

Structural Ambiguity in Adverbials and Modifiers in English

A Semiotactic Perspective

Thesis Research Master Linguistics, Leiden University

Lennart Frank van der Velden, s1423991

4 August 2015

First reader: Dr. Egbert Fortuin

Second reader: Dr. Andries van Helden

29,298 words

1. Introduction

The functions and positions that adverbials and modifiers can take have been a problematic subject for a long time. The semantics of the placement of these elements has given rise to a high number of publications with an attempt to generalise on the functions of the various positions which they can take. Within this broad field of research, many authors have attempted to generalise based on a large number of languages (e.g. Ernst 2004, Kiss 2009) to come to universals, while others stick to a single language (e.g. Hasselgård 2010). The present paper will, like Hasselgård 2010, focus exclusively on the English language. In this language, adverbials can take a wide variety of forms and places within a sentence in this one language, and thus influence the image of the situation in a myriad of ways. This maze of possibilities often results in ambiguous sentences, e.g.:

(1) *I was robbed by a man in the street;*

→ I was in the street when I was robbed;

→ The man who robbed me was in the street, but where I was is not given (I might have been home while he was paying with my creditcard, for example).

Examples like these highlight that the same position in a sentence can give more than one meaning to same linguistic data, because sentences containing them can often yield multiple grammatically correct “interpretations” of the same constellation of elements.

“Interpretations” has here been parenthesised, as this word has a specific meaning within the semiotactic framework, namely an action on the part of the speaker in which (s)he takes the linguistic data and extrapolates a meaning that is not exactly encoded in the literal data itself. Such an act is crucial to the understanding of many aspects of language, such as reference or metaphor, but in itself is not analysed in the semiotactic framework, as it is only concerned with actually transmitted information. For grammatically justified interpretation, that is to say, the selection of one manner of connecting the meanings of words where two or more are

made possible by the syntactic structure of the sentence, the term “reading” will be used instead.

Approaching the topic from the semiotactic framework (Ebeling 1978, 2006) makes it possible to analyse both interpretations by accounting for the semantic contribution of placement as well as for the influence various types of adverbials have on the presentation of a certain situation. Because the semiotactic framework deals with the way in which words and their meanings interact with one another to create meaning, rather than with the rules that make such placement possible *per se*, it makes it possible to define clearly what influence the position has on the projection of the situation. Another advantage of this framework is that it deals with the linguistic data at face value, i.e. the data in the language is all that is considered, and, as has been discussed above, not even interpretation is part of the analysis. This way, it remains ‘light’ where theoretical (and especially cognitive) assumptions are concerned, which makes an inventorisation framed in this model useful for analysts working on English adverbials and modifiers from many different theoretical perspectives. The present paper is an exploration of the various kinds of adverbials there are, and how their representations interact with their meanings. The ultimate goal of this work will be a clear outline of the way in which ambiguity occurs in the various positions adverbials and modifiers can take. Due to limitations in scope and time, only five distinct types will be discussed: place, time, modality, style and attitude.

Before such an analysis can be presented, however, first the semiotactic framework will briefly be explained, along with its theoretical background. Within this discussion of Ebeling’s theoretical framework, it is essential to point out the similarities and differences between it and various approaches to the same topic found in the literature, to argue why this approach is more suitable for the tackling of problems raised by adverbials than these approaches. This is especially pertinent in Bartsch’s case, as she also focuses on “the semantic

values of syntactic relations” (p. 1) of adverbials. This will be done in the second section. After that, a brief literature review on the phenomenon of the adverbial will be given, with an aim to come to a preliminary subdivision of kinds of adverbials used in the English language. This will primarily be based on Quirk et al. (1985) and Hasselgård (2010). Quirk et al. give refined subdivisions of categories within the English language, whilst also remaining theoretically neutral. Hasselgård, on the other hand, focuses in great detail on the adjunct specifically, and on this topic thus gives a more complete account. On the basis of the subdivision thus found, an in-depth analysis of the kinds of adverbials extant in the English language will be presented, which will bring to the fore the functions and the limitations of these elements in the English language. The end-result of this will be a clear-cut layout which will map out the connection between the form, the place, and the meaning of an adverbial. Finally, an overview will be given of constructions in which the placement of the adverbial yields an ambiguous meaning, i.e. sentences which lead to two or more possible notations within the semiotactic framework. Such cases will be explained through analysis. This will be done on the basis of the rules noted above, and it will be assumed that the ambiguity arises when part of the sentence checks the boxes of two or more sets of rules, thus creating the possibility of having two grammatically justified semiotactic notations.

2. Ebeling's Semiotactic Framework

In this section, the foundational ideas for the semiotactic framework will be discussed. First, the theoretical background will be put forward, to show the central ideas from which this approach has sprouted. After that, a to-the-point summary of the notational conventions within the framework will be presented and explained. Finally, special attention will be given to Bartsch's (1971) book on *The Grammar of Adverbials*, which will, based in part on the theoretical background given in 2.1, explain why I deem it necessary to perform the present writing when this book, in appearance having the same goals as I do, after its publication.

2.1 – Theoretical Background

The person who constructed the semiotactic framework is Carl E. Ebeling. The first time some of its fundamentals were presented was in 1954, the first line of which expresses a fundamental statement to the theory: “[a] description of a linguistic utterance, if it is to be thorough, must contain an analysis of the utterance into the elements out of which it is constructed (sentences, word groups, words, morphemes, etc.) and, moreover, it should indicate the arrangement of these elements within the utterance” (Ebeling 1954, p. 207). From this axiom, the semiotactic framework sprouted. In this early paper, the semantic contribution of placement is already highlighted using the opposition of *finger-ring* and *ring-finger*. This already highlights the main aim of the construction of the framework, and the discovery procedure explained in detail in *Syntax and Semantics: A Taxonomic Approach* (1978). That is to say, it is construed to make it possible to analyse and present the semantic contribution of grammar, or, more precisely, the way in which grammar arranges the interaction between words within a sentence to generate a single image of a situation a sentence brings to the fore. This leads him to consider “the relations between parts of speech... as relations, not just between formal elements, but primarily between meanings¹” (2006, p. 12). Note, however,

¹ “wellicht de meest opvallende bijzonderheid van mijn benadering is dat ik de relaties tussen zinsdelen – zoals die tussen onderwerp en gezegde – beschouw als relaties, niet alleen tussen vormelementen, maar primair tussen betekenissen” (Ebeling 2006, p. 12)

that such projections are deemed instances of interpretation rather than being directly within the meaning of language. From structuralism, Ebeling embraced three central ideas:

- (1) the requirement that all concepts of the theory be rigorously defined, and that their exemplification in the observed reality can be detected as such by means of a discovery procedure;
 - (2) the study of linguistic invariants;
 - (3) the hypothesis that a language is a system where all elements are interrelated
- (1978, p. 1)

Ebeling's work may be categorised within the European branch of structuralism, as it is "frankly eclectic" (1978 p. 2), providing a framework in which phonology, semantics and syntax each play a role. Also, it is not the mental structure of language that is under discussion, as it is in transformational-generative theories, but rather the structure that is observed in the data transmitted by speakers. Ebeling openly embraced criticism to a TTG approach to language (2006, p. 11), and also stated, in contradiction to Chomsky, that "for me communication is the function [of language] of which all other functions are derived" (2006, p. 12). Chomsky, rather, sees linguistic data as the beginning, extrapolating to an assumed *deep structure*, that is, a logical but unutterable primal state of the message that we attempt to send. This deep structure, though a series of transformations, is changed into a *surface structure*. This deep structure is deemed the most important. This explanation already indicates that the generative approach does not seek to analyse the linguistic data itself, but what process has led to this data, which, to the mind of the structuralist, already means that such an endeavour is not linguistic in the strictest sense. As such, Ebeling may be described as a functionalist rather than a formalist.

The Saussurean principle "one form – one meaning" is another important idea to this framework, although he quotes Jespersen's relativation of this axiom: "this as most can be an

ideal put before the investigator, who should always try, wherever possible, to discover unity behind diversity of the phenomena” (1969, p. 107, qtd in Ebeling 2006, p. 11). Words can be polysemous, and sentences ambiguous, which undermines Saussure’s idea(1). In this regard, the present paper may be regarded as an inventarisation of instances in which this concept of language cannot be upheld. However, within the framework the construction of unambiguous representations within the model is required (1978, p. 14). For this reason, polysemous words will be numbered, so that notations can still be differentiated, and ambiguous sentences require individual representations for separate meanings.

At this point, it seems important at this point to turn our attention to the difference between interpretation and what I have called structural ambiguity before. Interpretation is to do with “the search for the referent on the grounds of a given meaning plus the circumstances in which this meaning is presented (context, situation of the speaking event, background knowledge of the interlocutors etc.)²” (Ebeling 2006, p. 27). In a sentence like “five men are carrying five tables,” for instance, some interpretation might be required for understanding it correctly, in the sense that a speaker might mean that the carrying act is performed distributively (i. e. five men each carrying five tables) or collectively. There is no semantic or syntactic indicator for the distributive meaning, however. The object of the action the agent, consisting of five men, is performing, is a set of five tables. The literal *meaning* must therefore be that five tables are being carried, and that the carriers are the five men. In practical use, however, a hearer would be able to come to a distributive interpretation given an appropriate context. This is interpretation. *Structural ambiguity*, on the other hand, arises when there are two literal meanings, from which context would have to serve to select. In turn, multiplicity of meaning arises when certain grammatical features serve to lay more than one type of connection. The semiotactic framework is concerned with the meaning of a

² “Interpretatie als proces is niet anders dan het zoeken van de referent op grond van een gegeven betekenis plus de omstandigheden waarin deze betekenis wordt aangeboden (context, spreesituatie, achtergrondkennis der gesprekspartners, e.d.)” (Ebeling 2006, p. 27)

sentence, which it analyses by taking the meanings of the words in the sentence, and analysing the manner in which they interact, which is indicated via functors. When a sentence fails to properly indicate unambiguously the manner in which such interaction is to take place, the ambiguity is structural, as it occurs within the semiotactic structure rather than outside it.

The Saussurean ideal is also foundational to Ebeling's conception of hierarchies in the structure of language, which divides it up into the levels presented below.

Formal Hierarchy:	Semantic Hierarchy:
form of message unit	meaning of message unit
formal sentence	semantic sentence
word	independent meaning
(micro)morph	(micro)seme
phoneme	semantic particle
[formal inherent feature]	[semantic inherent feature]

Fig. 1 – Level Hierarchies within Semiotaxis (Ebeling 1978, p. 25)

Although various elements are placed adjacently in the table above, units need not be on an equal level formally and semantically. As an example of this, Ebeling presents the example message unit “He bought it. For his nephew” (1978, p. 28, italics removed), which semantically is one sentence, but formally consists of two. Of particular interest to the present paper is the semantic aspect of language, and within fig. 1 an interesting claim is also presented, namely that of the *semantic feature*. This is not a unit on its own, but a property which forms part of the meaning of a word. The meaning of a word is thus constituted of such elements, in the same way that a phonological word is construed out of phonemes. The evocation of such a set of features gives rise to a *projection*, a mental image, within the mind of the hearer, an image of an object or situation fitting the criteria the features delineate for an *appropriate referent*. However, it is not the projection itself that is communicated. Rather, the projection is the interpretation of said word on the part of the hearer but a category of objects, which may be referred to as a *type*. This is the *meaning* of the word. For example, when I see a necklace on the street somewhere walking with somebody who has lost theirs, there are a few steps that I take before coming to verbal communication. The image in my mind of the

situation of the necklace on the floor is the *communicandum*, that is, that part of the real world I wish to refer to in order to create a projection of it in the mind of the hearer. Note that this also requires some interpretation on the part of the speaker. To come to communication, first I must *program* the information coherently, meaning I select the appropriate referent(s) to linguistically point out the actual referent. Having done so, I select the meaning I deem most appropriate in the situation. After that, I will *code* the message, that is, access the phonological form connected to the meaning. Finally, a speaker will *realise* the speech act by committing it (Ebeling 2006, p. 32). In this case, uttering the word *necklace* itself might suffice. The hearer may then envision a specific necklace they recall from memory (this would be the projection), but what I have actually communicated is the category to which every necklace belongs (the type), by invoking the semantic features which an object must possess to be referred to with the word *necklace* in English. Any actual necklace would be an *appropriate referent* in this case. Every single object fitting such a category will be referred to as a *token*. On a higher level, every word contributes such a set of properties, all of which interact to help the hearer to form a single *complex projection*, that is to say, an image of the conveyed situation or portion of the world. The image a person might have of the situation is interpretation. The situation in the real world is the referent. Any situation within the real world that fits the parameters set forth in the linguistic data is an appropriate referent.

Although the above may sound highly psychological, it is as far as Ebeling will go in the discussion of the psychology behind language. To him, “the potentialities of language should have precedence, in linguistics, over the abilities of man” (Ebeling 1978, p. 8), meaning that the linguistic data must stand on its own in analysis. The consequence of this is also that interpretation (to which metaphors are also confined) is not speculated on. Only the conveyed information is important, not what a hearer will make of it. Interpretation is a

crucial aspect of language, but it is by definition not present in the linguistic data and is therefore outside the scope of a study of linguistic structure.

2.2 – Representation in the Semiotactic Framework

What follows is a short explanation of some of the essential symbols and their application, taken from both Ebeling's *Semiotaxis: over theoretische en Nederlandse syntaxis* (2006) and *Syntax and Semantics: A Taxonomic Approach* (1978). There are some changes that have occurred over time in the function of some of these. If this occurs, a selection will be made for one of these definitions.

2.2.1 – The sigma (Σ)

The most ubiquitous symbol within the semiotactic theory is the sigma, which normally dominates (i.e. is placed directly above, and thus contains the information described by) the *nexus* (=). The 'bare bones' of a notation of a sentence thus come to look like fig. 2 below:

$$x \quad \begin{array}{c} \Sigma \\ = \end{array} \quad y'$$

Fig. 2 – basic notation of a sentence in general

In the above notation, the apostrophes are added to show that it is a semantic notation. The sigma itself adds no information of itself to the meaning of the notation, it simply contains the sum of all elements below it. This is necessary, because it allows us to specify the occurrence of the entirety of the situation, as will be shown below. Following de Saussure, Ebeling takes a *sign* to be construed out of form and meaning (*a*, 'p'). The *x* in the notation above is called the *first nexus member*, and the *y* is called the *second nexus member*. The nexus indicates a *convergent* relationship between the two parts, which means that each part of them contributes to the same projection (in this case the complex projection the sentence presents), but neither *x* nor *y* are convergent with the result of their relation. For example, in the sentence *the boy eats an apple*, both the boy and the apple are part of the same situation, but the sentence as a whole neither describes a kind of boy nor a kind of apple. Before elaborating on this example,

it should be noted that the example of the lost necklace above contains no nexus relationship.

The word *necklace* used as a complete message unit would simply be noted as is shown

below:

‘ Σ ...
necklace’

Fig. 3 – Notation of message unit *necklace*

This type of notation is taken to mean “such a situation Σ that x is a component of Σ^3 ” (2006, p. 195), whereas the description of fig. 2 is “such a situation Σ that an element x of Σ is identical to y^4 ” (2006, p. 195). Ordinarily, however, a sentence fulfills this function. Going back to *the boy eats an apple*, we would consider *the boy* the first nexus member, and *eats the apple* the second nexus member. Ebeling recognised the similarity between these two terms and the terms *subject* and *predicate*, but to distance his theory from earlier theorisation, he coined his own terms for these two roles.

2.2.2 – Divergence and the assignation of roles

The sentence *the boy eats an apple* unambiguously conveys that the boy is the eater, and the apple is the undergoing party of the boy’s eating activity. There are therefore two roles to be assigned to the correct projections. Further, the verb is the element which assigns these roles.

These facts combined lead to the following notation:

‘ Σ ...
boy... = [x; x eats y]
[y; x eats y] ; apple...’

Fig. 4 - Assigned roles in *the boy eats an apple*

Going back to the description of a sigma with a nexus, it may seem that the boy is being made to be identical to apple-eating in general. However, the fact that the undergoer of the activity, the apple, is placed on a different line means it is *divergent* to the boy, which means that they

³² “Een zodanige situatie Σ dat x een bestanddeel van Σ is” (2006, p. 195)

⁴ “een zodanige situatie Σ dat een bestanddeel x van Σ identiek is met y ” (2006, p. 195)

are not part of the same projection. Rather, the notation shows that, at the time in which the projection takes place (see 2.2.5 for a discussion of time), the boy is the actor of an eating-event, whereas the apple, being divergent and thus a separate entity within the situation, is the undergoer of that event. The verb, although occurring in two divergent lines, has a single meaning, namely one “of a relation between entities in the world” (1978, p. 148). The brackets serve to symbolise the unity of meaning between the complementary *relational features*. In other words, the meanings of the participants are separate, but they both play a role in a single event.

2.2.3 – Functors

The nexus relation described above is not the only one that can be expressed in language. For example, we may specify an element within the sentence, e.g. *the hungry boy eats an apple*. By applying what is commonly referred to as an adjective, we specify the subgroup of boys to which we refer, that is to say, only hungry ones are applicable. This relationship would be expressed using the symbol “–”, which expresses *limitation*, that is to say, it limits the appropriate referents of “boy” to those boys which have the property that they are hungry. This property is placed to the right of the word describing the category. *The hungry boy* would thus be noted as ‘boy – hungry...’ A symbol such as “–” is referred to as a *functor* or a *relational symbol*. The relationship described above also applies to the article, for which the symbol “DEF” has been created by Ebeling, which denotes that “a kind or mass, or an auto-prominent subcategory of a kind, or (a unit of) an auto-prominent subkind or submass, or an element of an auto-prominent small, functionally delineated subcategory⁵” (2006, p. 112). The important word in this description is *auto-prominent*, which can be described as “contextually highlighted.” For example, when faced with a boy and a girl, saying “the boy eats an apple” tells the hearer that the appropriate referent is found within the auto-prominent

⁵ “een hele soort of massa, of een auto-prominente deilverzameling van een soort, of (een exemplaar van) een auto-prominente deelsoort of deelmassa, of een element van een auto-prominente kleine, functioneel afgebakende deilverzameling” (2006, p. 112).

Fig. 7 – Notation of “the very hungry boy quickly eats an apple”

In this instance, the eating action is what is specified by *quick*. Note that within the notation, every *syntactic index*, e.g. every element showing a specific relationship without itself attributing it, e.g. *-ly* on “quickly,” is removed from the notation. This implies that a word such as *hungry* is, in fact, itself the root, of which *hunger* is an abstraction.

The distinction between gradation and limitation is one that, by experience, may often lead to confusion. For this reason, I believe it is important to quote an interesting example in which the distinction may at first sight be unclear (adapted from Ebeling 2006, p. 249):

“He is waiting on the square”

‘... waiting – [x; 1ON y]
[y; “ ”]; square...’

Fig. 8 – First notation of “He is waiting on the square”

“He is waiting on the world to change”

‘...waiting > [x; 2ON y]
[y; “ ”]; Σ ...
world = changing’

Fig. 9 – First notation of “He is waiting on the world to change”

“1ON” may be defined as “having *y* as a point of support,” whereas “2ON” means something like “aimed towards *y* in a way that is relevant for the independent unit that is the referent of *x*, based on an aforementioned or implied property of this independent unit” (2006, p. 249). It is not due to the definition of these elements that gradation is used rather than limitation.

Rather, it is the fact that the person under discussion himself is on the square, which in itself is true independent of the waiting, causing the waiting to take place on the square, that is expressed by the first notation. In the second notation, however, the waiting action is specified to be geared towards the signal. Limitation, then, in that position does specify the action, but it does not alter it, whereas gradation does alter the action itself.

The final functor to be discussed preliminarily is that symbolising a relation of *stratification*. For this purpose, Ebeling uses the symbol “/”, and it essentially quantifies independent elements within a sentence. For instance, when we say “two newspapers,” we take an projection of the independent unit “newspaper,” and then multiply it as a whole. This type of specification is nearly omnipresent in the English language, as the language makes use of the pluraliser –s. By inference, every instance of an independent unit without this marker refers to a single instance of such a unit. Extending the previous example sentence, taking the sentence *the very hungry boy eats apples*, the notation would thus become:

$$\text{Boy – hungry} > \text{VERY / SING – DEF} \quad \overset{\text{'}\Sigma\text{'}}{=} \quad \begin{array}{l} [x; x \text{ eats } y] \\ [y: \text{ “ } \quad \text{ ”}]; \text{ apple / PL – INDEF} \end{array}$$

Fig. 10 – Notation of “The very hungry boy eats apples”

As the above notation shows, *the boy* is both definite and singular, whereas *apples*, although there is no article present, is indefinite. This meaning is evident, because the contrast with the same element with *the* is as clear as it is in the case of a singular with *a(n)* contrasted with the same word occurring with *the*. When a plural occurs on its own, then, it may be taken to be indefinite, i.e. not auto-prominent.

2.2.4 – Immediate Constituent (IC) Structure

Regarding the above notation of the sentence *the hungry boy eats apples*, the question might arise what motivates the order in which elements appear in the notation. This has to do with the way in which the elements interact with one another. For the order in which they interact, Ebeling uses the term *Immediate Constituent structure* or *IC-structure*. They essentially come in two kinds: *progressive relations* and *regressive relations*. A regressive relation is construed from right to left, whereas a progressive relation is formed from left to right. Limitation, for instance, creates progressive relations, as is shown below (units bracketed together are specified together): *the young big dog* (2006, p. 50):

'(((dog – big) – young) / SING) – DEF'

Conversely, the gradation relation is regressive, which, in the case of *the very hungry boy* creates the following relation:

'((boy – (hungry > VERY)) / SING) – DEF'

The earlier prepositional examples highlighting the difference between gradation and limitation serve to show the importance of such IC-structure rules in practice. Consider “he is waiting on the square” once more. Above it has been stated that limitation provides a regressive relationship between the elements within the sentence. Applying this rule in this example yields the following IC – structure:

'Σ...
(he = waiting) – [x; 1ON y])
[y; “ ”]; square...'

Fig. 11 – Second notation of “He is waiting on the square”

This notation shows that is both the agent and the waiting event that are specified. However, if we take the second example, “he is waiting on the world to change,” gradation is applied, which, through its regressive relationship, clearly shows that the prepositional phrase interacts with the verb before committing to its relation to the element fulfilling the agentive role:

'Σ...
(He = (waiting > [x; 2ON y]))
[y; “ ”]; Σ...
world = changing'

Fig. 12 – Second notation of “He is waiting on the world to change”

2.2.5 – Tempus, Intention and Mode

A close reader of the explanation above might have noticed that next to the sigma, symbolising the entirety of the situation described below it, three dots have been placed to show that the notation was not complete. Three elements have so far been missing: tempus, intention and mode. These three things all specify the entirety of the situation, which is why they are supposed to appear as convergent elements to the sigma.

Tempus is probably the most obviously missing element in the notation. In English, information concerning this is provided as inflection on the verb, or through the use of modal verbs. The above examples have all been given in the present tense, which is symbolised as “PR.” However, the precise definition of this element is harder to give than it seems. We might use present tense to refer to an event in the future (e.g. *the train is leaving in the future*) or in the past (e.g. as part of a story: *so the train leaves, and guess who sits next to me?*). It may be said that with reference to the *narrated time*, the events described occur, wholly or partially, in the present. The narrated time may be perceived as the referent of the time in which the situation is said to (have) occur(red), and therefore is arrived at through interpretation. The marker for the present tense may be contrasted to the symbol “PA” (for past tense), and to the notation of “WILL” on the sigma line. This is at variance with the notations proposed by Ebeling, who uses “NPR”, for *non-present*, and a notation of the verb “will” within the notation of the sentence, rather than lifting it to the line of the sigma. It is here assumed, however, that the future tense is, in fact, a tense, and that “will,” although syntactically behaving like a verb, semantically contributes this. This also negates the PR / NPR opposition held by Ebeling, as these are not assumed to be the only tenses anymore. “Non-present,” therefore, does not express everything that “PR” does not, which is why the symbol “PA” is used instead. The connection between the time and the situation is one of stratification, because such a tense expresses something about the regularity or unicity, with which a situation occurs, and is therefore essentially a quantitative matter.⁶

Apart from that, every sentence has a meaningful word order (for which Ebeling uses the word *modus*.) In English, the word order SVO expressed in *I eat apples* itself, although inconspicuously, does itself also add meaning to a sentence, namely that the projection it

⁶ I would like to thank Frits Kortlandt, who has helped me understand the semiotactic framework in more detail through personal correspondence, especially for the adaptations to Ebeling’s original semiotactic model here described: using stratification rather than any other type of functor to the sigma, and the distinction of future tense as separate from the present tense.

represents is presented as being perceived by the speaker to be part of the real world (symbolised by “REAL”) which means that it is “projected in the mind of the speaker as something of which he assumes that is present in the time in which the projection situates it” (Ebeling 2006, p. 290). However, what a sigma conveys is only the complex projection resulting from someone’s words. Such a construction has no necessary relation to the actual state of affairs in the real world. For this reason a lie is not ungrammatical. A language in which this is the case has yet to be invented.

However, we may also ask *do I eat apples?* which, by the invocation of the auxiliary *do*, changes the word order to what Ebeling describes as “hypothetical” (symbolised as “HYP”), which means that the situation is “projected in the mind of the speaker as something of which he is not sure if it or the contrary is present in the time in which that projection situates it” (Ebeling 2006, p. 290).

Finally, the intonation (*intention* in Ebeling’s terminology) of a sentence is also important to its meaning. For example, when asking *do I eat an apple?* the usual intonation is one which rises toward the end of the sentence, whereas the sentence *I eat an apple* is likely expressed with more neutral or even falling intonation toward the end. The intonation pattern prototypically employed with a question would be symbolised by “INC” (for “incomplete”), and is defined by Ebeling as expressing that the described situation is “something of which the speaker shows that the given projection of it without further information is not necessarily the correct one” (2006, p. 290). The prototypical propositional sentence intonation is symbolised as “DECL” (for “declarative”), and it is used when expressing “something of which the speaker shows that the given projection of it is correct” (2006, p. 290). The distinction given above between intonation and word order would only be relevant if non-prototypical combinations (e.g. “HYP – DECL”) also occur, which is frequently the case. A “REAL” mode could be used in combination with a “HYP” intention, for instance, to

express the expectation that the answer will be affirmative (e.g. a question aimed toward a partner could be “you have been to the store?” when you find new groceries in the cupboard). On the other hand, the combination “HYP” and “DECL” could be used to express something like disapproval (e.g. “how could you do that?”). The relation between both mode and intention, and the situation itself, is one of limitation: it defines the category of situations the projection falls into. A question would, for instance, fall into the realm of the possible, a propositional statement would fall into the realm of the true situations etc.

The framework presented above will, in the coming chapters, be used to elucidate the polysemy of sentence positions, when regarded as grammatical units in and of themselves. To do so, it is important to present minimal pairs of sentences, in which the adverbial or the modifier takes a different place (i. e. minimal pairs in which only the grammatical unit of the adverbial or the modifier has been changed), and to analyse the difference this makes in the meaning of the sentence. Moreover, it will also be used to show that there are, in fact, different relations that the same grammatical unit can forge between the adverbial and the rest of the sentence, thus not only proving the element’s polysemy, but also elucidating the different relations themselves.

3. Work on adverbials from other linguistic perspectives

A number of different researchers have also provided significant insights into the semantics and syntax of adverbial elements. The present study will also base itself on some of them, whilst the theoretical framework they approach the subject from will be problematised. In order to indicate why for this paper the approaches adhered to by these researchers have not been taken, the advantages and disadvantages of these approaches must briefly be inventorised, which will be done in the present chapter. In the first paragraph, Bartsch’s *The Grammar of Adverbials – a study in the semantics and syntax of adverbial constructions* (1971) will be discussed, as at first glance the way in which she approaches the topic seems to

be nearly identical to that of the semiotactic framework. After that, some approaches to specific topics discussed in this paper will also be taken into account, in order to show where the analyses of various phenomena are likely to occur. In the second paragraph, for example, Takahashi (1981) will be discussed, whose contribution will be important to the chapter on disjunct placement. Furthermore, Hasselgård (2010) and its theoretical assumptions will be inventorised, to come to a conclusion as to the compatibility of it with the semiotactic framework.

3.1 *Bartsch's The Grammar of Adverbials – a study in the semantics and syntax of adverbial constructions (1971)*

A question that might be raised at this point is why anyone should bother to provide these notations, when Bartsch's volume explores the same topic, even in more detail than it is here, paying special attention to "the semantic values of syntactic relations" (1971, p.1). She approaches the problem from a structuralist point of view as well, so how could this paper bring anything new to the table? To explore this question, first some marked similarities will be pointed out, before the differences between the two language models will be discussed. It is in that section that the choice for Ebeling's semiotactic model will be motivated.

Firstly, a marked similarity between the approach taken in this paper and in Bartsch's book lies within the definition she holds for a category. She employs a predicate logic model to analyse sentences, and states that "logical analyses provide an explanation if... different subclasses of adverbials... correspond to different logical analyses... Notice however, that an adverbial that can fulfill various functions will appear in various subclasses" (p. 2). It is striking that this is exactly the view held here: when a sentence with an adverbial demands a new semiotactic notation, it must be recognised as a new category. In this the two approaches are identical. Apart from that, another similarity lies in the manner in which ambiguity is dealt with. This is demonstrated by Bartsch's discussion of Greenbaum's (1969, p. 7) sentence "he

strangely answered the question.” This sentence is ambiguous (it can either mean that the answer given was strange, or that the fact that the question was answered was strange), as is recognised by Greenbaum, but his discussion of this ambiguity departs from the present analysis markedly. The same is true for Bartsch’s analysis: “there are good reasons to assume... that ‘strangely’ has in both cases the same meaning but its relation to the other parts of the sentence is different in the two sentences” (p. 11). On this point the semiotactic analysis also seems to fall in line with Bartsch’s.

There are, however, also significant differences between her approach to the problem of categorising adverbials and the semiotactic approach to it. For one, her reliance on a system of transformation, as proposed by Zellig Harris (1968), meaning that the application of a certain type of operator to an extant sentence prompts its rewriting into another form, is a claim on the psychological nature of language, which is a step which Ebeling deliberately avoids. For him, the linguistic output itself is an autonomous system, not a derivate of another, cognitive, system. The most fundamental distinction between the two approaches, however, is that Bartsch comes to a categorisation of a high number of sentence adverbs by placing them in 42 different sentence constructions in order to see whether or not the result can be considered grammatical. Many of these contain more than one sentence, however, e.g. “SENTENCE. Und das ist ADJ_A” (1976, p. 17). Bartsch, then, argues that “a logical analysis comprises not simply an analysis of isolated sentences, but rather is concerned with texts or even with suppositions that are not made explicit” (p. 4). Approaching language from the semiotactic perspective, however, the sentence is the largest autonomous part of speech. Since grammatical structures, which are the focal point of the present study, only occur within the sentence and elucidate sentence-internal structures (exceptions being references, which are made via a lexical meaning of autoprominence), this method is not usable for the present

aims. Whether the combination of two sentences can be regarded as grammatical or not, seems to be within the realm of logic, then, rather than the realm of grammar.

3.2 *Takahashi's On So-Called Speaker-Oriented Adverbs - How a speaker appears in a sentence (1981)*

Hedemitsu Takahashi is, first and foremost, a cognitive semantician. That is to say, rather than purely being interested in the semantics of the words themselves, for instance in the way that they appear in the dictionary, his aim is to extrapolate information about the processing of this information from this. As Takahashi (1981) points out: “to get the semantic realities behind [sentence adverbs] and, in connection with this issue, to get a deeper insight into the way language and mind work together” (p. 2). This quote is telling regarding the differences in perspective to language between Ebeling and Takahashi. Rather than taking the linguistic data as a code, which not only provides information and links it via grammar, Takahashi seems to be more interesting in the effect of the code. It is thus not regarded as a carrier of information exclusively, but also as something that may have an effect on the mind that is independent of the raw data. This effect is what Ebeling would describe as interpretation, and since Ebeling only sees the language itself as his goal, it is left out of the equation. Both approaches to languages are essential in the end for a full understanding of what functions language actually has to us, but since they start out on opposite sides of the paradigm, significant differences may be said to arise from this.

3.3 *Hasselgård's Adjunct Adverbials in English (2010)*

This essential book by Hasselgård comprises an in-depth corpus-based analysis of adverbials. As an initial comment on such elements, Hasselgård states that “they tend to be negatively defined as elements that are not verbs and that do not have a participant function in the clause (2010, p. 3). Interestingly, when this definition is strictly adhered to, modifiers would also fall into it. For the purposes of the present essay, this blurry distinction between the two highlights

the similarity between the two. It is this similarity that also makes it possible for there to be sentences in which ambiguity exists between either category. Hasselgård, however, restricts herself to adverbials specifically, i. e. elements that “are often said to provide the answers to questions such as *how, where, when, why?* (e. g. Crystal 2008, p. 14)” (Hasselgård 2010, p. 3). Before getting to the core of her study, she mentions a number of her research questions, some of which overlap with my own. For instance, she notes that her first research question “has to do with the range of meanings that can be identified in adjunct adverbials and the means by which these are realised” (p. 4). This is also true for the present study, although not to the same extent as to Hasselgård, as she inventorises every category distinguished. Another interesting resemblance is found in her point that “it is interesting to investigate what positions in the clause are available to different types of adjuncts and what factors determine their placement whenever more than one position is possible” (p. 4). This question exactly coincides with the goal of the present study. The classification she employs is also one that is similar, as she, too uses Quirk et al. as one of her sources. However, her functionalist approach sets her work apart from that of Ebeling, in that the practice of using the English language is more important to her model than it is in the present study. Hasselgård detects significant differences in the use of types of adverbials in different positions, and tries to explain these, not simply through the semantics of the combination of that position with a certain kind of adverbial, but also through general cognitive tendencies (e. g. the *weight principle*, which dictates that longer adverbials are more likely to occur in end position). Such considerations are not important for the present study, as it will be focused almost exclusively on the semantic contribution of a sentence position, and not its actual usage. That is to say, there may be extralinguistic cognitive processes which influence the way in which speakers construe meanings, and this is important to research, but it has no direct bearing on what is and what is not grammatical, or on the meaning of certain constructions. Regardless of how

often they occur, and what processes might limit the number of occurrences of certain constructions it is their meaning that is here being researched. In this regard, the present study may be considered formal. Another important point to be stressed is that Hasselgård also analyses sequences of adverbials and their interaction, which falls outside the scope of the present study.

4. The study of adverbials and Modifiers

The field of the adverbial has long been an item of heated discussion. Chomsky (1965) stated that “adverbials are a rich and as yet relatively unexplored system, and therefore anything we say about them must be regarded as quite tentative” (qtd in Austin et al. 1997, p. 1). Since that time, many linguists have worked on this aspect of language. The domain of adverbials has for a long time been categorised along the lines of semantics, which clearly influences an adverbial’s placement possibilities. The problem is, however, that at this point no consensus concerning the delimitations of semantic categories has been reached.

Hasselgård (2010) provides an excellent literature review of such categorisations. Her study is geared towards the analysis of adjuncts, but for her study it is also important to distinguish what can be considered an adjunct in the first place, as opposed to such categories as disjuncts (section 5) and conjuncts. For her research, she combines the categories proposed by Biber et al. (1999), Quirk et al. (1985), Huddleston and Pullum (2002) and Halliday (2004). In the present section, the categorisation of the various types of adverbials extant will be delineated and presented, along with a concise overview of modifiers. First of all, the disjunct will be described, its placement possibilities, its potential semantic contributions to the sentence, and the various types of disjuncts that exist. The categorisation thus found will be used to structure the semiotactic analyses given in section 5 and beyond. In section 4.2, I will briefly discuss other non-adjunctival adverbials, i. e. conjuncts and subjuncts, whose definition and delineation will largely be based on Quirk et al. (1985). Moving on, a section on modifiers will be presented in section 4.3, as these elements often serve to cause ambiguity. In the final paragraph of this section, adjuncts, being the most versatile category discussed, will be discussed.

In this paper, the previous categorisations of adverbials will be explored to base the present research on them. This will be done to ensure the completeness of the research later

performed, but it will not be assumed to be complete in its present form. The semiotactic operations that will be found to be attributable to the adverbials discussed will in the end result in a different classification, based on the type of semiotactic function the adverbial will be shown to have. Semiotaxis being the precise tool for showing grammatical relations that it is, there is little doubt that using this method of analysis will delineate some new categories. The overlap with existing classifications cannot *a priori* be predicted. Such a preliminary overview as given in 4.1 ensures that every type of adverbial will be taken into account, and that none will be left out due to a lack of imagination on the part of the researcher. The analysis by Hasselgård (2010) will be taken as a basis for the section on adjuncts, while Quirk et al. (1985), as it combines the insights by a variety of researchers into a single inventory, which will, for the purposes of this paper, be assumed to be complete in subsuming all forms of adverbials present in English. In the final paragraph of this chapter, the various types of sentence positions, as delineated by Quirk et al. (1985), will be presented, along with a specification for the purposes of the present paper.

4.1 – *The Disjunct*

A disjunct is an element that is placed at one of the extremities of the sentence, and provides information concerning truth value, certainty, attitude, or speech-act related information. An example of this would be *clearly*, *in all honesty*, or *regrettably*, in the sentence below:

- (1) *Clearly*, you were lying;
- (2) *Seriously*, it was the best I've seen yet;
- (3) *Regrettably*, Greta believed it.

The function of the disjunct in the first example would be a contribution on the truth value of the sentence, whereas the second example would be an instance of what is called a *style disjunct* by Quirk & Greenbaum (1973, p. 242), which means that it “implies a verb of

speaking of which the subject is the *I* of the speaker.” This explanation shows that it is a comment of the speaker of his own manner of speaking.

It should be noted here that it is not a property of the word(s) themselves that makes an adverbial a disjunct. For example, *clearly* in the first example could also occur next to the verb, i. e. *you were clearly lying*, in which case it would not be a disjunct anymore, but an adjunct of manner. This has to do with the fact that the disjunct is a comment that applies to the entirety of the sentence, not simply to the verb of that sentence, which it would specify in that case. There are a number of ways in which they interact with the entirety of the sentence. Each of these will be discussed separately in paragraph 5.

4.2 – *The Conjunct*

The conjunct is an element that has a specific function, namely to connect the situation described in one sentence to the next. Elements like *furthermore*, *likewise*, *firstly* etc. are all classified as conjuncts (Quirk et al. 1985, p. 440). The scope of a semiotactic analysis, however, reaches no further than the sentence level. This means that the function of the element must be regarded either as adding information only to one sentence (which would lead to a definition of the words, rather than an actual semantic link) or as creating one sentence out of multiple sentences. However, given the fact that these elements are so specialised and so restricted in the forms in which they occur, means that these elements are not interesting in an analysis on ambiguity, and will thus be excluded from the present paper.

4.3 – *The Subjunct*

The subjunct is a category proposed in Quirk et al. (1985), which essentially takes the semantic properties described above as being concerned with the perspective from which a certain situation is presented. This category is distinguished by Quirk et al. by showing that ambiguity can arise solely due to the difference between an adjunct and a subjunct. Consider the example below:

- (4) “This play presents *visually* a sharp challenge to a discerning audience”
(p. 566).

The ambiguity in this sentence is caused by the possibility of the italicised word being taken either as a manner adjunct (i.e. “with his eyes (alone)” (Quirk et al. 1985, p. 566)) or as a subjunct, which would relate the meaning *as a visual experience* (p. 566). Hasselgard, in her analysis of adjuncts, states that “it is noted that it is often hard to draw a line between subjuncts and adjuncts of time” and that she “I choose to follow Biber *et al.* (1999) in

disregarding the category of subjuncts and rather, include all time and degree adverbials along with focus and viewpoint adverbials among the adjuncts” (2010, p. 23).

Wherever these elements can be distinguished from the more prototypical adjuncts in section 7, a separate notation will be given. No separate section will, however, be presented as part of the present paper, as they will here be assumed to be specific types of adjuncts rather than a separate adverbial category altogether.

4.4 – *The Modifier*

A final element that is also not adverbial is the modifier, which in a specific number of cases can lead to ambiguity. The term “modifier” may be considered an umbrella term, in a sense similar to the term *adverbial*. What it covers are elements within a sentence that specify independent entities in a sentence. A normal single-word adjective like *red* in *the red ball* would already be an instance of a modifier. More complex structures can also take this role:

- (5) The man *with a red baseball cap that he bought at the souvenir shop*.

In the sentence above, the italicised part of the phrase all has the function of specifying which man it is, and therefore plays the role of modifier in this sentence. Because much ambiguity arises from modifier phrases like the above, it is important to analyse in what positions in the sentence such elements may appear and what other factors play a role in such ambiguous

cases. This phenomenon will be analysed in paragraph 6. These analyses will confine themselves to modifiers of place and time, for the reasons that 1) together they subsume the majority of postpositional modifiers; and 2) the differences between concerning potential positions are semiotactically interesting. This analysis will be presented in section 6.

4.5 Adjuncts

Within the literature review Hasselgård (2010) presents, it is shown that different terms are used by different analysts (e.g. Biber (1999) “circumstantial adverbials,” Halliday (2004) “circumstantial adjuncts”), for essentially the same category. Moreover, many different definitions exist of the same category. However, the end result of their subdivisions seem to point to similar distinctions: every grammar consulted agrees on the fact that adjuncts can contain information on location or movement, time, process, contingency, modality and degree. Hasselgård, making sure to come to as thorough an analysis as possible, takes the most inclusive approach to the differences that exist between categories, to come to the semantic categorisation given below (fig. 13).

<i>Adjunct category</i>	<i>Meaning subcategories</i>
Space	Position, direction (goal, source, path), distance
Time	Position, frequency (definite, indefinite)
Manner	Duration (beginning, end, span), relationship
Contingency	Cause, purpose, result, condition, concession
Respect	Domain, regard, matter
Degree and extent	degree, dimension, intensifier
Participant	agent, beneficiary, source, behalf, product
Situation	
Comparison/alternative	
Focus	
Viewpoint	

Fig. 13 – Hasselgård’s semantic classification of adjuncts (2010, p. 39)

Within every main category here described by Hasselgård there exists the implicit research question of whether or not they each require a separate treatment within the field of semiotaxis. Apart from that, between each of the distinguished subcategories, the same question also exists: will every subcategory of adjuncts behave identical to the other ones

found in the main category? If an inquiry into this matter delves deep enough, it should be possible to generalise on the findings, and will either confirm or disconfirm the present subdivision. If not, it will be necessary to establish a new categorisation, based solely on the relations that the adjuncts form with the rest of the sentence. Given the constraints of place and time placed on the present paper, however, a selection will have to be made. The fact that the disjunct confines itself to three different domains, namely modality (here to some degree convergent with “contingency – condition”), style (convergent with “respect”) and attitude (respect – regard), and the modifier analysis will confine itself to place (place) and time (time and duration), along with the fact that the adjunct has the potential to provide information on all of these elements, means that a thorough analysis will have to include these subcategories of the adjunct. They will be analysed and presented in paragraph 7.

4.6 *The Sentence Positions*

The semantic contribution is not the only manner in which adverbials and modifiers distinguish themselves from each other. Another factor to be borne in mind is the position within the sentence in which they occur. On this subject, some discussion still exists. What most analysts seem to agree on, is that “adverbials probably illustrate better than any other grammatical category the interdependency between grammar and meaning. Syntactic criteria for ‘adjunthood’ fail to capture all adverbials that ought to go in the adjunct category for semantic reasons” (Hasselgård 2010, p. 20). Many analysts (e.g. Jakobson 1964, Quirk et al. 1985) agree on the fact that adjuncts can occur in initial, medial or end position. The initial position is defined as “the position(s) before the obligatory elements in the clause” (p. 42). With “obligatory elements” are meant the subject and the verb. The medial position, then, is somewhat harder to define, because there are a number of different positions, distinguished by Quirk et al. (1985, 1973), to fit under this umbrella term:

M1: (a) immediately before the first auxiliary or lexical *be*, or (b) between two auxiliaries or an auxiliary and lexical *be*;

M2: (a) immediately before the lexical verb, or (b) in the case of lexical *be*, before the complement; (Quirk and Greenbaum, 1973, p. 208-9)

On these two terms, they rightly point out that “if there are no auxiliaries present, *M1* and *M2* positions are neutralised” (p. 209). In Quirk et al. 1985, however, another medial position is distinguished (termed the “initial end position” (1985, p. 499):

M3: in the position between the verb phrase and some other obligatory element, viz. an object, a predicative, or an obligatory adverbial;

As the term quoted above shows, they consider it part of the end position, but most other analysts do not. Syntactically, it is easy to argue against this position, but doing so on the grounds of semantics requires some research. The end position, finally, is found completely after all obligatory elements.

However, it seems pertinent to refine the distinction presented by Quirk et al. slightly to give a complete analysis of the modifier. Specifically, the distinction must make it possible to stay neutral on the grammatical position of the elements under discussion. In other words, when Quirk and Greenbaum (1973) define the initial position as “before the subject” (p. 208), we should think of the subject purely as the element that on its own could fulfil the role attributed to it by the main verb. Similarly, when the term *object* is used, we should only think of the object as the element that can fulfill that role on its own. For example, going back to the sentence *I shot an elephant in my pyjamas*, for analysis it is important only to refer to “I” and “an elephant” as the subject and the object respectively. This way, elements providing additional information, of which it is unclear before analysis if they are modifiers or adverbials, can still be said to take a specific position. In “I shot an elephant in my pyjamas,” then, “in my pyjamas,” whether it is perceived as a modifier or an adjunct, can still be said to

be in the same sentential position, namely the final position. The positions thus delineated will be assumed to represent all possible positions for adverbials and possibly modifiers. They are the grammatical features of which the polysemy will be tested, as it is this polysemy that creates the kind of ambiguous sentences here discussed.

Finally, there are a number of different ways to realise adverbial functions. Quirk et al. (1973), distinguish six different types: adverb phrases, noun phrases, prepositional phrases, finite verb clauses, non-finite verb clauses (containing an infinitive, an *-ing* particle, or an *-ed* particle), or a verbless clause (p. 207). To a large degree, this subdivision corresponds to the adjunct functions Hasselgård (2010) distinguishes. However, she does add a separate category for single-word adverbs as separate from adverb phrases (as do Austin et al. (1997, p. 2)), and collapses the various types of non-finite adjunct phrases into one group. Whatever the case, it is not the aim of the present study to be exhaustive in distinguishing all of these, only to determine what sort of semiotactic information can be contributed by the sentence position viewed as a grammatical unit. Therefore, what sort of adverbial is more likely to relate in what way to the rest of the sentence is not a question to be answered here, although future research may elucidate this, to give an even more detailed picture of ambiguity caused by these elements.

4.7 – A note on simplification

Since the present study will be performed using the semiotactic model, a high number of notations will be given in the following chapters. There are some ways in which these can be abbreviated, to make this paper more accessible. One way to do so is to change the valency notation used above, e.g. $[x; x \text{ IN } y] / [y; x \text{ IN } y]$, to $[\text{in}1] / [\text{in}2]$. This will reduce the effort of keeping track of the letters and their corresponding elements. Moreover, unless it is important to the explanation of the phenomenon at hand, such elements as modes and intentions will be omitted. The temporal notation, however, will always be maintained next to the sigma sign.

Apart from that, whenever an independent element is notated, it will be taken as given from the example sentence whether or not it is definite or indefinite, singular or plural. These symbols will not be included beyond this point. However, such abbreviations as are not discussed here, but deemed possible without diminishing the explanatory value of the notations, may be left out although they are also present in the example sentences. In such cases, triple dots are used to denote the omission of a part of the sentence (e.g. *the big round green cabbage* → ‘cabbage...’). Using these methods will insure that every notation is as to-the-point as possible.

5. The Disjunct

The present chapter will be dedicated to the analysis of the various types of disjuncts distinguished in chapter 3. Disjuncts are a specific set of elements that provide information concerning truth value, certainty, attitude, or speech-act related information, on the basis of their specific semiotactic contribution. An important part of this chapter will be dedicated to the sentence adverb, as this is the most prototypical form of the disjunct. Most sentence adverbs also fall within the category of the disjunct, but the category actually subsumes some adjuncts as well, an exposition of this category will be presented in paragraph 5.1, on the basis of which disjunctive subcategories will be presented in the following paragraphs. The discussion of sentence adverbs will be presented here within the framework of discussing disjuncts in general. In paragraphs 5.2-4, the various previously distinguished types of disjuncts will be discussed, based on analyses by Bartsch (1971) and Takahashi (1981), along with a semiotactic notation of the meaning ascribed to these elements will be given. After that, the placement possibilities of the disjunct will be analysed, to discern whether or not the semiotactic approach to this type of element yields a new categorisation of this type of element. In this paragraph, a table will also be presented in which every possible combination of form, place and meaning will be given, to elucidate in what way these factors influence the resultative meaning of the sentence. This will be done with an aim to elucidate the sentence positions that allow for such readings, and therefore the semantic load these grammatical features can carry.

5.1 *The Sentence Adverb*

On the topic of the speaker-oriented adverbs or *sentence adverbs*, Takahashi (1981) has written an essay which explores a number of questions to be raised on the specific functions

the forms of sentence adverbs distinguished by Quirk and Greenbaum (1972). Takahashi states that his main aim with the paper is to “get at the semantic realities behind [sentence adverbs] and, in connection with this issue, to get a deeper insight into the way language and mind work together” (p. 105). Furthermore, he also wonders: “how do the sentence adverbs differ from one another in degree or quality of subjectivity?” (p. 106-7). Takahashi recognises a flaw within a transformational grammar approach to these elements: “[they] do not satisfactorily take into account the semantic properties of sentence adverbs, nor do they provide us with a precise classification” (p. 107). Schreiber’s (1971) work, for instance, tries to account for the differences between adjunctival and disjunctival adverbs on the basis of differing underlying structures (p. 92), but semantics is considered subordinate to syntax in explanation. His analysis will be compared to the one employed here on the basis of some interesting ungrammatical instances found by Schreiber, to see whether or not an analysis can be come to without reference to structure *pour* structure.

Before any of that will happen, however, first an overview of Takahashi’s work will be presented. The most important points made by Takahashi are ones based on his sentence alternants given below:

7) Perhaps

8) Frankly, Bill is better suited for the tough job than you

9) Fortunately, (1981, p.

107)

Quirk and Greenbaum consider “perhaps” to be an attitudinal disjunct of Group 1, which is defined as a “speaker’s comment on the extent to which he believes that what he is saying is true” (1973, p. 244). Takahashi prefers the term *modal disjunct* for this type of adverbial, and this term may be taken to be more accurate than the one employed by Quirk and Greenbaum. Modality will here be defined as the occurrence or non-occurrence of a situation. That is to

say, when an element provides information concerning whether or not a situation occurs, will occur or has occurred, it will be deemed to be modal. Any situation expressed through language may be taken to represent an attitude to the real world, which makes the use of the word *attitudinal* merely on the basis of modality somewhat pleonastic. Also, the likelihood ascribed to the real-world occurrence of a situation described cannot be said to imply an attitude held by the speaker. The term *modal disjunct* will therefore be employed throughout. “Frankly,” then, is what is considered a style disjunct, which “convey[s] the speaker’s comment on the form of what he is saying” (p. 242). Finally, “fortunately” is categorised by Quirk and Greenbaum as an attitudinal disjunct belonging to group II, meaning that it is a “comment other than on the truth-value of what is said.” After presenting the above example sentence, he goes on to describe the difference in modality of these forms. The present section will be structured in the same way, starting with modal disjuncts in section 5.2, which will be followed by style disjuncts in section 5.3. After that, the attitudinal disjunct of group 2 will be analysed. Finally, an overview of disjuncts and their positions within the sentence will be discussed in section 5.5.

5.2 – Modal Disjuncts (*Attitudinal Disjunct – Group I*)

In the sentence “perhaps Bill is better suited for the tough job than you,” it may be recognised that “perhaps” tells us something about the likelihood of the rest of the situation being the case. According to Takahashi, such elements may be used as “in our linguistic experience we usually do not flatly assert the thought we have in mind. Rather, we often find ourselves hesitating to make an assertion and wishing to express our feeling of hesitation” (p. 108). From the perspective of semiotaxis, I would argue that the pragmatic function a part of speech may or may not have is outside the scope of the interaction of the projections themselves, and is rather confined to the realm of interpretation. Nevertheless, his description of the function of the modal disjunct is one which corresponds very neatly with the formula given of such an

adverbial: "... *perhaps* in sentence 1 should be understood to form, together with the assertive *is* in the clause structure, the whole of the speaker's judgement about the thought 'Bill (is) better suited for the tough job than you' (1981, p. 108). Within the semiotactic framework, modal particles (among which negation can often be counted) are given a place separate from the situation itself, as reflective on the entirety of the situation rather than part of it as well, on the sigma line, as is shown in fig. 13 below.

PNJohn	= suited ...	>	[COMP ₁]
			[COMP ₂] ; you'

Fig. 13 – Notation of “perhaps John is better suited for the job than you”

As we can see, just as the tense in which the situation is presented, so the truth value of a presented situation is taken to be of influence on the number of times the situation is presented as occurring in the world. Ebeling uses limitation for this type of modification, on the basis of the fact that such an adverb adds to the situation as a whole a specification. In his example, *yesterday* and *certainly* are used, which he states leads to the following paraphrase: something that, if it is described honestly, is a situation that has existed the previous day, [and] which cannot be doubted..." (2006, p. 474). This explanation seems succinct. However, if we assume that 1) semiotactic situations are not a category of entities to be specified, because 2) every situation is construed anew through language, without structurally contrasting them directly to other situations, this application of limitation may be problematic. In order to understand this, it is important to note that, although the sigma dominates the nexus, it is not an abstraction of it. It simply contains all the information that is presented in the notation, but it does not add to this even such unifying information as abstraction. Such a sum of elements cannot be anything but itself. Therefore, if any element provides information concerning the situation, this needs to be placed under the sigma. It would seem more accurate to suggest that when temporal information as well as modal information is given, this information is not

concerned with any aspect of the situation in particular, but the number of times (if at all) the situation is claimed to occur in the real world. For example, if we say “yesterday,” we limit the number of times the situation can occur within the context of our speech act to the time delineated by that word. Similarly, if we use a modal element like “probably,” for instance, we alter the likelihood of the situation expressed having occurred. This may be analogised with arithmetic. If we add “yesterday” to a situation, this takes the situation and gives the hearer a window in which it is said to have occurred. How often it has occurred stays a matter of interpretation, but however many times it could have occurred is at least limited by the window of time that “yesterday” presents. In the abstract, this may be seen as presenting us with a number of times the event could have taken place. When we alter this through modality, it is as though we divide it by another abstract number, which expresses our level of certainty, in which case “probably” would be a higher number than “maybe.” In this instance, then, stratification also seems more appropriate.

Takahashi’s comment on Quirk and Greenbaum’s definition that it “neglects to note that *perhaps* and the expressed or unexpressed assertive constitute the whole judgement accompanying a sentence, ending up with a functional interpretation like ‘a comment on the truth-value of what is said’” (p. 108), seems to be resolved this way. It may be argued that the sigma (for which no linguistic expression exists in English), dominating the whole of the assertion, contains the assertive load of the entirety of the sentence, and it is exactly that which is modified.

An interesting finding by Schreiber, however, is that it is impossible for truth-value judgements that ascribe impossibility or unlikelihood to a given situation cannot take this place, as he shows in sentences like (10) and (11) below:

(10) *Impossibly, John was at fault;

(11) *Questionably, John was at fault (1971, p. 83)

The fact that both of them are ungrammatical, or at least illogical (in this instance I would abstain from the word *ungrammatical*, as it does not seem to contradict grammatical rules, but rather semantic ones), shows that it is not the negation in (10) that raises the problem. Schreiber poses that it is the feature [+affect] (inherent negativity) in these ungrammatical cases that creates ungrammaticality, which is usually added to modal adverbs via negation, but in the case of adverbs that are already negative, the opposite situation occurs (p. 96). Reference to such a structural feature is necessary from the transformational generative framework, as it requires grammaticality to spring solely from syntax. This unfortunately leads to the assumption that when something is ungrammatical, whatever makes it ungrammatical must be (made) syntactic. From the perspective of semiotaxis, the logic of presenting a situation may suffice. In the case of sentences such as the above, we may wonder what sort of structure they create. Whereas the interaction between “perhaps” and the situation as a whole leaves a neutral probability of the situation occurring in the real world, an element like “impossibly” paints the scenario to follow it as never occurring in the real world. Thus, we would be negating the entirety of the situation we are creating, which, at least in English, seems to lead to unacceptable results. Logically, this comes down to taking, of all the scenarios that could have been presented, one that is irrational to present, because the speaker himself deems it improbable or impossible. The difference in meaning between (10), and “that is impossible” then, in the scope of *impossible* is from the sigma to being part of the situation itself.

‘ Σ / PR / impossible
John =...’

Fig. 14 – Notation of ‘*impossibly, John left’

‘ Σ / PR
that = impossible’

Fig. 15 – Notation of ‘that is impossible’

What we may glean from this, is that it is deemed incoherent to speak of or improbable situations in English. Rather, what is discussed are situations that do occur, within which some state of affairs may or may not be improbable or impossible. When we want to negate something that is presented by another as likely or absolutely true (sticking to the above example, someone could have said “John might have left”), this negation should not be unlikely. Rather, the ascription of unlikelihood to the situation described by another should be presented as likely or absolutely true itself. The occurrence of something being improbable may therefore be considered a situation as a whole, and the language even allows us to ascribe improbability to a situation, so long as this ascription is itself a situation that is deemed at least neutrally possible.

5.3 – *The Style Disjunct*

The next example presented by Takahashi is the sentence “frankly, John is better suited for the tough job than you.” About such style disjuncts, Quirk and Greenbaum state that they imply “a verb of speaking of which the subject is I” (p. 242). Similarly, Takashi rightly states on their function that “the speaker, grasped from outside by himself, has undergone the process of self-objectification...” (p. 109). This is accurate interpretively, and it thus seems to be the case that the speaker makes himself part of the situation. It may well be asked, however, how this type of self-involvement differs from that which occurs in sentence (3). In the first case, the speaker expresses his disposition to the situation, in the second, he expresses the manner in which he is to combine the situation, thus the situation must be taken to be the referent of “frankly.” This shows a remarkable similarity to the intention of a sentence, because this also indicates reflection on the complex projection. Intentions do also reflect on the truth value of a statement, however, which is not the case with *frankly*.

Interestingly, Bartsch’s analysis corresponds to the ones presented above. She sees such these elements as manner adverbs of a specific kind. When discussing Greenbaum’s

juxtaposition of the sentences “frankly, he wrote them about it” and “he wrote them about it frankly,” she states that “in the first sentence it is a manner adverbial in the *hypersentence* ‘I speak frankly...’ and in the second one a manner adverbial in the sentence ‘he wrote them about it’” (p. 11). The hypersentence can be seen as a rephrasing, which may help to elucidate the semantic contribution of an element within a whole sentence. In some sense, Takahashi similarly states, faced with this set of sentences: “it is not [the subject] but the speaker who is ‘frank’” (p. 109), which gives the impression that the function of the adverb itself is the same, although it is not literally expressed. Rather than sticking to TGG terminology, I would argue that the way in which the situation is objectified, is by stating that the situation as it is presented is frank. The objectification may therefore be seen as stating that there is an entity, namely a situation that is frank:

$$\begin{array}{l} \text{frank} \\ \text{PNJohn} \end{array} \begin{array}{l} \text{'X} \\ = \\ = \end{array} \begin{array}{l} \text{'}\Sigma / \text{PR} / \text{REAL} / \text{DECL} \\ \text{= suited...} > \text{[COMP}_1\text{]}^7 \\ \text{[COMP}_2\text{] ; you'} \end{array}$$

Fig. 16 – Notation of “Frankly, John is better suited for the tough job than you”

Interestingly, this notation is at odds with Ebeling’s own notation of an element like this. Of the sentence “honestly, you certainly danced beautifully yesterday, if I may say so” Ebeling gives the following notation:

$$\begin{array}{l} \text{[said]} \\ \text{you} \end{array} \begin{array}{l} \text{'}^a\text{X} \\ = \\ = \end{array} \begin{array}{l} \Sigma / \text{PA} - \text{yesterday} - \text{certainly} - \text{REAL} - \text{DECL} > \text{[x; x IF y]} \\ \text{= dancing} > \text{beautiful} \\ \text{[y; “ ”] ; } \Sigma \dots \end{array}$$

[saying] > honest’

Fig. 17 Ebeling’s notation of “honestly, you certainly danced beautifully yesterday, if I may say so” (2006, p. 474)

As the notation shows, Ebeling feels, as Quirk et al do, that there is an implied speaking verb which is specified, rather than the manner in which the sigma is construed itself. “If I may say so” is paraphrased by him as “unless [the situation] is deemed unacceptable by the hearer...”

⁷ I have come to this notation of the comparative through a discussion with Kortlandt, who explained that within a comparison, two elements each receive a role within a speech act.

(p. 474). Moreover, his notation requires the speaking event, rather than the situation as expressed by the sigma, to be the dominant element, which Ebeling shows using superscript letters. In Ebeling's framework, this means that the two elements are partially convergent. In other words, "a repeated superscript letter indicates that in one and the same semantic complex a referent is projected twice, in two separate roles⁸" (2006, p. 201). In the above notation, then, the unspecified entity, symbolised by "X," is, in this notation, identical to what is said. This means that the speaking event is quite literally "objectified" using the X symbol. In other words, within his or her own speech act, the speaker ascribes honesty to that selfsame speech act, which is equal to the sigma of the situation presented itself. Ebeling paraphrases this as "something that, if described honestly, is a situation that has occurred the previous day..." (p. 474). All of this, is therefore given with an aim to incorporate the style disjunct into the notation, and moreover to retain its adverbial status by having it interact with the speaking verb through gradation.

There are a number of problems with this notation, however. First and foremost, the semiotactic system should never need to insert more projections into a notation than are actually present in the sentence. "X" falls outside of this category, but "speaking" does not. We might etymologically make the claim that every occurrence of a style disjunct without "speaking" overtly expressed is a grammaticalised version with the same meaning. However, if it need not be there, or literally thought to be there to understand it, this does not merit including it when it is not there. Ebeling notes the problem himself: "...there too not all connections and relations are directly linked to formal elements" (2006, p. 475).

What is more, in Ebeling's paraphrase, both occurrences of gradation seem to be described as providing modal information. Recall that gradation is defined as limitation of the abstraction. Therefore, I would not have paraphrased '[saying] > honest' as "if described

⁸ "een herhaalde superscript letter geeft aan dat in één en hetzelfde semantische complex een referent tweemaal is afgebeeld, in twee verschillende rollen" (Ebeling 2006, p. 201)

honestly...,” but as “which is said in an honest way.” Even in the case of “if” this may be taken to be questionable. Ebeling’s paraphrase of “if I may say so” was “unless [the situation] is deemed unacceptable by the hearer.” This is questionable, not only because now the condition is not part of the situation, which it ought to be, because a short paraphrase would probably run something like this: “the situation is that you were certainly dancing beautifully if I may say so.” The situation described is, therefore, that you dancing is contingent upon me being allowed to express it (if we take the entire sentence entirely literal), not that there is no situation unless you allow me to express it.

However, the fact that there are some problems with Ebeling’s notation that have been circumvented, does not mean that the notation is entirely free of problems either. First and foremost, this notation does not seem to be able to account for the adverbial form of the style disjunct. It may be posited that this is an instance of grammaticalisation, which makes it possible for such an element to occur in isolation. Apart from that, it seems unnatural to assert an entity ‘X’ within which it is possible to target a sigma and ascribe a quality to it. This circumvents the problem that there is no specification in the form of limitation or gradation per se. However, if we assert that a sigma can, in such a notation, be ascribed a property, what is to stop us from posit categories of sigmas anyway? Using such a notation seems to contradict the definition of the sigma, which was defined as adding nothing to the semantic whole. Because this is the definition of the sigma, there can be no categories of sigmas. Being able to ascribe a property in any way would therefore undermine the logic and definition of the sigma. These problems indicate that neither notation is ideal.

Moving on, the notation of a sentence with an “overt” speaking verb, is more problematic using the analyses above. This is because this constellation of projections becomes ambiguous between two kinds of adverbials: the sentence “frankly speaking, John is better suited for the tough job than you” could either mean that John, when speaking frankly,

is better suited (in which case it would be a manner adjunct), or that the speaker is speaking frankly when making this statement. This ambiguity can be represented in the following way:

$$\begin{array}{l} \text{speaking} > \text{frank} \\ \text{PNJohn} \end{array} = \begin{array}{l} \text{'X} \\ \text{'}\Sigma / \text{PR} / \text{REAL} / \text{DECL} \\ \text{= suited...} > \end{array} \begin{array}{l} [\text{COMP}_1] \\ [\text{COMP}_2] ; \text{you}' \end{array}$$

Fig. 18 – Notation of “frankly speaking...” as a style disjunct

$$\begin{array}{l} \Sigma \\ \text{X} = \text{speaking} > \text{frank} \end{array} < \begin{array}{l} \text{PNJohn} \\ \text{'}\Sigma / \text{PR} / \text{REAL} / \text{DECL} \\ \text{= suited...} > \end{array} \begin{array}{l} [\text{COMP}_1] \\ [\text{COMP}_2] ; \text{you}' \end{array}$$

Fig. 19 – Notation of “frankly speaking...” as a an attitudinal disjunct

The problem that this unveils is that there is no definite referent which is spoken frankly. This will be explored in paragraph 5.4 below.

5.4 – Attitudinal Disjunct – Group II

The sentence which Takahashi uses to exemplify this type of adverbial is “fortunately, John is better suited for the tough job than you”. He notes that “according to Quirk, et al. (1972), the disjunct allows the interpretation that the subject is fortunate, but this is not a necessary implication...” (p. 116). This is perceived to be due to the fact that “it is impossible to fully *interpret* the meaning of a sentence in isolation: that is why we have to draw on context in understanding any piece of language” (p. 117, italics added). The italics have been added to *interpret* because it is certainly true that that disjunct in that position may interpretively be felt to ascribe the property it implies to the subject of a sentence. However, as will be shown here, to state that it is a *meaning* of the sentence would be an oversimplification. What Takahashi and Quirk and Greenberg both recognise is the fact that “fortunately” in the sentence above interacts differently with the rest of the sentence than as a modifier to the agent. Having established that, they raise the question of whether or not the situation as a whole may be modified. Both explorations of this adverbial fail to uniformly select one, however, raising

such questions as “why it can be made clear by [adding a sentence] that the intention is that someone other than [the subject of the sentence] is really fortunate” (p. 117). These analyses seem to fall short in that they seek in vain for a way to introduce something like auto-prominence, the contextual highlighting of a given piece of information, in the analysis of this disjunct. Rather, an intermediate step between modality and modification provides a more accurate reading of the adverbial. In the previous analysis, it has been concluded that modal disjuncts modify the sigma, i. e. the entirety of the situation. This is not true for the word “fortunately,” which in no way modifies the likelihood of a situation occurring. Rather, it may be seen to express the attitude of the speaker towards the occurrence of the situation. For this reason, it cannot be said to modify the sigma itself, which itself “does not contribute substantively to the semantic whole, the properties of it are completely given by the nexus construction dominated by it, of which ‘=’ is placed directly under ‘Σ’⁹” (Ebeling 2006, p. 152). Moreover, as has been established before, the sigma is always a completely novel entity, and does not fall within a category to be specified. Whatever modifies the sigma, then, cannot contribute information about the situation itself, but only about the presentation of its occurrence in the real world (i. e. the modality of it). It therefore seems that although the events in the real world are targeted, this cannot be achieved by targeting the sigma. Rather, by targeting the event that is pivotal to the state of affairs, this may have the desired effect. Putting this into practice is more difficult than it would seem, however:

$$\begin{array}{l} \text{PNJohn} \quad \quad \quad \Sigma / \text{PR} \\ \quad \quad \quad \quad \quad = (\text{suited...} > ([\text{COMP1}] > \text{fortunate})' \\ \quad \quad \quad \quad \quad \quad \quad \quad \quad [\text{COMP2}] ; \text{you}' \end{array}$$

Fig. 20 – Notation of “fortunately, John is better suited for the tough job than you”

In the above notation, *fortunately* targets the comparative relationship as described by COMP.

This relationship should be noted as has been done before, as the comparison of two

individuals on a certain property requires two individual components to be part of the

⁹ “‘Σ’ draagt inhoudelijk niets tot het semantische geheel bij, de eigenschappen ervan zijn volledig gegeven door de erdoor gedomineerde nexusconstructie, waarvan “=” recht onder ‘Σ’ is geplaatst” (Ebeling 2006, p. 152)

comparison. However, what has not been achieved here is the absolute targeting of every element within the sentence. Rather, this notation seems to suggest that the comparison “than you” is what is fortunate about the presented situation. The goal of targeting the situation as a whole without incorporating the sigma, then, has not been achieved. This problem seems to make it impossible for the situation as a whole to be fortunate (which reflects on the speaker’s frame of mind). In fact, Takahashi’s ultimate conclusion is that the disjunct is “ascribed to the speaker’s evaluative feeling about the described state of affairs” (p. 117), which is exactly what has been attempted above. This raises the possibility that the earlier analyses of the attitudinal disjunct have included interpretation rather than merely the linguistic data presented. In fact, this claim will be argued in section 5.5.

5.5 – *Placement Possibilities of Disjuncts*

So far, the examples identified as disjuncts have been placed in the initial position of the sentence, although Quirk et al. (1985) show with examples that they have far greater placement possibilities:

“Your son is not, *in all frankness*, succeeding in his present job” (p. 612)

“I don't want the money, *confidentially*” (p. 616).

This paragraph is not only an exploration of the various places in which disjuncts can occur, and the effect that this has on the overall projection, but also an attempt to get at some of the fundamental similarities among disjuncts in general. Quirk et al. (1985) presents a number of example sentences in which the “value judgement” disjunct is placed in different positions in the sentence. Below are found some of them:

(12) *Understandably*, we were all extremely annoyed when we received the letter;
[initial position]

(13) ? He is *wisely* staying at home today; [M2]

To this list I would like to add an example of my own, for completeness:

(14) He told us, *thankfully* [End]

The positions that an attitudinal disjunct can occur in are thus the initial position, the M2 position, and in final position. The only positions earlier delineated that does not seem to be available to this disjunct are the M1 the M3 position, i.e.:

(15) *He wrote(,) *fortunately*(,) us;

(16) ? I *sadly* don't know (based on Quirk et al. 1985 p. 628)

Note that in the above sentences “I sadly don't know” and “he is wisely staying home today” the sentences themselves are not ungrammatical. Rather, what is questionable about them is whether or not they are more similar to adjuncts or to disjuncts.

Based on the above observations, it seems pertinent to investigate whether or not there is a significant semiotactic difference between the sentences, or whether we could be dealing with *presentational ordering*, i. e. that cognitively the word order may have some emphatic effect, but that the complex projection itself is not meaningfully different. To answer this question, it is important to look at the way in which the elements interact with one another on the basis of intonation. Looking at the above examples, it is striking to see that in the majority of cases the intonation pattern of the sentence does not integrate the disjunct, as is symbolised by the commas. Moreover, the disjunct in none of these cases is allowed to interfere with the intonation of the rest of the sentence. In fact, if they did, they would be at least ambiguous with their adjunctive counterparts. For example, compare “I don't want the money, *confidentially*” and “I don't want the money *confidentially*,” in which *confidentially* would be a manner adjunct, likely denoting the way in which the money is transferred (one could, for example, want the transaction of the money to be made public).

It may therefore be assumed that this is a way to set the disjunctive comment apart from the rest of the sentence. This achieves the purpose of placing the referent of the adverb outside of the sentence. In fact, it makes the referent of the disjunct completely unknown, and

therefore creates ambiguity in these other positions. Consider, for instance, the fact that “he told us, thankfully,” in which “thankfully” is likely to be interpreted in a fashion similar to an attitudinal disjunct in initial position, may also be extended by adjunctive elements, such as “blatantly,” yielding “he told us, thankfully and blatantly.” In this case, it would become more appealing to interpret these elements as defining the way in which the telling action within the state of affairs occurred. This seems to highlight the fact that more than one attitudinal disjunct is, if not ungrammatical, at least more marked. More importantly, however, it shows that the referent of the adverb is not unambiguously given by the grammatical structure of the sentence. This may either mean that the position which the element takes offers the possibility of many different readings, all of which are grammatically defined (what I have called *structural* ambiguity), or it may be the case that there is a position within the semiotactic structure of a sentence like this which is not filled, in which case the connection between elements modifying that position and what is placed in that position are a matter of interpretation. In this case, the latter seems to be true, yielding the notation below:

$$\begin{array}{l} \text{He} = \begin{array}{l} \Sigma / \text{PA} \\ \text{[tell1]} \\ \text{[tell3] ; us'} \end{array} \quad :: \quad X > \text{frank} \end{array}$$

Fig. 21 – Notation of “he told us, frankly”

A similar problem has actually been encountered before, when the sentence “frankly speaking, John is better suited for the tough job than you” was discussed. In that case, there were no structural grounds to distinguish the “manner adjunct” reading from the style disjunct reading. This was analysed on the basis of descriptions that were given earlier of these elements. It appears, however, that these notations were only presentations of the unmarked *interpretations* of these elements. In actual fact, however, the language, in separating the element fortunately from the rest, actually indicated a *syntactic boundary* “::”, as is shown in fig. 21 above. Ebeling gives the following description of the syntactic boundary: “this symbol... indicates that there is not a single syntactic relation between the *relata*, only a

relationship between the correlating forms” (p. 128). The break in intonation serves to indicate this element. The question of whether the various places in which disjuncts appear serve to effectuate a change in the semiotactic structure of a sentence, may thus be answered with a negative. Since the intonation sets the element apart from the rest of the sentence, and the referent of the adverbial element(s) within them is not expressed, the notation will be the same in every possible position, although the cognitive effect of the order of the elements may play a role in structure selection. However, since the phonetic realisation of an intonational break is optional (consider, for instance, that *Yes, I do* consists of two syntactically separate elements, but that this is normally realised with a single intonation pattern), much ambiguity can occur.

The discussion above covered both the attitudinal disjunct and the style disjunct, but did not mention the existence of such modal disjuncts as “perhaps” in “perhaps John is better suited...” or “wisely” in “he is wisely staying home today.” These elements are clearly not set apart from the rest of the sentence. Here various elements can be distinguished: on the one hand, we have elements that are not syntactically part of the notation of a sentence, on the other, there are those that are. The appropriate name for the first category of elements seems to be *disjunct* itself, because it is not conjoined to the rest of the semiotactic notation. By exclusion, elements that are syntactically part of the sentence are not disjuncts. Within this group, a subdivision needs to be made. Since it has just been shown that every disjunct essentially requires the same notation: “ :: X > ...,” the distinction between the various classes before is based solely on interpretation. In fact, such disconnected elements all have the same potential positions, so ambiguity is contingent upon the presence or absence of ambiguity in the words that are placed in that position. No ambiguity in disjuncts can thus be considered structural, and all ambiguity in them must be seen as interpretive. On the other hand, what we have been calling “modal disjuncts” up until now, such as “perhaps,” on the other hand, has a

specific function, which alters the occurrence of the entire situation in the world. Because of this, it is placed above the state of affairs, although it is still part of the notation. For this position, the term *modal adjunct* seems appropriate. Interestingly, this classification is at odds with Hasselgard's classification. She follows other grammarians as classifying it as a disjunct, "because they belong to the types of adverbials often referred to as disjuncts..." (2010, p. 4). Modality, therefore, is not presented as a separate class of adjuncts (p. 39), although some contingency adjuncts may provide modal information.

"Wisely," finally, does not seem to have a "sentence-adverbial" function at all. In the sentence above, taken from Quirk et al. (1985), its function may be accurately described as follows: "the fact that he is staying home is wise." In other words, the abstraction of the action "staying home" is being attributed the property "wise," a function that is needs no other notation than simple gradation, as shown below:

'Σ / PR
 He = staying > home > wise
Fig. 22 – Notation of "he is wisely staying home"

As the above notation shows, the word "wisely" is nothing more than a manner adverbial, and thus an adjunct.

Going back to the earlier discussion of the attitudinal disjunct, this notation may help us to find an answer to the question Takahashi asked, namely "why it can be made clear by [adding a sentence] that the intention is that someone other than [the subject of the sentence] is really fortunate" (p. 117). If the above notation is accepted for every disjunct, regardless of its type, then the intonation pattern of a sentence may actually highlight an element as auto-prominent, something that was deemed in vain above, going by the definitions earlier presented of the disjunctive elements, and thus make it easier for the listener to fill in the blank in the syntactically separate disjunct.

The question of what positions a certain type of disjunct is able to take has become a strange one, because the disjuncts themselves do not directly interact with the elements within the sentence they accompany, thereby raising the question of whether they are to be analysed as part of the sentence at all. Although earlier analyses distinguished different types of disjuncts on the basis of the semantic contribution they made to the sentence, from a semiotactic perspective, the information within the disjunct as defined in this article cannot be said to influence the manner in which it interacts with the rest of the sentence, because all disjuncts are separated from the sentences they accompany on a semiotactic level. Elements that are part of the sentence will be discussed further in chapter 4. For now, it seems that the table in fig. 22 accurately describes the positions disjunctive elements can fill:

Element/Compatibility	Initial	M1	M2	M3	End
Disjunct ':: X > ...'	[Y]	N	[Y]	N	[Y]
Adjunct - Place - Time - Modal - Style - Attitude					
Modifier					

Fig. 22 – Preliminary table of adverbial elements and the positions they can take

In the table above, “Y” indicates that an element can, in fact, be made part of a sentence in that position, whereas an “N” indicates that this is not the case. As can be seen, the “Y”s in the disjunct line have been bracketed, to indicate that although they can occur in that position, they cannot be made part of that sentence in that position. For disjunctive elements as defined in this chapter, then, this definitionally cannot happen. Although both Quirk et al. and Takahashi thus seem to have given systematic interpretations of the disjuncts’ functions, it must be concluded that they are exactly that: interpretations, and hence not integrable into the semiotactic system.

6. The Modifier

A category of phrases that often creates ambiguity is that of the modifier. Consider, for example, the famous ambiguous joke by Groucho Marx given below:

(17) “One morning I shot an elephant in my pyjamas. How he got in my pyjamas I don’t know” (Marx 1930)

This sentence is humorous, exactly because of the confusion created by the placement possibilities of the modifier and those of the adjunct overlapping. Taking the first sentence of this joke on its own, we are likely to draw the conclusion that the man shooting the elephant was in his pyjamas when he did so, as common logic demands. In this reading, “in my pyjamas” is taken to be an adjunct of place. However, the second sentence adds information that concerns the reading of the first sentence, altering the interpretation of “in my pyjamas” to that of a modifier to “an elephant,” that is to say, an element specifying an independent unit in the sentence because this sentence makes clear that it was the elephant who was in his pyjamas. These readings are both made possible by the grammar, and can thus both be formulated using the semiotactic model. The first reading is given below as (23).

$$\begin{array}{l}
 \text{I} \quad \text{'}\Sigma / \text{PA} \\
 = \quad \text{[shoot1]} \quad - \quad \text{[in1]} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \text{[in2] ; pyjamas} - \quad \text{[has1]} \\
 \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{[has2] ; I} \\
 \quad \quad \quad \text{[shoot2] ; elephant}
 \end{array}$$

Fig. 23 – Notation of (17) with “in my pyjamas” as an adjunct

As is shown in this notation, the adjunct specifies not only the first nexus member, but also that part of the action (which requires two participants) that is performed by the first nexus member. Note the manner in which the possessive is noted as well. Since it usually implies possession, Ebeling has decided to use this notation (in which the object of the possession state is the element that is inflected for possession. As said before, this is not the only notation

that can be made of this sentence. When “in my pyjamas” is perceived as a modifier rather than an adjunct, the notation becomes as is shown in fig. 24 below:

$$I \quad \Sigma / PA = \begin{array}{l} [\text{shoot1}] \\ [\text{shoot2}]; \text{ elephant} \quad - \quad [\text{in1}] \\ [\text{in2}]; \text{ pyjamas} - \quad [\text{has1}] \\ \phantom{[\text{in2}]; \text{ pyjamas} -} [\text{has2}]; I' \end{array}$$

Fig. 24 – Notation of (17) with “in my pyjamas” as a modifier

In this case, we can see that the phrase “in my pyjamas” specifies nothing but the elephant. In order to inventorise when structural ambiguity as described above may arise, an extensive overview of the placement options of the modifier must be given. To do so, it is as important as it is for adjuncts to distinguish between modifiers along the lines of semantics, because these also affect the positions which modifiers can take. An overview of the various positions will be given below. This overview will be subdivided. The first section will discuss placement options of premodifying adjectives, i. e. adjectives that are placed before the noun they specify. After that, the placement possibilities of prepositional phrases, specifically PPs of place and time, will be discussed. The ambiguities arising from overlapping positions will be discussed in section 8.

6.1 Types of Adjectives

When we think of adjectives, we usually think about words that precede the noun, e.g. *the tall man*, *the clear water* etc. Adjunctive elements cannot fill such a position between an article and a noun, so no real ambiguity can arise here. This is because on a sentential level, the article, the adjective and the noun form one unit. In the sentence *the tall man drank the clear water*, for example, *the tall man* would receive the role of the agent, whereas *the clear water* would be the object of the drinking event. These adjectives, which modify an a participant in a sentence, may themselves be modified using an adverbial. In such cases, some initial-position ambiguity may arise. Consider, for instance, *clearly drunk people will be*

two syntactic sentences in the utterance *Ja ik kom* (“yes, I am coming”)¹⁰ (Ebeling 2006, p. 128). In production, then, the semiotactic notations given above are homonymous. Therefore, it seems that adverbial modifiers possibly give rise to disjuncts. *Clearly drunk* in the sentence “clearly drunk people will be removed from the ball” can be said to be in the initial position. Similarly, *in my pyjamas* in the joke above can be described as in final position, whether it is considered a modifier or an adjunct. This way, we might say that a modifier phrase in initial position starting with an adverb may cause ambiguity.

Another group of adjectives that ought to be discussed is one that occurs in a postmodifier position. These adjectives, in a way due to their position, acquire a temporal dimension, that Ebeling has called *temporal limitation*. This differs from regular limitation in that it takes a category of appropriate referents, and creates a projection of this group in a certain state. Rather than further specifying the set of appropriate referents, then, the appropriate referents themselves are further defined as being in a certain state at a certain point in time. For this relation, Ebeling uses the symbol “~” (2006, p. 148). On the relationship ‘ $x \sim y$ ’, he notes that it “denotes that the referent of ‘ x ’ is as it were divided into a series of phases, each of which cover a different period in the existence of the referent, and that the set of appropriate referents of ‘ $x \sim y$ ’ is the cross-section of this series of phases of one and the same referent, and the series which ‘ y ’ symbolises¹¹” (p. 148). As an example we might think of a sentence like “a man working hard,” which is different from “a hard-working man,” in that “a man working hard” could be any man at a point in his life in which he works hard, whereas “a hard-working man” is a man that is defined by the characteristic that he works hard. Since they are postmodifier elements, they can occur in the M1 and the final position. Interestingly, the fact that they can occur in this position also means that ambiguity

¹⁰ “Of er sprake is van verschillende syntactische zinnen wordt uitsluitend door de betekenis gedicteerd. Zo is aan de vorm niet te horen dat *Ja ik kom* twee syntactische zinnen omvat” (p. 128)

¹¹ “Door de symbolisering ‘ $x \sim y$ ’ wordt aangegeven dat de referent van ‘ x ’ als het ware verdeeld wordt in een reeks fasen, die elk een andere periode in het bestaan van de referent bestrijken, en dat de verzameling passende referenten van ‘ $x \sim y$ ’ de doorsnede is van deze verzameling fasen van één en dezelfde referent, en de verzameling waar ‘ y ’ voor staat” (Ebeling 2006, p. 148).

can occur between temporal limitation and regular limitation. Take, for example, the sentence “this is the man *in his pyjamas*.” In this case, it would be possible, if context provided such information, to read “the man” as autoprominent element, and “in his pyjamas” as specifying a state the man has been in in the past. When someone hands someone else a picture of the man, for instance, this reading would be preferred. However, it is also possible to simply read it as specifying what man is being discussed. In the M1 and final positions, then, such ambiguity can occur.

Moving on, a more considerable source for ambiguity is found in the realm of prepositional modifiers. These elements are normally found as postmodifiers, although counterexamples are also noted. Quirk and Greenbaum (1973) have subdivided these elements along lines similar to those used for the distinguishment of adjuncts. This is unsurprising, as many adjuncts also fall within the category of the preposition phrase (e.g. I ran *to the kitchen*), but many can also fulfill the role of the modifier. It is this multifunctionality that in many cases gives rise to ambiguity. The most important categories Quirk and Greenbaum distinguish in prepositional prepositions are those of place and time. These will be analysed here as well. Future research may paint a more complete picture by including other prepositional groups as well.

6.2 *Prepositions*

In this section, attention will be given to the various types of prepositions there are. Specifically, the types of prepositions that can take modifier positions will be discussed here. Presently, the various types of prepositions will be discussed, in order to pick out the ones that may cause ambiguity in modifier position. In the first paragraph, an overview will be given of the types of prepositions distinguished in the literature. In the second, a test will be performed in order to determine which preposition clauses can give rise to ambiguity where.

6.2.1 Preposition Phrases of Place

The broadest distinction Quirk and Greenbaum make, is between prepositions of time and those of place. Starting with the temporal prepositions, they then tease apart these groups on the basis of dimension and dynamism. They present a table that resembles fig. 27 below:

	POSITIVE		NEGATIVE	
	direction	position	direction	position
Dimension-type 0	to “I am going to the store”	at “I am at the store”	from “I am coming from the store”	away from “I’m far away from the store”
Dimension-Type 1 / 2	on(to) “I am climbing onto the roof”	on “I am on the roof”	off “I am climbing off the roof”	off “I am off the roof”
Dimension-Type 2 / 3	in(to) “I’m going into the house”	in “I am in the house”	out of “I’m moving out of the house”	out of “I am out of the house”

Fig. 27 – Rendition of Quirk and Greenbaum’s table “place and dimension” (1973, p. 146)

In the table above, it may be noted that in the left hand column, the table separates prepositions of place along the lines of the number of dimensions they involve in their meanings. For example, *at* is seen as a 1D – preposition, as it only requires a one-dimensional point in space for its meaning. *In*, on the other hand, refers to a three-dimensional space enveloping the object referred to. Interestingly, the distinction between “direction” and “position” invokes the final dimension human beings inhabit, namely time. Direction implies dynamism, whereas position is static. For modifier prepositional phrases, Jespersen (1970, p. 355) notes that “...nowadays post-position is preferred,” although his grammar contains a considerable number of counterexamples to this rule of thumb, e.g. “a *near* relative”, “the *above* remark” (p. 357). In the top column, we further see two categories, which are subcategorised again. The two main categories are dubbed “positive” and “negative,” which may be paraphrased as “implying motion or position toward or near the speaker” and “implying motion or position away from or far from the speaker.” This distinction is not

relevant for the present study. Rather, it seems that the subdivision made within these categories makes an essential difference, as will be elucidated in 6.2.1.1 – 2.2.

The unmarked representation would include an element which would help elucidate in relation to what the preposition defines the location. In such cases, the postposition would normally be used. We could not, for instance, say “*the *above the text you are reading* remark,” but “the remark *above the text you are reading*” is grammatical. In cases such as the latter, ambiguity is likely to occur when a preposition phrase is used. More specifically, it seems that prepositional modifiers to an object in a sentence are sensitive to ambiguity. Compare, for example: “the elephant *in my pyjamas* bugged me.” In this sentence, there is no uncertainty about what element it is that is being modified by *in my pyjamas*. However, when we return to the original sentence “one morning I shot an elephant *in my pyjamas*,” two readings are possible. An explanation for this may be found in the relationship between the order of the elements within the sentence, and the immediate constituent structure of the projections.

In order to come to some conclusions concerning the placement possibilities of prepositional elements and their meanings within the sentence, the most essential distinction made by Quirk and Greenbaum, namely that between static and dynamic prepositions, will be used as a preliminary subdivision. These categories will be discussed in separate categories. In the first, dynamic preposition phrases will be presented, in each position they can take. Doing so will make it possible to discern in what positions the prepositional phrase can be used as a modifier. In the second, the static prepositions will be discussed, in every position they can take.

6.2.1.1 *Dynamic Preposition Phrases of Place as Modifiers*

The positions prepositions can take are manifold, but only a limited number of them can be used as modifiers instead of disjuncts. Interestingly, the type of subject or object occurring in them seems to be a factor in this. Consider the example sentences given below:

- (18) [initial] [N] *From him* I do not expect much help;
- (19) [M1] [Y] Walking *along the beach* clears my head;
- (20) [M1] [N] *The boats *toward the shore* sail fast;
- (21) [M2] [N] It could *to me* have seemed more irrational than it was;
- (22) [M3] [N] *It could have *from him* come;
- (23) [final] [Y] He was making his way *to the bank*;
- (24) [final] [N] I saw nothing *toward the shore*;
- (25) [final] [N] I drove *toward the shore*.

As the above slew of tests shows, there are very limited positions for a dynamic preposition phrase to fill, in which it can actually play the role of modifying a participant rather than the action within the sentence. Sentence (19) gives a good example of an instance in which a dynamic modifier does, in fact, play the role of a modifier. The ungrammaticality of sentence (20) shows that not just any subject can be modified in this way, but (19) shows that this is in fact possible. The semiotactic notation of this sentence is given below:

		‘Σ / PR
<walk> -	[along1]	=
	[along2] ; beach	[clear1]
		[clear2] ; head...’

Fig. 28 – Notation of “walking along the beach clears my head”

In this notation, the meaning of the verb is abstracted. That is to say, rather than referring to the actual motion, rather the concept of walking is targeted. In fact, as can be read in chapter 2, this is always what gradation specifies. In other words, what is specified here by *along the beach* is exactly identical to what would have been specified had it been a verb modified by gradation. Therefore, since the verb is already abstracted, limitation as a modification can

occur of it. In this sense, then, this type of specification might be considered adjunctive. The fact that the element to be specified is already abstracted, then, seems to eliminate the difference between an adjunct and a modifier. To elucidate this point a bit further, below the notation for the sentence *to walk along the beach clears my head* will be given, which interpretively has a very similar meaning, but in which the prepositional phrase is an adjunct:

$$\begin{array}{rcl}
 & & \text{'}\Sigma / \text{PR} \\
 \Sigma & & = \quad [\text{clear1}] \\
 \text{X} = \text{walking} > & [\text{along1}] & [\text{clear2}] ; \text{head}' \\
 & [\text{along2}] ; \text{beach} &
 \end{array}$$

Fig. 29 – Notation of “to walk along the beach clears my head”

In this notation, it is shown that the use of an infinitival invokes a situation, namely one in which the first nexus member is an entity not specified, because no subject is given, but the act of walking is ascribed to this unspecified (although interpretively we would usually select the speaker in this case). It is this action within the situation itself that is specified. It adds to the action that the first nexus is performing extra information, namely the orientation. For this reason, gradation, and with that an adjunctive notation, is necessary. In brief, from this notation may be concluded that abstractions can be modified by dynamic prepositions through modifications.

Moving on, we find that in the final position in the sentence, a dynamic preposition can also be placed in sentence (23). The juxtaposition to (24) shows that in this position, it is also not possible to modify just any element through limitation either. Sentence (23) has been semiotactically formulated below:

$$\begin{array}{rcl}
 & & \text{'}\Sigma / \text{PA} \\
 \text{He} & = & [\text{make1}] \\
 & & [\text{make2}] ; \text{way...} \quad - \quad [\text{to1}] \\
 & & & & [\text{to2}] ; \text{bank}'
 \end{array}$$

Fig. 30 – Notation of “he made his way to the bank”

This sentence highlights two things: 1) that in semiotactic notation, metaphor is left to interpretation, and thus that only the literal information conveyed can be formulated; and 2) that it is semantic particles that decide the possibilities for projections to combine coherently

within a language. Some semantic particles are very easily distinguished, e. g. semantic particles that demand a number of roles to be filled by other elements within the sentence. In this case, however, it is not as easy to read them from the notation itself, as it is part of the meaning of the word “way,” itself a semiotactically inconspicuous noun, that makes it combine these elements this way. (it seems that combining the semiotactic model with Wierzbicka’s Natural Semantic Metalanguage might be able to solve this problem). This is because the noun “way” itself implies a trajectory in and of itself. It is possible to specify this part of the meaning of “way” using a prepositional phrase. This is a more specific semantic particle than might be assumed. Even nouns such as “car,” which serve to help humans along a trajectory, do not contain such an element. This is why a sentence like “he drove his car to the bank” can unambiguously be formulated as below:

$$\begin{array}{l} \text{He} \quad = \quad \begin{array}{l} \text{‘}\Sigma / \text{PA} \\ \text{[drive1]} \\ \text{[drive2] ; car...} \end{array} \quad > \quad \begin{array}{l} \text{[to1]} \\ \text{[to2] ; bank'} \end{array} \end{array}$$

Fig. 30 – Notation of “he drove his car to the bank”

This finding raises the question of what inventory of nouns do contain such a semantic particle, and can thus be modified in the way shown in fig. 29. This, however, falls outside the scope of the present paper. Further research may give us a precise inventory of this.

Another conclusion that could be drawn from these facts would be that the position of the prepositional defines its scope. When placed before only the agent of a sentence, only this agent may be scoped by it. However, when it is in the final position in the sentence, two different types of scope seem to be made possible: one in which the action is scoped, and one in which the object, which it directly follows, is scoped. Because this is the case, only the M1 position and the final position, can contain prepositional phrases in the role of a modifier, and only when this position places it directly after a participant.

6.2.1.2 *Static Preposition Phrases of Place as Modifiers*

The following set of sentences serve to inform the reader of the placement possibilities of static prepositions of place as modifiers:

- (26) [initial] [N] *In the pub* the man seemed perfectly happy;
- (27) [M1] [Y] The man *in the pub* seemed perfectly happy;
- (28) [M1] [Y] Sitting *in the pub* seemed a good idea;
- (29) [M1] [Y] To sit *in the pub* at this hour is a bit extraordinary;
- (29) [M2] [N] * The man has *in the pub* seemed perfectly happy;
- (30) [M3] [N] * The man may have *in the pub* seemed a bit glum;
- (31) [final] [Y] The man drank his beer *in the pub*;
- (32) [final] [N] The man seemed perfectly happy *in the pub*;
- (33) [final] [?] The man found his way *in the world*;
- (34) [final] [?] ? The man found his way *in the pub*.

The above set shows that there is no significant difference between the static and the dynamic prepositional phrase. However, the higher number of correct examples shows that there are considerably fewer restrictions to the type of element the modifier preposition phrase combines with. Where the dynamic preposition phrase of time can only serve as a modifier to abstractions and nouns with a meaning that implies a trajectory, these limitations do not seem to hinder the use of static preposition phrases. There does not seem to be any limitation to using them to specify the position of a participant, although in combination with a word containing a meaning implying trajectory seems to be problematic. The sentence “the man found his way in the world” is an expression, so the grammaticality of it is very much specified. The same sentence with “in the pub” is hard to analyse. In both cases, the reading of “the way” being specified by the static PP seems to be dispreferred. Rather, the reading of it as an adjunct of place seems more appropriate. This is due to the fact that words that have a dynamic implication resist being specified by a static preposition phrase. Similarly, as we

have seen in the previous paragraph, words that do not resist being specified by a dynamic preposition phrase, which may lead us to conclude that either a semantic particle for “position” or for “movement” is present in all independent entities.

Finally, Quirk and Greenbaum distinguish prepositions of orientation as a separate class of prepositions, although for the purposes of the present paper, they may simply be regarded as prepositions of place. In essence, what this class of prepositions refers to is almost a resultative meaning. Rather than using a preposition that statically refers to a place, a preposition is used that in and of itself primarily has a dynamic meaning. Consider, for example, the sentences below:

(35) The lake *over* the mountain;

(36) “there’s a hotel *across/along* the road” (Quirk and Greenbaum 1973, p. 152)

As has been discussed above, dynamic prepositions usually do not occur in adjectival positions. This generalisation may be extended to prepositions as well, given that “a hotel along the road” does not imply any movement on the part of the hotel as a whole. Rather, what sets these prepositions apart, is that the preposition itself requires a “point of orientation” for its meaning (p. 151). Similarly, a *pervasive* prepositional phrase may be regarded as essentially static.

6.2.2 Preposition Phrases of Time

Moving on to the prepositional phrases of time, the distinction between static and dynamic prepositions still applies. In this case, however, the distinction is made on the basis of duration as opposed to referring to a moment or a timeframe in and of itself (consider, for example, the difference between “in those days” and “in three days”). This paragraph will therefore also be divided along these lines. First, the dynamic prepositions of time will be analysed. In the paragraph following that, the static modifiers will be discussed.

6.2.2.1 *Dynamic Preposition Phrases of Time as Modifiers*

In order to verify the positions in which dynamic prepositions of time can serve to modify independent entities within the sentence, examples will be presented in which each of the sentence positions described in chapter 3 are taken by such a preposition phrase.

- (37) [initial] [N] *From then on* they did not speak much;
- (38) [M1] [N] Many people *from then on* bolted their doors;
- (39) [M2] [N] ? Many people might *from then on* think otherwise;
- (40) [M3] [N] * Many people might have *from then on* thought about it;
- (41) [final] [N] Many people thought about it *from then on*;
- (42) [final] [N] Many people stopped taking the bus *from then on*;
- (43) [final] [N] Many people found their way *from then on*.

It seems that in none of the delineated positions, a dynamic preposition phrase of time can serve the purpose of a modifier. This may be due to the fact that temporal dynamism actually requires the entirety of the situation to be specified. That is to say, within a single situation, it is impossible for one element to be singled out as moving forward into the future. Therefore, the dynamic preposition of time seems to require a sigma to modify.

6.2.2.2 *Static Preposition Phrases of Time as Modifiers*

- (44) [initial] [N] *In the Middle Ages*, women occupied a number of different social roles;
- (45) [M1] [Y] Women *in the Middle Ages* occupied a number of different social roles (Wikipedia);
- (46) [M1] [Y] Major events *between WWI and WWII* ([Curry](#));
- (47) [M1] [N] * People *between WWI and WWII* were very poor in Germany;
- (48) [M1] [Y] People *in the Interbellum* were very poor in Germany;
- (49) [M1] [Y] Living *in the Middle Ages* was hard;

- (50) [M2] [N] *Women have *in the Middle Ages* occupied a number of different social roles;
- (51) [M3] [N] *Women may have *in the Middle Ages* occupied a number of different social roles;
- (52) [final] [N] Women occupied a number of different social roles *in the Middle Ages*;
- (53) [final] [N] Women were oppressed by men *in the Middle Ages*;
- (54) [final] [N] It was not fun to live *in the Middle Ages*.

As the above examples show, the M1 position and the final position are open to static preposition phrases of time as modifiers again, but there do appear to be some restrictions on this. Interestingly, it seems to be impossible to have a modifier to the object, when the object is a normal independent entity. In this position, it is normally taken to be a temporal adjunct. This is at odds with static prepositional phrases of place, which can take this position and modify the object. This is probably due to the fact that if the object is supposed to be in a certain time, then for the subject to perform an action with it, it would, by definition, have to be present in the same time. Remarkably, however, the opposite does not seem to be necessarily specified.

Two distinct notations of the sentence “women in the Middle Ages occupied a number of different social roles” can be read:

Women – [in1] [in2]; Middle_Ages = ‘Σ / PA [occupy1] [occupy2]...’

Fig. 31 – First notation of “women in the Middle Ages occupied a number of different social roles”

woman / PL = [in1] [in2]; Middle_Ages [occupy1] [occupy2]...

Fig. 32 – Second notation of “women in the Middle Ages occupied a number of different social roles”

As the above notations show, two distinct notations can be made of the sentence containing the static prepositional phrase. In fig. 31, the PP of time is integrated as a modifier to “women.” In the second, the reading is presented of “in the Middle Ages” being used as a temporal adjunct. In this regard, there is thus a difference between prepositions of place and those of time. Here, temporal limitation is not applied, as we do not think of “women” as an abstract of which we target the phase in their existence in which they were present in the Middle Ages. Rather, what occurs here is that we take a set of women that has been defined as living in the Middle Ages.

Interestingly, although for prepositions of place it had been decided that “resultative” prepositions may be taken as identical to other static prepositions, in the case of temporal prepositions this seems to lead to a slight difference. Consider, for instance:

(55) [N] * *Living from the Middle Ages*;

(56) [Y] *A sword from the Middle Ages*;

(57) [Y] *A man from the Middle Ages*;

Interestingly, although (47) might, by analogy to prepositions of place also be considered to contain a resultative preposition of time (consider, for example, “a lake between two mountains”), such a sentence seems to be impossible when the result is not the present, as it is in (56) and (57). This generalisation does not capture every detail of the story either, however, as “*people from WWII to now have changed” shows. To get into intimate detail about this would go beyond the scope of the present paper, but it would be interesting for future research to focus on this.

6.3 Overview

All in all, we are left with an elaborate picture painted by the positions and meanings that adjectives and modifier preposition phrases can take. Below, in fig. 33, can be found the various position they can take, along with the corresponding notation. Wherever a modifier

element can be placed, it may be assumed to take a relation of limitation, “x – y” with the entity it modifies, except in the case of the postmodifier.

Mod. Type/Pos.	Initial	M1	M2/3	Final
Premodifier Adj.	[Y]	[N]	[Y]	[N]
Postmodifier Adj. “x ~ y”	[N]	[Y]	[N]	[Y]
PP of Place:				
- Dynamic:				
1. Entity	[N]	[N]	[N]	[N]
2. Abstraction	[N]	[Y]	[N]	[Y]
3. Trajectory	[N]	[Y]	[N]	[Y]
- Static:				
1. Entity	[N]	[Y]	[N]	[Y]
2. Abstraction	[N]	[Y]	[N]	[Y]
3. Trajectory	[N]	[N]	[N]	[N]
PP of Time :				
- Dynamic:				
1. Entity	[N]	[N]	[N]	[N]
2. Abstraction	[N]	[N]	[N]	[N]
3. Trajectory	[N]	[N]	[N]	[N]
- Static:				
1. Entity	[N]	[Y]	[N]	[Y]
2. Abstraction	[N]	[Y]	[N]	[Y]
3. Trajectory	[N]	[N]	[N]	[N]
- Resultative:				
1. Entity	[N]	[Y]	[N]	[Y]
2. Abstraction	[N]	[N]	[N]	[N]
3. Trajectory	[N]	[N]	[N]	[N]

Fig. 33 – Positions in which modifier elements can be inserted in the sentence

In the PP sections of the table above, the numbered elements *entity*, *abstraction* and *trajectory* are given, this refers to the kind of independent element that is specified by the PP. *Trajectory*, in this instance, refers to a noun which contains in its semantic make-up a semantic feature that implies a trajectory. As already becomes clear from this table, the interaction between the meaning and the position is rather different in every distinct case. Note also that there are still a high number of instances that have not been included or excluded in this table, due to them being outside the scope of the present paper.

Importantly, it must be noted here that a category of modifiers, interjections, has been left out of the equation. Considering the joke discussed in the introduction of this chapter, it may, for instance, be noted that a production like “I shot, in my pyjamas, an elephant” is not deemed ambiguous. This is due to the fact that the interjection “in my pyjamas” is not semiotactically part of the same sentence notation. Note, also, that in contrast to disjunctive elements, this type of sentence sounds ungrammatical without any pause: *I shot in my pyjamas an elephant. The fact that this type of sentence can be readily understood is that the separation between the interjection and the rest of the sentence makes it clear to the hearer that interpretation is required if any coherent reading is to be come to. The interjection would be added to the notation as

‘:: [in1]
[in2] ; pyjamas...’

Given this information, it is up to the hearer to affix it to the most appropriate entity, which in this case is unequivocally the shooter himself.

7. The Adjunct

In this chapter the functions of adjuncts in various positions in the sentence will be discussed. Due to time constraints and the wide varieties of functions an adjunct can take, only those functions that are relevant in combination with the previous chapters will be discussed. That is to say, given that prepositions of time and place have been discussed in the modifier chapter, and style, attitudinal and modal adjuncts in the chapter on disjuncts, these five types of adjuncts are the only ones that the present study will focus on. Before these elements can be discussed in detail, however, first a schismatic distinction will have to be made between two major classes of adjuncts as they appear in using semiotaxis as a tool for analysis. This major distinction will be made between those adjuncts that must be analysed through the use of limitation, and those for which gradation is appropriate. This distinction will be elucidated in the first paragraph below. After that, the types of adjuncts described above will be discussed in the order they have been given above, in order to categorise the positions and their functions along those lines. The picture that thus arises will be presented in an overview in paragraph 7.7, along with a discussion of the implications of it.

7.1 – A general division of Adjuncts

An aspect of the use of prepositions that has been pointed at in the explanation in chapter 2, seems to become extra pertinent when discussing the interaction between the position and the meaning of an adjunct. Recall the discussion of the two sentences, modeled after Ebeling's examples, i. e. *He is waiting on the square* compared to *he is waiting on the world to change*. The difference in the meaning that is contributed to the sentence by the preposition phrase in

each case has to do with the way in which the preposition contributes information to the verb. To be specific, when regarding the first sentence, it is only the agentive part of the meaning of the verb that is specified. To illustrate this with more clarity, a sentence containing a bivalent word will be used, namely the ambiguous “the man shot an elephant in his pyjamas.” In fig. 34 below, only the adjunctive reading of this element will be presented. Moreover, only the part relevant to the present discussion will be given:

‘...man... = [x; x shoots y] – [x; x IIN y]...
[y; x shoots y]...’

Fig. 34 – Fragment of notation “the shot an elephant in his pyjamas”

As this notation shows, the first nexus member is attributed a role within the event described by the verb. It is this *x* role alone that is being specified in the notation by the preposition. That is to say, when a preposition occurs in the position taken by “in my pyjamas” above, it does not target the first nexus member, nor the verb itself, but the role taken up by the first nexus member in the verb. This means that the first nexus member need not be in his pyjamas at any other point than that in which he performed the action of shooting the elephant. In this regard, the meaning differs significantly from the sentence “the man in his pyjamas shot an elephant,” which means that the speaker is at this point identifying the man by the fact that he is wearing his pyjamas. This sentence also does not mean that the man was necessarily wearing his pyjamas at the time of the shooting, only that at the time of speaking, or in the *narrated time*, the fact that he is or was wearing his pyjamas sets him apart from the set of appropriate referents of “the man.” In this regard, there may be some connection between the position the adjunct is given here and that given to elements of temporal limitation.

Importantly, an adjunct in that position does not specify the meaning of the verb either, as might have been expected due to the relationship that is presented in the notation above. That is to say, although *x* in the relationship presented by the verb is specified, this specification itself does not provide any new information concerning the manner of the

shooting itself, only something about the shooter at the time. For this reason, the above notation cannot be paraphrased as “it was the man that shot the elephant, and the shooting was in his pyjamas.” A correct paraphrase, rather, runs something like this: “it was the man that shot the elephant, and the man was in his pyjamas.” Interestingly, the former meaning could be expressed however, and this thus leads to some ambiguity in and of itself. Take, for example, the sentence “the man shot a bullet in the air.” The most probable interpretation of this sentence is that the man, whilst standing on the ground, aimed his gun to the sky and fired. In this scenario, the action itself, thus is specified, and for this reason, a different notation is required, as is shown in fig. 35 below:

$$\text{man...} \quad \begin{array}{c} \text{'}\Sigma / \text{PA} \\ = \\ \text{[shoot1]} \quad > \quad \text{[x; x 2IN y]...} \\ \text{[shoot2] bullet...} \end{array}$$

Fig. 35 – First notation of “the man shot a bullet in the air”

In the above notation, it may be noted that a different meaning of the word “in” is employed. This is true, as at present this preposition is not there to elucidate what sort of entity is enveloping another, but rather, dynamically, what an element is following a trajectory into. This difference between the two meanings of “in” does not suffice, however, to show the difference in the ways in which the adjunct contributes to the meaning of the sentence. Rather, what is made clear by the use of gradation rather than limitation in the above notation, is that it is not x that is specified, but the action itself. For this reason, the above notation can be paraphrased as “it was the man that shot a bullet, and the shooting of the bullet was orientated toward the air,” but not as “it was the man that shot with his gun, and the man was the air.” In the paraphrase just given, “in” must, in both cases be taken to be used with a dynamic meaning in mind. Also, the role of the gun is not that of a direct object, which would be filled by the projectile shot in air, but that of the indirect object, which makes the correct paraphrase seem slightly awkward.

The fact that the functor used makes such a difference in the meaning of the sentence can also lead to ambiguity. For instance, the above notation of “the man shot a bullet in the air” is given with the meaning of gradation in mind. However, although it is not a meaning that that is as commonly found as the one given above, the sentence “the man shot a bullet in the air” might also be read as meaning that the man himself was in the air. A man jumping and shooting whilst airborne might be expressed by the same sentence, for example. This notation is given below in fig. 36.

	‘Σ / PA	
man...	=	[shoot1] - [x; x 1IN y]...
		[shoot2] bullet...

Fig. 36 – Second notation of “the man shot a bullet in the air”

In this notation, therefore, the action itself is not directly altered, but only indirectly, based on the fact that the position of the agent is specified. Importantly, this notation is still *adverbial* although the verb itself is not targeted, in the sense that it is the role within the event expressed through the verb that is specified, rather than any entity specifically. However, I would submit that the two types of relation deserve distinction. I would use the term *specifying* for adjuncts that specify the action itself, through gradation, as opposed to using *particularising* for such adjuncts as specify the role of the agent within the verbal action. As will be shown below, this distinction will sometimes be dictated by the position of the adjunct in the sentence.

However, this is not the only distinction to be made between types of adjunct. The most essential distinction Hasselgård holds to pertaining to the semantics of adjuncts is that adjuncts having *predicational* and *sentential* scope. In this regard, there is a considerable difference between a place adjunct in initial position, and one in the final position. Hasselgård defines adjuncts with predicational scope as “relat[ing] to the verbal and postverbal elements” (2010, p. 48). On sentential scope adjuncts she notes that they are “peripheral to the clause structure. They typically modify the whole

clause in which they occur” (p. 48). Holding to these two definitions, the above separation between particularising and specifying adjuncts is one that subdivides adjuncts taking predicational scope. Sentential scope, then, will be taken as a category on its own.

7.2 – *The Place Adjunct*

It may perhaps not be surprising that the place adjunct, given that the above examples have all involved adjuncts of this type, is strongly associated with the final position in the sentence. In Hasselgård’s core corpus, no less than 92,5% of place adjuncts occur in this position (Hasselgård 2010, p. 116). As she shows based on examples from her corpus, the position of the place adjunct in the sentence makes a considerable difference in the type of scope it takes. Consider, for example, sentences (58) and (59) below:

(58) Dad squatted *by the gas fire*...

(59) *By the gas fire* Dad squatted... (from Hasselgård 2010, p. 120)

The difference in meaning between these two can be defined as follows: in (58) the adjunct has predicational scope, whereas in (59) it has sentential scope. More specifically, it seems that the distinction between static and dynamic PPs is relevant once more, as it seems that this static PP provides particularising information, i. e. information that modifies the x role of “squatting.” This sentence, then, can be formulated as is shown in fig. 37 below:

‘Σ / PA

Dad = squatting – [by1
[by2] ; fire_gas’

Fig. 37 – Notation of “dad squatted by the gas fire”

If we contrast this to a place adjunct with a dynamic meaning, we get a rather different notation. This is because the trajectory described by such an adjunct must by necessity specify the action itself. It seems that in the English language it is impossible to conceive of a trajectory as a place, when it is described by a PP of place. As will be shown in 7.3, however, in the case of adjuncts of time, this may be possible. For now, however, it may be clear that dynamic place adjuncts specify the verb rather than particularising the agent, as is shown by comparing fig. 37 to fig. 38, a notation of “dad walked to the fire”:

$$\begin{array}{l} \text{'}\Sigma / \text{PA} \\ \text{Dad} = \text{walking} > \text{ [to1]} \\ \text{ [to2] ; fire_gas'} \end{array}$$

Fig. 38 – notation of “dad walked to the gas fire”

This distinction between dynamic PPs of place and static ones may also explain why only the latter can be used as modifiers to a participant in a situation.

However, the distinction between the adjunct with sentential scope and predicational scope is not explained by these facts. For this notation, a rather modern addition to the formal language of semiotactics will have to be employed, namely that of *inverted* gradation.

Unsurprisingly, this symbol takes this form: “<”. This would not have been a necessary addition to the framework had it not become apparent that word order can have an effect on the construction of the complex projection that cannot be explained without it. This symbol describes exactly the same relation as regular gradation, except that it describes a *progressive* IC-relation. Describing (59) semiotactically, then, yields the following notation:

$$\begin{array}{l} \text{'}\Sigma / \text{PA} \\ \text{([by1] < (Dad = squatting))} \\ \text{ [by2] ; fire_gas'} \end{array}$$

Fig. 39 – Notation of “by the gas fire dad squatted...”

As the above notation shows, the position the adjunct now takes mimics that which it takes in the actual sentence. This is not all that it effectuates, however, as from this position, it also

becomes possible to take all the other elements within the projection and place them within the context of the location.

It must be noted, however, that Hasselgård also notices that adjuncts of this type in initial position can also take predicational scope. In fact, out of the 54 predicational scope adjuncts she found in initial position, no less than 38 were place adjuncts (Hasselgård 2010, p. 69). About them, she states that they are most commonly found in sports commentaries, as is exemplified by (60) below:

(60) And then *behind these* comes Honey Church with Croupier in the violet colours sharing that third spot (Hasselgård 2010, p. 69)

She states that such examples are usually caused by inversion, sparked by thematisation. An example of when this does not occur, is given in (61) below, in which an adjunct seems to have been taken apart:

(61) *Back* it goes to *Galiamin*

On this sentence, Hasselgård states that it “has an initial adverb particle and a slightly longer space adjunct in end position” (p. 69). I agree with the essence of this analysis, in the sense that I see the two adjuncts as only being analysable as interacting with one another, but each of them separately can also fulfill the role of an adjunct. For this reason, I believe these are two separate adjuncts in interaction, and should be notated as such, as is done in fig. 39.

‘ Σ / PR
It = going > back > [to1]
[to2] ; PNGalamin’

Fig. 40 – Notation of “back it goes to Galamin”

The present paper will not delve in detail on the interaction between multiple adjuncts. Rather, the above is presented to make a point on the rarity of seeing a place adjunct with predicational scope in initial position.

Finally, there are some examples within Hasselgård's corpus which occur in the medial position. Importantly, there are examples of both dynamic and static prepositions in these positions, taking predicational scope. One of these examples is: "...she has to put *on her form* you see that he she's living with him in that address" (Hasselgård 2010, p. 98), which would require a notation similar to that given to "to Galamin" in fig. 40. Another example is found in a sentence from the movie *Being Julia*: "I have *in my hand* a piece of paper, signed by me, herr Hitler, and Benito Macaroni, in Munich" (Szabó). In this sentence, however, the adjunct cannot be said to be particularise the agentive role, but rather the holding action itself, and therefore should be notated in a fashion identical to "to the fire" in fig. 38. This notation is also possible for the final position: "I have a piece of paper in my hand" is also a correct sentence.

7.3 Time Adjunct

When considering the time adjunct, it is important to note that there is an essential division to be made, based solely on the semiotactic framework. This division is one that can be made between elements that are presented as occurring together, and elements that define a temporal setting for another situation to occur in. To elucidate this difference, Ebeling employs the Dutch sentence "*hij is dronken gevaarlijk*, literally "he is drunk dangerous", i. e. "he is dangerous when he is drunk" (p. 302). On this, Ebeling notes that "the feature |dangerous| is carried by the man, not by the fact that he is drunk" (p. 302). However, it is true that in order for this to apply, the man has to be drunk. Ebeling symbolises this relationship with a " , ". This relation itself is called *temporal gradation*. Ebeling does specify that this symbol is not only used with a temporal connotation, as the sentence *she likes tulips yellow* and its notation (based on Ebeling 1978, p. 305) shows:

‘Σ / PR
She = [like1]
 [like2] ; tulips , yellow’

Fig. 41 – Notation of "she likes tulips yellow"

In this instance, it is not a condition that is necessarily temporally defined that is specified by “yellow.” However, the tulips are only liked when the condition of yellowness is fulfilled. This notation differs significantly from temporal limitation, in that the selection here is based on a condition to be met, not by a phase in the course of an object’s existence, but by the object in the present moment. It is also important to note that this cannot be considered a temporal adjunct specifying the sigma directly, because it refers specifically to an element within the situation itself. In this regard, the distinction between adjuncts of temporal gradation and “regular” time adjunct seems to be similar to that between sentential and predicative scope adjuncts. This will be shown to be an important division between time adjuncts in the following paragraphs.

In the initial position, Halliday (2004, p. 64) notes, an adjunct may serve as “the element which serves as point of departure of the message; it is that which locates and orients the clause within its context” (Hasselgård 2010, p. 73). This being the case, it would be expected that in most cases, items found in this position take sentential scope. This prediction is borne out by Hasselgård’s findings, as she states that “the vast majority (90%) of clause-initial adjuncts have sentential scope” (p. 68). Sentential scope, for a time adjunct, is best noted as is shown in fig. 42 below, which is a notation of “in the third century most senators were not Italians” (Hasselgård 2010, p. 68):

‘Σ / PA / [in1]
 [in2] ; century...
Senators = Italians > NON

Fig. 42 – Notation of “in the third century most senators were not Italians”

The above notation places the situation of senators not being Italian in the third century, thus quantifying the occurrence of the situation as a whole to be described by “in the third century.” This is what, from a semiotactic perspective, a time adjunct with sentential scope is to look like.

However, it is noted that within the minority of predicational adjuncts in initial position, some time adjuncts have been found as well. An example of this is “*Then comes Eton Lad*” (Hasselgård 2010, p. 68). Here, the distinction between adjuncts of place and time becomes rather blurry. “Then” may, for instance, be used not only to denote that something happens after another thing, but also in the context of a sequence, even if the sequence is static. For example, when faced with a line of cars waiting in front of a traffic light, a speaker could give an impression of such a situation by saying “first we have a red Volvo. Behind that, there I can see a black convertible. Then there is a yellow cab.” Both a temporal reading and a locative one thus seem to be possible. For each of these, a separate notation can be made, as is shown by figures 43 and 44 below:

‘ Σ / PA / then
 PNEton Lad = coming’

Fig. 43 – First notation of “then comes Eton Lad”

This is a reading similar to the sentential reading given in 42 above. In a purely temporal interpretation, none of them can occur in another position in the sentence. However, if we take the meaning to refer to the sequence of contestants (as this is from a sports commentary), the notation may be changed. In that reading, it may be considered a particularising type of place adjunct, which would make it look as it does below:

‘ Σ / PA
 PNEton Lad = coming > then’

Fig. 44 – Second notation of “then comes Eton Lad”

Neither of these notations give any type of temporal gradation meaning, however. In general, then, I believe it is safe to say that in the initial position, the time adjunct has sentential scope, and that this may be notated as stratification to the sigma.

In the medial position, then, the time adjunct is roughly equally well represented, as in this position it occurs 21,5% of the total number of time adjuncts. The majority of adjuncts in

medial position also take sentential scope, and in none of the many examples Hasselgård gives would require a different notation from a semiotactic perspective.

However, in the end position (which for most adjuncts is the most common position (Hasselgård 2010, p. 57)), some variation is possible. Without problems, a sentence like “then comes Eton Lad” could be turned into one in which the time adjunct is in the final position, and the meaning of it would not change. However, if a sentence like “he got off the train drinking his soda,” the adjunct places the events of the main clause in tandem with another. For this reason, temporal gradation seems necessary to adequately give a notation of this sentence, as has been done in fig. 45:

$$\text{He} = \begin{array}{l} \text{'}\Sigma / \text{PA} \\ \text{[get_off1]} \quad \quad \quad , \text{[drink1]} \\ \text{[get_off2] ; train} \quad \quad \text{[drink2] ; coffee'} \end{array}$$

Fig. 45 – Notation of “he got off the train drinking his soda”

However, another device that might be used for the notation of two events occurring simultaneously, could be to use a different clause, e. g. “he got off the train while he was drinking his soda.” In this notation, the drinking of the soda is presented as the time frame within which the getting off the train took place. To give an adequate notation of this, then, it is more appropriate to stratify the sigma, as is done in fig. 46:

$$\text{He} = \begin{array}{l} \text{'}\Sigma / \text{PA} / \quad \quad \quad \text{[while1]} \\ \text{[get_off1]} \quad \quad \quad \text{[while2] ;} \quad \Sigma / \text{PA} \\ \text{[get_off2] ; train} \quad \quad \quad \text{He} = \text{[drink1]} \\ \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{[drink2] ; soda'} \end{array}$$

Fig. 46 – Notation of “he got off the train while he was drinking his soda”

I would like to add here that the difference between temporal gradation and limitation in the position in which it modifies the action is minimal. For instance, in the notation in fig. 36 above, although a limitation symbol has been used, it does seem appropriate as well to use temporal gradation, as in this instance, the state is also concomitant with the action. The same goes for a sentence like “I saw the Eiffel Tower in Paris.” Taking the phrase “in Paris” in its adverbial meaning, the action of seeing is also concomitant with being in Paris. The

discussion here then becomes whether or not the temporality is part of the grammatically given information or not, and whether this is always there. The line of demarcation between these two seems thin. I would argue, however, that perhaps a difference is detectable between two actions occurring at the same time, and a state (i. e. being ascribed a property without a grammatical indicator of temporal constraint (i.e. in “she likes tulips yellow,” it is the word order that indicates temporality), and an action occurring together. It may be argued that when a property of the agentive role is defined, there is no temporal aspect to this, whereas there must be a temporal dimension to action. Further analysis is required to come to conclusive answers on this topic, however.

7.4 *Style and Attitude Adjuncts*

Hasselgård does not explicitly consider these two categories separately, as they are dealt with as disjuncts. However, as has been shown in chapter 3, from a semiotactic perspective, not every instance of what is labelled a disjunct can rightly be considered this way. For example, “frankly” in (62) below behaves considerably differently from “frankly” in (63):

(62) I *frankly* do not like Tom’s renovations to the house;

(63) *Frankly*, I do not like Tom’s renovations to the house.

As has been discussed in chapter 3, in the latter example “frankly” has to be considered syntactically separate from the rest of the sentence, whereas the same could not be said of the former instance. As chapter 3 has also shown, attempting to integrate the use of disjunctive “frankly” in the sentence notation has prompted a number of problems. The same could be said for attitude adjuncts. In the present paragraph, they will be taken together, as their notations within the semiotactic model are similar.

The category of adjuncts that Hasselgård does distinguish which is most similar to the use of the style and attitude adjuncts would have to be the “manner adjunct” category. In order to get to an understanding of the way in which manner adverbs are incorporated into the

samiotactic notation, one need only look at two examples of these, one of which is to take sentential scope, and one taking predicational scope. From the outset it may be assumed that the manner adjunct taking predicational scope can only specify the verb, as it typically informs the manner in which the verb takes place. However, Hasselgård notes that “attire adjuncts are typically subject-related... and thus marginal as manner adjuncts” (2010, p. 220). Although they are deemed marginal, Hasselgård does suggest a counterexample, namely (64) below:

- (64) I paid up and went back to the hotel to collect my bag and briefcase ... then
drove off *in suit and sober dark overcoat* (2010, p. 220)

In this instance, the semiotactic notation would not be altered. Still the attire does not alter the action itself directly, and therefore will not be counted as a manner adjunct for the purposes of the present paper.

Interestingly, unlike other manner adjuncts, style adjuncts commonly occur in medial position. The initial position is blocked by the fact that in that position, they must be considered style disjuncts. The same may be said of the final position, as the sentence: “I do not like Tom’s renovations to the house *frankly*” would normally be produced with a pause between “house” and “frankly.” As noted above, however, in this position a word associated with stylistic function may also take a *quality* manner adjunct reading, as is shown by the distinction between “I don’t want the money, *confidentially*” and “I don’t want the money *confidentially*.” Conversely, other manner adjunct types usually resist being placed in the medial position (less than 10% of the total number of manner adjuncts found in Hasselgård’s corpus take this position (2010, p. 97)). Taking an example sentence like “But *by some miracle* I get a seat” (2010, p. 219), it can easily be shown that the medial position is usually an unnatural place for such an element to be placed. Consider (65) below:

- (65) ? But I *by some miracle* got a seat.

In producing this sentence, a speaker of English would usually pause before and after the adjunct, in effect setting it apart from the rest of the sentence, which is also shown by a number of examples in Hasselgård (2010, p.108). There are reasons to assume, then, that these do deserve to be treated differently from regular manner adjuncts. For now, it may be assumed that the typical position for a style disjunct is a medial position.

Although the meaning of it seems to be similar to that of a manner adjunct, there is a marked distinction to be made, namely between the style adjunct taking sentential scope and the one taking predicative scope. Both of these are achieved in a medial position. Consider the difference between (66) and (67) below:

(66) I *frankly* don't give a damn;

(67) I don't *frankly* give a damn.

Although the grammatical properties of negation will not be discussed in the present paper, the above minimal pair is useful for making a distinction between the sentential scope style adjunct and the predicational scope variety. Above, (66) takes sentential scope, whereas (67) in a literal sense has predicational scope, and can even be read as falling within the scope of the negation. These two sentences are presented in a semiotactic notation in fig. 47 and 48 respectively:

$$\text{frank} < \text{I} \quad \begin{array}{l} \text{'}\Sigma / \text{PR} \\ = \quad [\text{give1}] > \text{NON} \\ \quad \quad [\text{give2}] ; \text{damn}' \end{array}$$

Fig. 47 – Notation of “I frankly don't give a damn”

$$\text{I} \quad \begin{array}{l} \text{'}\Sigma / \text{PR} \\ = \quad [\text{give1}] > \text{NON} > \text{frank} \\ \quad \quad [\text{give2}] ; \text{damn}' \end{array}$$

Fig. 48 – Notation of “I don't frankly give a damn”

In the notations above, it is shown by placing “frank” in initial position with inverted gradation that it takes the rest of the nexus relationship as its scope. It may be asked, however, how it can be possible for an element in such a position to do so. Why would regular

gradation not have the same function, if it is on the opposite side of the notation, and also follows the opposite IC structure? For an answer to this question, it is pertinent to scrutinise what has been said on the topic of immediate constituent analysis. It has been noted that regular gradation is regressive, and limitation is progressive. This allowed us to analyse “the very big dog” as (dog – (big > VERY)). Step by step, this means that the regressive relationship indicated by gradation came first. However, if the analysis had started on the left side of the sequence, this would have changed the IC structure to *((dog – big) > VERY), leading to the nonsensical interpretation that the big dog is very. On this example, Ebeling rightly notes: “this example... shows how this convention requires a reading from right to left: in ‘ $x > y > z$,’ first ‘ $y > z$ ’ form one unit, that subsequently functions as a single term towards ‘ x ’¹²” (Ebeling 2006, p. 50). Given this explanation, a position to the far left of the nexus relationship would lead to the following position in the basic IC structure of the sentence:

$$(X < (x \quad \overset{\Sigma}{=} \quad y))'$$

Fig. 49 – IC position of progressive gradation

The above notation shows that an element placed in the initial semiotactic position with progressive gradation, will, as ‘ x ’ did to ‘ $y > z$ ’ in Ebeling’s example, consider all previous relations together as a single unit to be specified.

For attitude adjuncts, then, essentially the same notations can be employed. Consider (68) and (69) below, both derived from the earlier examples given for style adjuncts:

(68) I *fortunately* don’t give a damn;

(69) ? I don’t *fortunately* give a damn.

Although (69) may strike a speaker of English as odd, there is a notation that could be given of it. It would remain true that in this position, it would fall within the scope of the notation in

¹² “Dit voorbeeld laat... zien hoe deze conventie een lezing van rechts naar links verlangt: in ‘ $x > y > z$ ’ vormt eerst ‘ $y > z$ ’ één blok, dat vervolgens in zijn geheel als één enkele term fungeert ten opzichte van ‘ x ’” (Ebeling 2006, p. 50)

one reading of it (the other, sentential reading, being a product of interpretation). Because of this, a notation of this sentence would be almost identical to fig. 48. In the same vein, “fortunately” in (68) reflects upon the entirety of the rest of the sentence, and can thus be said to take sentential scope, leading to a notation like fig. 47.

All in all, then, it seems that the medial position which either of these adjuncts take has a considerable influence on their use. When placed in the M1 position (as in (66) and (68)), they take sentential scope, which most closely resembles the meaning disjuncts of these types were argued to have by Takahashi in chapter 4. In the M2 position, on the other hand, they take specifying predicational scope, and therefore seem to behave more like regular manner adjuncts. However, as Quirk and Greenbaum (1973) point out, “if there are no auxiliaries present, M1 and M2 positions are neutralised” (p. 209). In a case like this, there thus seems to be some ambiguity: can it be said that “frankly” in “I *frankly* want to go” takes sentential scope or predicative scope without hesitation? I would conclude, then, that ambiguity between these two scope types arises when M1 and M2 are not distinguishable.

7.5 *Modal Adjuncts*

The most important question to be asked with regard to this type of adjunct is: can a modal adjunct, in any position, take any other type of scope than sentential scope? In the disjunct chapter above, it had been concluded that the example provided by Takahashi did not contain a disjunct so much as an adjunct, when approached from the semiotactic perspective.

However, what has not yet been performed is an analysis of the interaction between the position in the sentence of such an element and its semantic contribution to it. To do this, it is important to examine in what positions it can occur, and whether any significant shifts in meaning can be detected.

In order to do so, it is not necessary to look at initial position modal adjuncts anymore, as we have seen above that they can be considered sentential, and that since they specify

the occurrence or non-occurrence of a given situation, they stratify the sigma. Apart from that, the final position seems to be barred for modal adjuncts. Rather, in these positions, a disjunctive position to the sentence they accompany is preferred (c. f. “he could have done it for the fame, perhaps”). What is left to examine, then, is the medial position. For an indication into this matter, note sentences (70) - (74) below:

(70) Two, *perhaps* three, men jumped him from the bushes;

(71) He saw five, *maybe* six, men in his yard;

(72) He may *possibly* have missed it;

(73) He *possibly* may have missed it;

(74) ? He may have *possibly* missed it.

The first two are instances of modal adjunctive words used in a way in which they do not perform an adjunctive function. This is important, however, as it is a function such a word can perform whilst not specifying the occurrence of the entirety of the situation. I would argue that these occurrences fall within the category of *apposition*, that is to say, a restatement and a specification of an entity within a situation. This is different from a syntactic boundary, as in practice both elements in an apposition relation may be taken to take the same position in the semiotactic notation. A typical example would be “John, the captain, reclaimed control of his ship.” Since the relationship between elements in apposition is expressed using the symbol “.”, the first nexus member of this sentence comes to look like this: ‘PNJohn . captain’.

Although in this case both elements give different names for the same thing and “two, perhaps three men” does not, this is the correct way to specify this reiteration. However, neither element takes the role of first nexus member in its entirety. Rather, the correct notation would look as is shown in fig. 50 below:

$$\begin{array}{l} \text{man / 2 . 3 / perhaps} \\ \text{[jump1]} \\ \text{[jump2]; he'} \end{array} = \begin{array}{l} \text{'}\Sigma / \text{PR} \\ \text{[jump1]} \\ \text{[jump2]; he'} \end{array} > \begin{array}{l} \text{[from1]} \\ \text{[from2] ; bushes} \end{array}$$

Fig. 50 – Notation of “two, perhaps three, men jumped him from the bushes”

Moving on, the difference between (72) and (73) is slight in meaning, but there is one to be detected. In (72), the modal adjunct is in the M2 position, and in this position the adjunct takes sentential scope again, whereas in (73), in which the adjunct is found in M1, there is a slightly but distinctly different notation to be employed. Because it takes predicational scope in this position, and it modifies the modal verb “may” here, it takes predicational scope, and that on the sigma line, as is shown in fig. 51:

‘ Σ / PR / may > possible
 He = [miss1]
 [miss2] ; it’

Fig. 51 – Notation of “he possibly may have done it”

In the above notation, it is the modal information that is provided by “may” that is specified by the adjunct. Although the adjunct indirectly affects the occurrence of the entire situation in this position, it is therefore still to be considered to take predicational scope. It must be noted, however, that to some speakers of English, it does sound redundant to specify the modal in this position in a declarative statement, although it does not in combination with negation or in questions (possibly due to politeness).

In sum, a number of different semiotactic positions can be distinguished for these types of adjunct. An overview of these positions can be found in fig. 51.

Mod. Type/Pos.	Initial	M1	M2/3	Final
Place Adjunct - Static:	[Y] ‘ Σ $X < (x = y)$ ’	[N]	[Y] ‘ Σ $x = y > X$ ’	[Y] 1. ‘ Σ $x = y - X$ ’ 2. ‘ Σ $x = y > X$ ’
- Dynamic:	[Y] ‘ Σ $x = y > X$ ’	[Y] ‘ Σ $x = y > X$ ’	[Y] ‘ Σ $x = y > X$ ’	[Y] ‘ Σ $x = y > X$ ’
Time Adjunct - Static:	[Y] ‘ Σ / X $x = y$ ’	[Y] 1. ‘ Σ / X $x = y$ ’	[N]	[Y] 1. ‘ Σ / X $x = y$ ’
- Dynamic:	[Y]	2. ‘ Σ / X ’		2. ‘ Σ ’

	' Σ / X $x = y$ '	$x - X = y$ 3. ' Σ $x \sim X$ ' = y		$x = y - X$ 3. ' Σ $x = y, X$ ' 4. ' Σ $x = y \sim X$ '
Style Adjunct	[N]	[Y] ' Σ	[Y] ' Σ	[N]
Attitude Adjunct		$X < x = y$ '	$x = y > X$ '	
Modal Adjunct	[Y] ' Σ / X ' $x = y$ '	[Y] 1. ' $\Sigma / \text{modal} > X$ $x = y$ ' 2. ' Σ / X $x = y$ '	[Y] ' Σ / X ' $x = y$ '	[Y] ' Σ / X ' $x = y$ '

Fig. 52 – Inventory of adjunct types, their potential positions, and their meanings

In sum, there is a wide variety of meanings to meanings of adjuncts and their positions. Some generalisations can be made on the basis of the table above. For instance, the types of adjuncts here distinguished from their disjunctive counterparts do not seem to be compatible with the positions that these disjuncts take. Moreover, these adjuncts cannot focus on the first nexus member exclusively. Apart from that, what has here been called the modal adjunct cannot be found anywhere else in the notation, apart from when they occur in interjunctive apposition positions. Moreover, even when they occur in in predicational positions, they can only do so in combination with modal verbs which, themselves, take a position next to the sigma in the notation. Generally speaking, it may also be said that the initial position seems to be specialised for sentential scope-taking elements, which is probably why dynamic place adjuncts are so rare in this position. The most versatile positions, then, seem to be the M1 and the final positions.

8. Discussion

In fig. 52 below, the combined results of the above study have been presented.

Element/ Position	Initial	M1	M2	M3	End
Disjunct ':: X > ...'	[Y]	[Y]	[Y]	[Y]	[Y]
Premodifier Adj. 'x - X'	[Y]	[N]	[Y]	[Y]	[N]
Postmodifier Adj. 'x ~ y'	[N]	[Y]	[N]	[N]	[Y]
PP of Place: - Dynamic:					
1. entity	[N]	[N]	[N]	[N]	[N]
2. abstraction	[N]	[Y] 'A - X'	[N]	[N]	[Y] 'A - X'
3. trajectory	[N]	[Y] 'T - X'	[N]	[N]	[Y] 'T - X'
- Static:					
1. entity	[N]	[Y] 'E - X'	[N]	[N]	[Y] 'E - X'
2. abstraction	[N]	[Y] 'A - X'	[N]	[N]	[Y] 'A - X'
3. trajectory	[N]	[N]	[N]	[N]	[N]
PP of Time: "x - y"					
- Dynamic:					
1. entity	[N]	[N]	[N]	[N]	[N]
2. abstraction	[N]	[N]	[N]	[N]	[N]
3. trajectory	[N]	[N]	[N]	[N]	[N]
- Static:					
1. entity	[N]	[Y]	[N]	[N]	[Y]

2. abstraction	[N]	'E - X' [Y]	[N]	[N]	'E - X' [Y]
3. trajectory - Resultative:	[N]	'A - X' [N]	[N]	[N]	'A - X' [N]
1. entity	[N]	[Y] 'E - X'	[N]	[N]	[Y] 'E - X'
2. abstraction	[N]	[N]	[N]	[N]	[N]
3. trajectory	[N]	[N]	[N]	[N]	[N]
Place Adjunct: - static:	[Y] 'Σ X < (x = y)'	[N]	[Y] 1. 'Σ x = y > X' 2. 'Σ x = y - X'	[Y] 'Σ x = y > X'	[Y] 1. 'Σ x = y - X' 2. 'Σ x = y > X'
- dynamic:	[Y] 'Σ x = y > X'	[Y] 'Σ x = y > X'	[Y] 'Σ x = y > X'	[Y] 'Σ x = y > X'	[Y] 'Σ x = y > X'
Time Adjunct - static:	[Y] 'Σ / X x = y'	[Y] 1. 'Σ / X x = y' 2. 'Σ / X x - X = y' 3. 'Σ x ~ X' = y	[N]	[N]	[Y] 1. 'Σ / X x = y' 2. 'Σ 'Y - X' 3. 'Σ x = y, X' 4. 'Σ x = y ~ X'
- dynamic:	[Y] 'Σ / X x = y'	[N]	[Y] 'Σ / X x = y'	[N]	[Y] 'Σ / X x = y'
Style Adjunct Attitude Adjunct	[N]	[Y] 'Σ X < x = y'	[Y] 'Σ x = y > X'	[Y] 'Σ x = y > X'	[N]
Modal Adjunct	[Y] 'Σ / X' x = y'	[Y] 1. 'Σ / modal > X x = y' 2. 'Σ / X x = y'	[Y] 'Σ / X' x = y'	[Y] 'Σ / X' x = y'	[Y] 'Σ / X' x = y'

Fig. 52 – Complete mapping of the contribution of potential sentence positions to modifiers and/or adverbials

As the above table shows, each of these positions can be host to a wide variety of different meanings. This means that, given the compatibility of a (sequence of) element(s) with any of these positions, ambiguity may arise. For instance, in the initial position, although there are not many possibilities for ambiguity, although it is possible to create some via adverbs, not only between disjuncts and adverbs to modifiers, but also with manner adverbs, as the sentence “Quickly, he observed that none of the obscene images were women...” (Kane 2001, p. 198) exemplifies. Although it contains a comma, native speakers do consider it part of the sentence, and modifying the verb of the sentence. The M1 position, rather, seems to be used almost exclusively for modifying the first nexus member or the situation as a whole. No ambiguity can be found in this position on the basis of the types of adverbials and modifiers here discussed. Similarly, the M2 position is limited in the types of meaning it contributes. If it does not specify the entirety of the situation, it specifies the action described in the second nexus member, although a sentence like “I have in truth done many things wrong” also shows that this position may be used for the particularisation of the *x*-role of the action. The M3 position cannot do so, and only specifies either the entirety of the situation or the action in the second nexus member. Finally, in the end position, most ambiguity can be found. For example, going back to the earlier example of “one morning I shot an elephant in my pyjamas,” we find the elements *in my pyjamas* in the final position. Multiple meanings can be ascribed to this type of preposition phrase, among which are the static place adjunct and the static place modifier. Because this element is compatible with both of these, there is ambiguity. Also, taking a sentence like “women were oppressed by men *in the Middle Ages*”, it is notable that there is much ambiguity even within the same type of adverbial. The PP may, for instance, be read as placing the entirety of the situation in the past, specifically the Middle Ages, to say that in those days men oppressed women. It may, however, also be read as meaning what kind of men were oppressing men. However, it cannot be taken to particularise

the agentive role, as the place adjunct in the previous example has done. This points to a limitation in the present study. Although the above has given an extensive overview of the types of meanings sentential positions may add to specific types adverbials or modifiers, and with that may be seen as a contribution to the field of semiotactic research, there is still a lot that cannot yet be gleaned from it. For instance, what type of meaning is compatible with what type of modifier or adverbial, cannot be gleaned from this. This work would therefore have to be relegated to future research, which may help to provide a more complete picture of ambiguity. Moreover, there is still work to be done on sequences of such elements, as their interaction or lack thereof must also be attributable to the place within the sentence that these elements take. Also, although the present study has taken a wide variety of types into account, many more types of meaning will have to be included to form a complete picture of the placement possibilities of such elements and their effect on the meaning of the entirety of the sentence. Finally, although a wide variety of positions have been distinguished and analysed here, the predicate position (e. g. "I am *in the bath*") has not been discussed separately, as it is difficult to get structural, non-lexical ambiguity in this position without incorporating more than one adverbial or modifier. A first step to tackling the important issue of when ambiguity arises, and to what sort of meanings such ambiguity is limited, however, has been taken here.

9. Conclusion

In the present paper, the ambiguity that may arise in modifiers and adverbials has been researched from the perspective of the semiotactic framework. First, the kinds of adverbials and modifiers distinguished by grammarians have been discussed, and a number of them have been selected for analysis. In chapter 5, the disjunct has been discussed and generalised on. It appears this element must, from a semiotactic perspective, be kept separate from the sentence it comments on. After that, the modifier has been discussed. To give a more complete picture of this element, it has been necessary to distinguish various kinds of entities, to give a more complete picture of the types of elements they can or cannot combine with. Finally, of the types of disjunct and modifier that had been discussed, the adjunctive incarnations have been discussed, which revealed that these could take a myriad of meanings in all positions. The combined results of these chapters present a varied image of the sentence positions and the types of meaning they allow an element to take. Further research will have to complete this picture by analysing what types of constellations can receive what kinds of meaning from a given sentence position, to reveal the complete extent of ambiguity. In the discussion, this variation has been presented, along with some initial generalisations on the data. This revealed that the end position is the position in which most ambiguity is likely to occur. More

research is yet to be done, however, specifically concerning the forms of the various adverbials or modifiers and the possibilities of these forms to take on certain semiotactic roles. For now, however, the first step has been taken towards a complete inventory of sources of ambiguity, and with that, polysemy in the various positions that adverbials and modifiers can take.

References

- Austin, J., S. Engelberg, G. Rauch (2004) “Current issues in the syntax and semantics of adverbials,” in Austin, J. S. Engelberg, G. Rauch (eds.) *Adverbials – the interplay between meaning, context, and syntactic structure*. Amsterdam: John Benjamins Publishing Company, pp. 1-45.
- Bartsch, R. (1976) *The Grammar of Adverbials: a study in the semantics and syntax of adverbial constructions*. Amsterdam: North – Holland Publishing Company.
- Biber, D., S. Johansson, G. Leech, and E. Finnegan (1999) *Longman Grammar of Spoken English*. Harlow: Pearson Education Limited.
- Chomsky, N. (1965) *Aspects of the Theory of Syntax*. Massachusetts: MIT Press.
- Curry, R. (2013) *Major Events Between WWI and WWII*. Retrieved from:
<https://prezi.com/zdjkrylo5uan/major-events-between-wwi-and-wwii/> (Accessed 1 August 2015)
- Ebeling, C. (1954). “On the semantic structure of the Russian sentence.” *Lingua* 4, pp. 207-222.
- Ebeling, C. L. (1978) *Syntax and Semantics – A Taxonomic Approach*. Leiden: E. J. Brill.

- Ebeling, C. L. (2006) *Semiotaxis – Over theoretische en Nederlandse syntax*. Amsterdam: Amsterdam University Press.
- Ernst, Thomas. 2004. “Principles of Adverbial Distribution in the Lower Clause.” In *Lingua* 114, pp. 755-777.
- Halliday, M. A. K. (2004) *An Introduction to Functional Grammar*. London: Edward Arnold.
- Hasselgård, H. (2010) *Adjunct Adverbials in English*. Cambridge: Cambridge University Press.
- Harris, Z. (1968) *Structural Linguistics*. Chicago: Chicago University Press.
- Heerman, V. (Director) (1930) *Animal Crackers*. United States: Paramount Pictures.
- Huddleston, R., G. K. Pullum (2002) *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Jacobson, S. (1964) *Adverbial Positions in English*. Stockholm: Studentbok.
- Jespersen, O. (1969) *Analytic Syntax*. New York: Holt.
- Kane, T. (2001) *The Mark of Gnosis*. United States: Xlibris.
- Kiss, K. E. (2009) “Syntactic, semantic, and prosodic factors determining the position of adverbial adjuncts.” In Kiss, K. E. (ed). *Adverbs and Adverbial Adjuncts at the Interfaces*. Berlin: Mouton de Gruyter, pp. 21-38.
- Quirk, R., Greenbaum, S., Leech, G. Svartvik, J. (1985) *A Comprehensive Grammar of English*. London: Longman Group Limited.
- Schreiber, P. (1971) “Some Constraints on the Formation of English Sentence Adverbs.” *Linguistic Inquiry* 2, pp. 83-101.
- Szabó, I. (Director) (2004) *Being Julia*. United States: Sony Pictures Classics
- Takahashi, H. (1981) “On So-Called Speaker-Oriented Adverbs : How a speaker appears in a sentence”. In *The annual reports on cultural science*, 30(1), pp. 103-122.

Women in the Middle Ages (n. d.) In *Wikipedia*. Retrieved from:

https://en.wikipedia.org/wiki/Women_in_the_Middle_Ages (accessed 1 August 2015)