clause.[10] This suggests that not only do the same functional relationships that tie stretches of text together also tie Units to each other, but also that these very same relationships can relate a hypotactic clause to its "main" clause.

In fact, the texts discussed in Section 2 and 3, and many other texts, reveal strong correlations between nucleus-satellite RS Schemas and grammatical hypotaxis. These contrast with another schema form, the multi-nuclear, which correlates with grammatical parataxis.[11]. This is an unexpected benefit of RST, which was developed without regard to considerations of the grammar of clause combining.

In the case of the **Antithesis** relation, our data confirm this general finding: In many examples in which the satellite Thesis is a hypotactic clause, such as the one in the Monitor letter about U.S. foreign policy:

    4. Rather than winning them with our arms,

    5. we'd win them by our example, and their desire to follow it.

However, we have found no cases in which the nucleus Antithesis is a hypotactic clause.

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[10]See [Halliday 85] and, following him, [Matthiessen & Thompson 86] for a discussion of the necessity of distinguishing among "subordinate" clauses, the types hypotaxis and embedding.

[11]See [Matthiessen & Thompson 86] for further discussion of hypotaxis in these terms

4.3 An Antithesis Conjunction Connecting Spans Larger Than Single Units

Analysis of the Common Cause text also shows the units of text represented and relations between larger organizational entities. Consider this portion of that text:

2. Tempting as it may be,

3. we shouldn't embrace every popular issue that comes along.

4. When we do so

5. we use precious, limited resources

6. where other players with superior resources are already doing an adequate job.

7. *Rather*, I think we will be stronger and more effective

8. if we stick to those issues of governmental structure and process, broadly defined, that have formed the core of our agenda for years.

9. Open government, campaign finance reform, and fighting the influence of special interests and big money, these are our kinds of issues.

Unit 7 begins with the conjunction *Rather*, a contrastive conjunction, which in this case signals the relation of **Antithesis**. Note that this conjunction does <u>not</u> signal that Unit 7 is the Antithesis span for the immediately preceding clause Unit 6. In fact, as Figure 7 shows, *Rather* in Unit 7 relates Units 2 - 6, as the Thesis span, to Units 7 - 9 as the Antithesis span. That is, it relates the situation of "embracing every popular issue that comes along" to the incompatible situation of "sticking to ... our agenda..."; neither of the elements that make the situations incompatible is expressed in the clauses adjacent to *Rather*.

In this situation, an antithesis conjunction links not two adjacent Units, but two much more extensive spans of text. This fact supports our claim that the **Antithesis** relation reveals that the same kinds of rhetorical organization that relates pairs of single clauses can relate portions of text at higher levels as well.

Our data base contains a number of similar instances. Consider this excerpt from a personal letter about the Bay to Breakers footrace in San Francisco:

1. At one-third of the distance into the race I was tempted to give up

2. since I heard that the race had already been won.

3. *However*, I persisted

4. and came in somewhere between twenty and thirty thousandth.
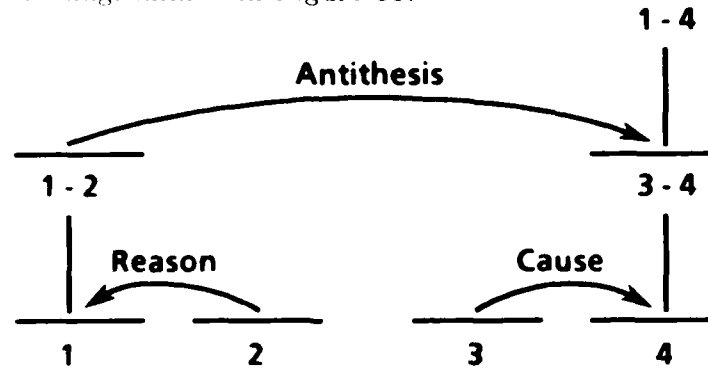
This excerpt is diagrammed in Figure 13:

Figure 13: RST Analysis of "Bay to Breakers" text extract

Again, we see a contrastive conjunction, *However*, joining as Thesis span and Antithesis span not just the Units on either side of it, but rather the span including Units 1 - 2 to the span including Units 3 - 4.

The same point can be made for instances of the **Antithesis** relation that do not involve an explicit contrastive conjunction.[12] For example, consider this excerpt from the end of an advertisement for The Sports Connection's tanning salon:

1. Unlike most Suntan Salons we will not be charging a membership fee **on top** of session fees.

2. A membership at The Sports Connection is a membership at the "Tanning Connection"

3. and only $15 per session will be charged.

In this excerpt, the Antithesis span is clearly Unit 1, but the Thesis span is not Unit 2. It is the clause combination consisting of Units 2 - 3, as shown in Figure 14:

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[12]See Mann & Thompson 86, for discussion of the pervasiveness of unsignalled relations.
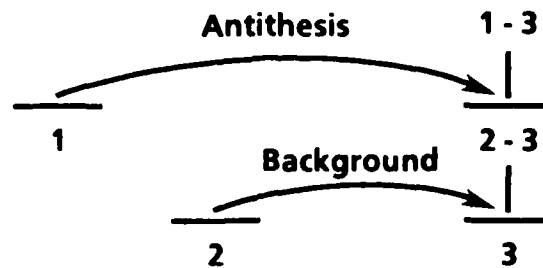
Figure 14: RST Analysis of Second "Tanning" text extract

A final example of an unsignalled **Antithesis** relation between spans of text larger than single Units comes from a newspaper column called "Tennis Tips":

1. Too many players hit an acceptable shot,

2. then stand around admiring it

3. and wind up losing the point.

4. There is no time in an action game like tennis to applaud yourself and still get in position for the next shot.

5. And you always have to assume there will be a next shot.

Figure 15 shows the rhetorical structure for this excerpt. Units 1 - 3 express the Thesis span, while Units 4 - 5 express the Antithesis span, for which the writer obviously has positive regard. Once again, although no explicit conjunction links the two parts of the **Antithesis** relation, the two parts themselves are larger than single Units.
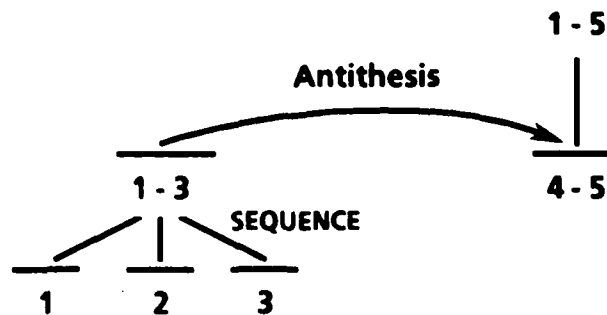

Figure 15: RST Analysis of "Tennis Tips" text extract

5 Conclusion

We consider the function of the **Antithesis** relation to be strong support for the claim that the relationships underlying the grammar of clause combining are the same as those governing the way texts in general are organized. Clauses combine according to the same types of functional relationships that are central to overall text organization.

Acknowledgments

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