

# Principles of segmentation in the literary text. The case of the formally unsegmented text

Rachel Giora

## Summary

This article explores the relationship that exists between the *formal* and *functional* units of a text, and attempts to show that some strategy of text segmentation can function as a device of text progression as it enables the concatenation of new segments. Within the framework of information structuring text segmentation is motivated by the need to change 'Discourse Topics' (DTs). If segmentation occurs where a new DT is presented to the text, the options available for the text are either to be segmented *before* or *after* the introduction of the new discourse segment. The article focusses on text segmentation after DT mention. Though the literary text is shown to conform to norms of text segmentation it is employed in an elaborate manner for poetic purposes. Deviant as it is, the literary text obeys cognitive and communicative postulates.

## Opsomming

Hierdie artikel gaan die verhouding na tussen die *formele* en *funksionele* eenhede van 'n teks, en probeer aantoon dat een of ander tekssegmenteringstrategie as 'n hulpmiddel vir teksprogressie kan optree aangesien dit die aaneenskakeling van nuwe segmente moontlik maak. Binne die raamwerk vir die strukturering van inligting word tekssegmentering gemotiveer deur die behoefte om 'Diskoersonderwerpe' (DOe) te verander. Indien segmentering voorkom waar 'n nuwe DO aan die teks gebied word, is dit vir die teks moontlik om òf voor òf na die invoering van die diskoerssegment gesegmenteer te word. Die artikel fokus op tekssegmentering nadat DO genoem word. Hoewel aangetoon word dat die literêre teks ooreenkom met norme van tekssegmentering, word dit op uitgebreide wyse vir literêre teoretiese doeleindes gebruik. Kenmerkend van sy afwykende aard gehoorsaam die literêre teks sowel kognitiewe as kommunikatiewe postulate.

## Introduction

The principles of text segmentation can be discerned both at the semantic and formal levels. At the semantic level, the text continuum is divisible into thematic units. At the formal level, such units are marked by, for example, paragraph or chapter boundaries. A number of linguists (Longacre, 1979, Chafe, 1979, Sanford & Garrod, 1981) as well as scholars of text theory (Hrushovski, 1976), for example) hold the view that the boundaries of a formal segment are determined by the boundaries of its semantic theme.

The questions that arise are twofold. One concerns the semantic principles that account for the alleged thematic unity. Another (which follows from this), inquires into the principles of formal segmentation. In a previous work (Giora, 1985a) I attempt to show that the principle that determines the boundaries of both the semantic and formal unit is functional. That is, what makes a text segment count as a unit is its 'topic unity' i.e., its being *about* a 'Topic of Discourse'. Thus a text segment is defined here relative to a 'Discourse Topic' (DT) which it discusses. For matters of brevity I shall

assume here an intuited notion of DT, namely, a Topic concerning which a whole segment is interpretable.<sup>1</sup>

The purpose of this study is to discuss the relation that obtains between the *formal* and *functional* units of a text. Specifically, I will attempt to show that some strategy of text segmentation can function as a device of text progression as it enables the concatenation of new segments.

## 1. On the typology of text segmentation

Given the view that a functional/semantic unit is marked by the formal division of the text into paragraphs (for example), a study of the interrelations of these units casts light on the dynamics of text progression. One obvious type of relation between formal and semantic segments involves a total overlap of the two. Indeed, such an overlap is widely prevalent and is almost the only one acknowledged in the relevant literature (Sanford & Garrod, 1981, *inter alia*). Passage (1) below exemplifies the one-to-one correlation that obtains between a functional unit organized relative to a DT and its respective formal unit. Thus the first paragraph discusses our so-called knowledge of the gorilla (lines 1–2: ‘One thinks one knows him very well’) as its DT, while the second paragraph discusses ‘our ignorance of it’ as a distinct DT (line 8: ‘Yet the fact is we know very little about the gorilla’). If the whole text is regarded as our purported unit then it is to be considered as a discussion of ‘the paradoxical status of the gorilla’ (line 1: ‘The gorilla is something of a paradox in the African scene’):

- (1) *The gorilla is something of a paradox in the African scene. One thinks one knows him very well.* For a hundred years or more he has been killed, captured, and imprisoned in zoos. His bones have been mounted in natural history museums everywhere, and he has always exerted a strong fascination upon scientists and romantics alike. He is the stereotyped monster of the horror films and the adventure books, and an obvious (though not perhaps strictly scientific) link with our ancestral past.

*Yet the fact is we know very little about gorillas.* No really satisfactory photograph has ever been taken of one in a wild state, no zoologist, however intrepid, has been able to keep the animal under close and constant observation in the dark jungles in which he lives. Carl Akeley, the American naturalist, led two expeditions in the nineteen-twenties, and now lies buried among the animals he loved so well. But even he was unable to discover how long the gorilla lives, of how or why it dies, nor was he able to define the exact social pattern of the family groups, or indicate the final extent of their intelligence. All this and many other things remain almost as much a mystery as they were when the French explorer Du Chaillu first described the animal to the civilized world a century ago. The Abominable Snowman who haunts the imagination of climbers in the Himalayas is hardly more elusive.

(Quoted in Alexander, 1967: 17)

Formal segmentation thus seems to mark the functional/semantic units of the text. It is thus motivated by the introduction of a new DT, i.e., a new discourse segment, to the text.

The example discussed above exhibits a division whereby segmentation occurs *before* the introduction of the new DT to the text. The first paragraph ends before a new semantic segment is introduced.

However, there exists another type of text segmentation in which formal and semantic units do not overlap. No less common is the tendency to end a given paragraph *after* new DT mention. In such cases the initial section of the new *semantic* unit is introduced at the end of the given *formal* unit as exemplified in (2) below. The 'fight' segment – the second semantic unit – begins at the end of the previous formal segment:

- (2) I was standing at the end of the lower playground and annoying Mr. Samuels, who lived in the house just below the high railings. Mr. Samuels complained once a week that boys from the school threw apples and stones and balls through his bedroom window. He sat in a deck chair in a small square of trim garden and tried to read the newspaper. I was only a few yards from him. I was staring him out. He pretended not to notice me, but I knew he knew I was standing there rudely and quietly. Every now and then he peeped at me from behind his newspaper, saw me still and serious and alone, with my eyes on his. As soon as he lost his temper I was going to go home. Already I was late for dinner. I had almost beaten him, the newspaper was trembling, he was breathing heavily, *when a strange boy, whom I had not heard approach, pushed me down the bank.*

I threw a stone at his face. He took off his spectacles, put them in his coat pocket, took off his coat, hung it neatly on the railings, and attacked. Turning round as we wrestled on the top of the bank, I saw that Mr. Samuels had folded his newspaper on the deck chair and was standing up to watch us. It was a mistake to turn round. The strange boy rabbit-punched me twice. Mr. Samuels hopped with excitement as I fell against the railings. I was down in the dust, hot and scratched and biting, then up and dancing, and I butted the boy in the belly and we tumbled in a heap. I saw through a closing eye that his nose was bleeding. I hit his nose. He tore at my collar and spun me round by the hair.

(Dylan Thomas, 1965: 39)

However, before discussing this type of segmentation *after* new DT mention, it might be worth considering some statistics concerning text progression in general, in order to arrive at an overview of the possible distribution of the various types of text segmentation.

In a casual collection of 50 passages (Alexander, 1967) the distribution of the various types of text progression occurs as follows:

- (a) Eighteen (36%) exhibit what we call DT-DT progression. As exemplified in (3) below the second paragraph goes on discussing a 'given' (old) or partly 'given' DT. Such progression prevails when the text continues discussing *the same* or almost the same DT of the previous paragraph. The first paragraph of (3) discusses Vera's ability to read and detect colours with her fingers (lines 1–3). The second paragraph is about 'Vera's curious talent [which] was brought to the notice of a scientific research institute' (line 9).

- (3) In the Soviet Union several cases have been reported recently of people who can *read and detect colours with their fingers*, and even see through solid doors and walls. One case concerns an eleven-year-old schoolgirl, *Vera Petrova, who has normal vision but who can also perceive things with different parts of her skin, and through solid walls*. This ability was first noticed by her father. One day she came into his office and happened to put her hands on the door of a locked safe. Suddenly she asked her father why he kept so many old newspapers locked away there, and even described the way they were done up in bundles.

*Vera's curious talent was brought to the notice of a scientific research institute in the town of Ulyanovsk, near where she lives, and in April she was given a series of tests by a special commission of the Ministry of Health of the Russian Federal Republic. During these tests she was able to read a newspaper through an opaque screen and, stranger still, by moving her elbow over a child's game of Lotta she was able to describe the figures and colours printed on it; and, in another instance, wearing stockings and slippers, to make out with her foot the outlines and colours of a picture hidden under a carpet. Other experiments showed that her knees and shoulders had a similar sensitivity. During all these tests Vera was blindfold; and, indeed, except when blindfold she lacked the ability to perceive things with her skin. It was also found that although she could perceive things with her fingers this ability ceased the moment her hands were wet.*

(Quoted in Alexander, 1967: 14)

- (b) However, in cases where a *new DT* is introduced, two strategies are available for the text:
- (i) The text gets segmented *after* new DT mention (as exemplified in (2) above). Thirteen passages (that is 26%), end *after* the introduction of the new DT to the text. I will later argue that such lack of overlap between formal and semantic/functional units is a device for concatenating new discourse segments unobtrusively.
  - (ii) Where the new DT segment is not introduced in the final position of the previous formal segment, text progression is *signalled* by an explicit semantic connector (as exemplified in the second paragraph of (1) above, in the use of the connector 'yet'). In my counting nineteen of the passages (38%) proceed from a given paragraph to the following one by means of explicit connection.

Thus, text segmentation *after* the introduction of new semantic segments is the *unsignalled* device for the introduction of new segments to the text. As opposed to segmentation *before* DT mention, the function of this device is to create a position appropriate to the introduction of *new material* to the text. In my previous work I call this material 'Dominant' (Giora 1983a, 1985c). Though it is mainly defined in terms of 'informativeness' it suffices for our purposes that it be acknowledged as a *potential DT* of the following segment.<sup>2</sup>

Such strategies for text progression were first located on the *sentence* level by the FSP linguists. The Prague linguists together with their American followers showed that at the sentence level a given sentence Topic is controlled by either the Topic constituent of the previous sentence normally occupy-

ing initial position in the sentence, or by the 'new', 'rhematic' constituent of the previous sentence normally occupying the final position.<sup>3</sup>

The topic of this paper is an extension of findings at the sentence level. It is concerned with text progression at the *paragraph* level, with special emphasis on segmentation *after* new mention. More specifically, I wish to claim that in the literary text such progression resembles the enjambment device in poetry, where the semantic/syntactic unit – the sentence and its formal unit, the line – do not overlap (Golomb, 1979, *inter alia*).

## 2. Text segmentation *after* DT mention

As previously indicated (Section 1) text segmentation *after* DT mention is quite prevalent in all genres. To elucidate this further, one needs to consider segmentation after DT mention in non-fictional prose. Take for example the ordering of text constituents in an advertisement below. The DT of the second paragraph – Thomas Cook Cheques – is introduced at the end of the first segment. Where the DT of a given segment is new information it is first introduced at the end of the previous segment:

- (4) Wherever you go in the world, be it New York or Nairobi, and whatever you do, business or pleasure, be sure to take *Thomas Cook Euro Travellers Cheques*.

*Thomas Cook Euro Travellers Cheques* are sold in 153 countries, and are welcomed throughout the world.

For another example from non-fictional prose, consider a descriptive passage below in which the DT discussed in the second paragraph is introduced in the end of the first paragraph: Sir John Hawkwood – who made a name for himself as a collector of protection money, is the DT of the second paragraph. The first paragraph is segmented after the Dominant information; the information concerning the next DT is introduced to the text in paragraph final position (lines 10–14):

- (5) There was a time when the owners of shops and businesses in Chicago had to pay large sums of money to gangsters in return for 'protection'. If the money was not paid promptly, the gangsters would quickly put a man out of business by destroying his shop. Obtaining 'protection money' is not a modern crime. As long ago as the fourteenth century, an Englishman, *Sir John Hawkwood*, made the remarkable discovery that people would rather pay large sums of money than have their life work destroyed by gangsters.

Six hundred years ago, *Sir John Hawkwood* arrived in Italy with a band of soldiers and settled near Florence. *He* soon made a name for himself and came to be known to the Italians as Giovanni Acuto. Whenever the Italian city-states were at war with each other, *Hawkwood* used to hire his soldiers to princes who were willing to pay the high price he demanded. In times of peace, when business was bad, *Hawkwood* and his men would march into a city-state and, after burning down a few farms, would offer to go away if protection money was paid to them. *Hawkwood* made large sums of money in this way. In spite of this, the Italians regarded *him* as a sort of hero. When

he died at the age of eighty, the Florentines gave *him* a state funeral and had a picture painted which was dedicated to the memory of 'the most valiant soldier and most notable leader, Signor Giovanni Houkodue'.

(Quoted in Alexander, 1967)

I have attempted to show that the lack of overlap between semantic and formal units is rather common and prevails in all kinds of texts. However, findings concerning the distribution of text segmentation after DT mention will not suffice. One needs to check the acceptability of such segmentation against readers' intuitions. Briefly stated, in a series of tests I conducted (Giora, 1983a) readers' preferences concerning lack of overlap between semantic and formal units were observed.

Subjects were presented with a set of four passages, each of which consists of a sequence of two paragraphs. The passages are identical in every respect except for the ordering of the last two sentences of the first paragraph in each passage. In one passage, the first paragraph ends with information 'a'. In the first pair, the second paragraph begins with information 'b'. In the second pair, the order is reversed: the second paragraph begins with information 'a'.<sup>4</sup>

The results indicated that in the first pair, 81% of the subjects preferred the passage in which the second paragraph discusses the information which *ends* the first paragraph. In the second pair, 70% preferred the passage in which the second paragraph discusses the information which *ends* the previous paragraph.

We can thus conclude that the position preferred for newly introduced DTs is paragraph *final*. Readers prefer passages that *end* with Dominant information, that is, with information which specifies the DT for further discussion. We can now proceed to the analysis of the literary text.

### 3. Segmentation in the literary text or functional enjambment

Analyses of literary texts seem to confirm the above claim. In what follows I will attempt to show that even the literary text defined in terms of deviance (Mukárovský, 1964, *inter alia*), conforms to the norms of paragraph progression described above, although it deploys these norms for poetic purposes.

The Dylan Thomas text (2) above provides for an instance of one poetic extension of the principle of introducing Dominant material, that is, future DT, at the end of a given segment. The 'fight' scene is a whole segment starting at the end of the first paragraph and developing in the second. Rather than repeating the Dominant material in the Topical position of the next text segment (as is the case with the non-literary texts viewed above (4-5)), the literary text continues to elaborate that which is introduced in the final position. The repetition typical of non-fictional prose is absent here. Rather, text progression here corresponds precisely with enjambment, as exemplified in Wallace Stevens' verse (6) below:

(6) And as they whispered, *the refrain*  
Was just a willow swept by rain.

'The refrain' (the Topic constituent or, in grammatical terms, the subject constituent of the second sentence) is introduced at the end of the previous formal unit, the line. Such lack of overlap between semantic and formal units allows for future sentence Topics to be introduced in a Dominant (i.e., final) position.

Enjambment might then function as a device for introducing Dominant material, that is, material to be taken up as Topic of further discussion, in a Dominant position which is simultaneously to be read as Topical. The DT at the paragraph level (the 'fight' scene) and the Topic at the sentence level ('the refrain'), can both be read as both Dominant and Topical, as a result of segmentation.

Further, enjambment can be developed into a more intricate device, as the example (7) below indicates. Here, the line is segmented after the introduction of the NP of a *relative clause*. Under such circumstances the final constituent (grammatically in object position), is concurrently the subject of the following clause. In such cases of embedding, the head NP of the relativized clause is both the Dominant constituent of the matrix and the Topic constituent of the subordinate clause. What enables the subordinate clause to function as simultaneous Dominant-Topic constituent is the 'segmentability' of the sentence in poetry. The minimal formal segment of poetry is the line. Formal segmentation thus creates the Dominant position for future sentence Topics. Thus the Dominant constituents in Stevens' poem (7) below ('the fallen leaves', 'the leaves themselves', the 'flames' etc.) function simultaneously as the Topic constituents of the following semantic segments.

- (7) At night by the fire  
 The colors of the bushes  
 And of the *fallen leaves*  
 Repeating themselves  
 Turned in the room . . .  
 Was it a cry against the twilight  
 Or against *the leaves themselves*  
 Turning in the wind  
 Turning as *the flames*  
 Turned in the fire  
 Turning as *the tails of the peacocks*  
 Turned in *the loud fire*  
 Loud as the hemlocks

Wallace Stevens (1954: 9)

As a result, the notion of enjambment might be incorporated into a more general notion of 'Functional Enjambment' (FE), as a device for making the Dominant constituent of a given segment the concurrent Topic of the next segment.

Though FE is not necessarily a poetic device only (as illustrated in (2) above), the elaborated case of FE seems inaccessible to prose. While in poetry FE is made possible due to the deliberate segmentability of the sentence semantic unit, on the face of it prose seems to lack the means of

sentence segmentation. However, one way of coping with the problem of text progression by means of FE is provided by a Hebrew novel. *Past Continuous* by Yaacov Shabtai is a formally *unsegmented* text. Shabtai makes use of *semantic* units to segment the sentence. The passage from one semantic unit to another is carried out at the *sentence* level. Shabtai introduces a new DT by means of a *relative clause* which is developed into an entirely independent and autonomous narrative segment. Subsequently, the Dominant section of a given semantic segment is concurrently the DT of the following (narrative) unit. In example (8) below ‘Chemda’ and ‘Zina’ function as the final Dominant constituent in the given functional/semantic segment, and as a concurrent DT of the following one. The translator’s choice of division elucidates my point: the English version, unlike the Hebrew text, is formally segmented. Segmentation occurs where new material is introduced into the text. The formal segmentation of the translated version marks the text semantic segments. That segmentation sometimes occurs before new information is introduced is a result of the use Shabtai makes of the relative clause as a segmenting device: paragraphing does not as a rule occur in mid-sentence.

- (8) . . . and satisfying his enduring love for *Chemda*, who after so many years of fighting and pleading and expectations, which sometimes faded and revived within the space of a single night let her high hopes sink and her anger and pride and disappointment dwindle and die, and in spite of her dread of being alone – a dread which sometimes overcame her even when she was together with Erwin and especially when he went home and left her by herself – and her sorrow at not having had a child, she found contentment in her wholehearted love for Erwin and in the knowledge that he too loved her, and that nothing but death could ever part them again, and she was happy in the hours which they regularly enjoyed together. Chemda envied no one, not even *Zina*, who now came back from the kitchen with a tea trolley and . . .

(p. 140)

It is interesting to note that the shift from the present to the reminiscences passage concerning Goldman’s father and the killing of the dog, is itself divided into sub DTs: his attitude to Kaminskaya – the dog owner and the killing scene, (9) below:

- (9) Preoccupied by this question, and also by the fact that Tehilla had said she might call again in the evening, he fell silent and lit a cigarette and sunk into thought, but after a moment he turned to Israel and said, ‘When Tehilla calls tell her I’ve gone to Jerusalem and I’ll be back tomorrow’, and Israel said, ‘All right’, and looked out of the dusty window of the bus at the shops and the passersby and at the movie theater standing in *the place where he had once*, when he was a child and it was still a big empty lot, seen Goldman’s father in a cloth cap and sweaty overalls pushing a wheelbarrow and laying the foundations of the building together with the other workers.

*Then* too the air was full of the scent of lilac and oleander flowers and the sky was cloudless, only then it was a rich blue and the air was fresh and mild, even a little cool, like it was on the autumn day at twilight when Goldman’s father had dragged Kaminskaya’s black dog by the leash and tied it to the



water pipe in the big yard of the house where they lived . . . All in all she was so lost and despairing that she sometimes tried to find salvation even in viciousness or lies or obscenities, but Goldman's father refused to forgive her and he hated her and her ways and the songs she sang and the clothes she wore and her *black dog, which she called Nuit Sombre and which stood quietly* tied to the water pipe looking at Goldman's father, whose face was white as a sheet and tense with fright and wickedness.

*Nuit Sombre even wagged his tail, because of course he couldn't have guessed that Goldman's father was going to kill him* in a couple of seconds, but Goldman's father approached him and suddenly pulled a builder's hammer out of his shirt and brought it down swiftly and furiously on his head, and *Nuit Sombre* made a queer moaning sound and swayed . . .

(pp. 12–14)

Shabtai seems consistently to present new DTs by means of relative clauses. Relative clauses serve here as a unique device for the concatenation of sentences and discourse units. As in Stevens' poem (7) above the head NP of the relative clause is both the Topic of the relative clause and the Dominant constituent of the matrix. Shabtai has developed the relative clause into an independent unit, in fact, into a whole semantic segment. Consequently, new segments with their DTs, are introduced by means of relative clauses. When such a unique device is employed throughout the text, the effect is that of FE. The Dominant material of a given segment, positioned in the matrix of the final section of that semantic segment, can simultaneously be read as the DT of the following segment. By means of the relative clause, FE has become a segmenting device in an unsegmented text. What is illustrative here is that even in a formally *unsegmented* text, the concatenation of new semantic discourse units (or DTs) operates according to principles operating in ordinary (formally segmented) texts.

#### 4. A cognitive and communicative explanation

In trying to explain these findings, I wish to claim that readers' and writers' preferences concerning the order of presentation in a text are due to both cognitive and communicative factors.

A basic fact concerning verbal behaviour is that it is serial. Research into the learning of verbal material has clearly indicated that the rate at which an item in a serial list is learned, depends on where it is located in that list. The enhanced accuracy of recall of the first serial positions is said to represent a *primacy* effect, and of the last seven or so, a *recency* effect.<sup>5</sup> Psychological research on questions relating to order of presentation shows that boundary positions are sure to be recalled best. It is no wonder then that writers use these positions to introduce material that is highly functional in constructing a discourse.

For our purposes the relevant serial position is recency. Recency explains the *final* location of Dominant material. Murdock (1962), for example, presented his subjects with lists of unrelated English words which differed only in

the number of items presented. The items most often recalled were those at the end of the lists, and the probability of recall of the last three items did not vary much for lists of different length. While Murdock tested reactions to series of unrelated items, Sachs (1967) read subjects a *paragraph* of a normal English text. One of the sentences in the paragraph was selected as a test sentence. Subjects were given a recognition test after listening to the paragraph with either the sentence in its original form, a formally changed sentence, a syntactically changed sentence, or a semantically changed sentence. Subjects were asked to tell whether the test sentence was the same as the one in the original passage. Results were quite clear: when the test sentence was embedded somewhere in the *middle* of the paragraph, subjects' memory for both syntactic changes and formal changes was minimal (though they were still very good at detecting changes in meaning). However, if the test sentence was the *last* sentence in the paragraph all kinds of changes could be detected. Presumably subjects still retained the sentence in primary memory, and had available sufficient information to detect any kind of change.

Memory structure thus explains the *final* location of Dominant material. Material in the final position is immediately available for readers and writers to retain for further discussion in the following segment.

Apart from the cognitive explanation there is the communicative factor which too explains segmentation after the introduction of Dominant material. Where such organization obtains it enables future DTs to be presented prior to the segment in which they already function as DTs. What we know from communication theories (Bolinger, 1965, Clark and Haviland, 1977, *inter alia*) is that Topics are, as a rule, given, i.e. 'old' information. These studies reveal it is difficult (if not impossible) to talk of something we do not know. At the text level, then, a lack of overlap between formal and semantic units enables text progression with a DT already in the context established by both the reader and the writer. Incoming messages, (new information) can now be integrated in relation to what is known to interlocutors. It is thus clear that both cognitive and communicative factors account for text segmentation *after* the introduction of Dominant material.

## 5. Summary

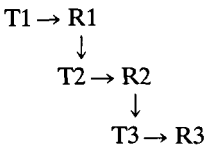
The principles of text segmentation have been presented here as reflecting the dynamics of text progression. Within the framework of information structuring I suggest that text segmentation is motivated by the need to change DTs. Given that segmentation occurs where a new DT is presented to the text, the options available for the text are either to be segmented *before* or *after* the introduction of the new discourse segment. The present study has focused on text segmentation *after* DT mention, in view of the unique use made of this device by the literary text. Though the literary text is shown here to conform to norms of text segmentation it still employs them in an elaborate manner for poetic purposes. Deviant as it is, the literary text obeys cognitive and communicative postulates.

**Notes**

1. Reinhart (1980) defines Sentence Topic in terms of “pragmatic aboutness”. Following Strawson (1964) and Stalnaker (1978) she argues that for a sentence to be ‘about’ its Topic constituent is to be *assessed* and *stored* relative to that constituent. In view of Reinhart’s definition of ‘pragmatic aboutness’ I consider DT an entry concerning which a whole set of propositions is interpretable (Giora 1985a). Within this approach, in order for a set of propositions to be about a given DT, the propositions must be both *assessable* for their truth value and *classifiable* relative to that entry.
2. Extending Erteschik-Shir & Lappin’s (1979) definition of Dominance at the sentence level, I define Dominance as the proposition constituting the most prominent semantic message in the paragraph, or the text constituent that is most informative relative to previous messages in that it might be new or unpredictable and which can be selected as the next DT.
3. A major issue within discourse research or FSP concerns Thematic Progression. The basic concepts of Theme-Theme or Topic-Dominance are devised to describe the various ways available for the text to concatenate new sentences. Recent research into sentence concatenation holds the view that a well-formed text is one whose sentences are cohesive, whereby cohesion is viewed as linear connectedness between pairs of sentences. Specifically, a text is cohesive if each sentence of any of its adjacent pairs is either referentially linked to a previous sentence or has a semantic connector (for a detailed analysis see Reinhart 1980 and its report below).

Given the notions of Theme (T) (the Topic constituent) and Rheme (R), (the informative constituent) the most elementary cohesive device between sentences, according to Daneš (1974), links the predicative, informative section of a given utterance (the Rheme) with the Thematic expression of the following one. In that manner the Theme of a given utterance is old information in that it is a repetition of a previous mention. Such connectedness can be sketched as follows:

a. Rheme-Theme Progression:



T1

R1

(1) *The first of the antibiotics was discovered by Sir Alexander Fleming in 1928.*

T2

*He was busy at the time investigating a certain species of germ . . .*

(Quoted in Daneš, 1974)

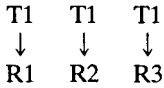
In example (1) the Rhematic expression ‘Sir Alexander Fleming’, predicating something concerning the ‘first of the antibiotics’ is anaphorically repeated in the theme expression of the following utterance (‘He’). Such repetition constitutes a referential link whereby the Theme expression of the sentence is controlled by a previous mention.

Erteschik-Shir & Lappin (1979) represent an extension of the R-T Progression. In view of their notion of Dominance (DOM) they can be taken to propose a DOM-T continuum.

The second type of connectedness listed by Daneš allows for subsequent sen-

tences to share the same Theme. The thematic progression then, can be delineated as follows:

b. Theme Theme Progression



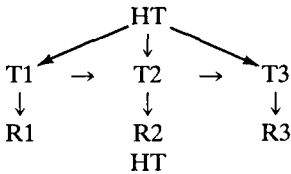
- T1
- (2) *The Rousseauist* especially feels an inner kinship with Prometheus. *He* is fascinated by any form of insurgency . . . and other Titans. *He* must show an elementary energy in his explosion . . .
- T1

(Quoted in Daneš, 1974).

Example (2) exhibits T – T connectedness as all the sentences share the same Sentence Topic or Theme (the constituent italicized in the example above).

The third possibility allows for various Sub-Themes to be connected to a Hyper Theme (as in 3 below):

c. Hyper Theme – Sub-Theme Progression:



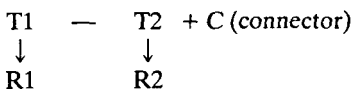
- T1
- (3) *New Jersey* is the flat along the coast and southern portion; *the northwestern* region is mountainous. *The coastal climate* is mild . . . *The leading industrial production* includes chemicals, processed food, coal . . .
- T1
- T3

(Quoted in Daneš, 1974).

In this example, T1, T2, T3 seem all to derive from the HT mentioned in the first sentence. Specifically they are related to the HT as parts to a whole.

Reinhart (1980) defines text cohesion in terms of Theme/Topic Control. She argues that for a pair of sentences to be cohesive the topic expression of a given sentence must be referentially linked by a previous mention. Yet, she goes beyond Daneš in describing another type of link. In cases where referential linkage fails (i.e., where the concatenation of a new sentence is not controlled by a previous mention) an overt semantic connector is employed:

d. Topic – New Topic Progression:



- T1
- (4) *The first man* landed on the moon. *At the same moment* a boy died in Alabama of untreated pneumonia.
- C
- T2

(Quoted in Reinhart, 1980)

The new topic (T2) is not controlled by any previous mention but it is linked by an explicit semantic connector ("At the same time").

In view of the four types of sentence cohesion described above, it follows that in both the types T-T (HT-T1-T2-T3 included) and R-T (or DOM-T as its alternate) the Thematic Progression is unsignalled. New Theme/Topic concatenation necessitates a certain manipulation in the form of an overt linking device.

#### 4. Experimental passages

The medical significance of headaches is not easy to define. These aches may be an indication of some disease, or a meaningless reaction to daily troubles. Of all those applying for medical attention who report of headaches, *some suffer from diseases whose symptom is a headache. Some suffer from headaches whose cause is migraine.*

*The term 'migraine' indicates a phenomenon of repeated attacks of headaches, located mostly on one side of the head, which begin at an early age and decrease in the course of time . . .*

The medical significance of headaches is not easy to define. These aches may be an indication of some disease, or a meaningless reaction to daily troubles. Of all those applying for medical attention who report of headaches, *some suffer from headaches whose cause is migraine. Some suffer from diseases whose symptom is a headache.*

*The term 'migraine' indicates a phenomenon of repeated attacks of headaches, located mostly on one side of the head, which begin at an early age and decrease in the course of time . . .*

The medical significance of headaches is not easy to define. These aches maybe an indication of some disease, or a meaningless reaction to daily troubles. Of all those applying for medical attention who report of headaches, *some suffer from* (b) *diseases whose symptom is a headache.* (a) *Some suffer from headaches whose cause is migraine.*

*The diseases which may cause headaches include general illnesses, infections of the tissues inside the skull, eye disease, etc. . . .*

The medical significance of headaches is not easy to define. These aches may be an indication of some disease, or a meaningless reaction to daily troubles. Of all those applying for medical attention who report of headaches, *some suffer from headaches whose cause is migraine. Some suffer from diseases whose symptom is a headache.*

*The diseases which may cause headaches include general illnesses, infections of the tissues inside the skull, eye disease, etc. . . .*

#### 5. In previous works (Giora 1985a, 1985c) I argue that primacy effect accounts for the function of paragraph *initial* position.

## References

- Alexander, L.G. 1967. *Fluency in English*. London: Longman.  
 Ariel, M. 1985. *Givenness*. (Doctoral dissertation.) Tel Aviv: Tel Aviv University.  
 Bolinger, D. 1965. *Forms of English*. Cambridge: Harvard University Press.  
 Chafe, W., 1979. The flow of thought and the flow of language. In: T. Givón (ed.). *Syntax and semantics* 12. New York: Academic Press.

- Clark, H.H. & S.E. Haviland. 1977. Comprehension and the Given – New Contract. In: R.O. Freedle (ed.). *Discourse production and comprehension*. Norwood: Ablex.
- Daneš, F. 1974. Functional sentence perspective and the organization of the text. In: F. Daneš (ed.). *Papers on functional sentence perspective*. Prague: Academia.
- Erteschik-Shir, N. & S. Lappin, 1979. Dominance and the functional explanation of island phenomena. *Theoretical Linguistics* 6/1: 41–86.
- Giora, R., 1983a. Functional paragraph perspective. In: J.S. Petöfi & E. Sözer (eds.). *Micro and macro connexity of texts*. Hamburg: Buske.
- Giora, R. 1983b. Segmentation and segment cohesion: on the thematic organization of the text. *Text* 3/2: 155–181.
- Giora, R. 1985a. What's a coherent text? In: E. Sözer (ed.) *Text connexity, text coherence, aspects, methods, results*. Hamburg: Buske.
- Giora, R. 1985b. Notes towards a theory of text coherence. *Poetics Today* 6/4: 699–716.
- Giora, R. 1985c. *Informational structure of the linear ordering of texts*. Unpublished doctoral dissertation. Tel Aviv: Tel Aviv University.
- Golomb, H. 1979. *Enjambment in poetry*. Tel Aviv: Tel Aviv University.
- Hrushovski, B. 1976. Segmentation and motivation in the text continuum of the literary prose, *PPS* 5. Tel Aviv: Tel Aviv University.
- Longacre, R.E. 1979. The paragraph as a grammatical unit. In: T. Givón (ed.). *Syntax and semantics* 12. New York: Academic Press.
- Mukařovský, J. 1964. Standard language and poetic language. In: P.L. Garrin (ed.). *A Prague School teacher*. Washington: Georgetown University Press.
- Murdock, B.B. Jr. 1962. The serial position effect of free recall. *Journal of Experimental Psychology* 62: 618–625.
- Reinhart, T. 1980. Conditions for text coherence. *Poetics Today* 1/4.
- Reinhart, T. 1982. Pragmatics and linguistics; An analysis of sentence Topics. *Philosophica* 27/1: 53–94.
- Sanford, A.J. & S.C. Garrod. 1981. *Understanding written language*. New York: Wiley & sons.
- Sachs, J.D.S., 1967. Recognition memory for syntactic and semantic aspects of connected discourse. *Perception and Philosophy* 2: 437–442.
- Shabtai, Yaacov. 1985. *Past continuous*. Translated from Hebrew by Bilu, D. Philadelphia: The Jewish Publication Society of America.
- Stalnaker, R. 1978. Assertion. In: P. Cole (ed.) *Syntax and semantics* 9:315–332. New York: Academic Press.
- Stevens, Wallace, 1954. *Collected poems*. New York: Alfred A. Knopf.
- Strawson, P.F., 1964. Identifying reference and truth values. *Theoria* 30.
- Thomas, Dylan. 1965. *Portrait of the artist as a young dog*. London: Dent.