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Deconstructing Meaning : a semiotactic approach to gerundival constructions in English

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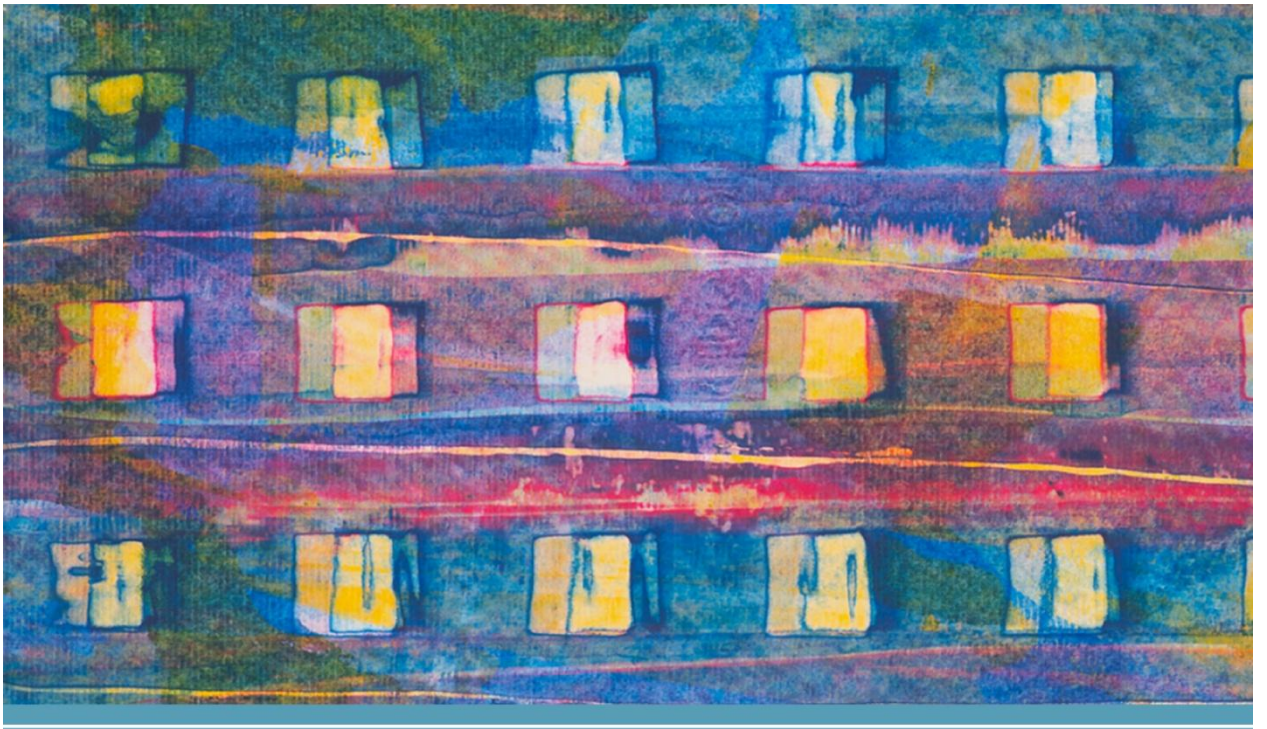

Deconstructing Meaning

A semiotactic approach to gerundival constructions in English

Lennart Frank van der Velden

Cover art: Kees van der Velden

Deconstructing Meaning

A semiotactic approach to gerundival constructions in English

Proefschrift

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Dedicated to
Lisa van Vark
and
my parents

Preface

Before you lies the dissertation *Deconstructing meaning – A semiotactic approach to gerundival constructions in English*. In this work, I attempt to inventorise the various positions *–ing* forms can take in English sentences from a semiotactic perspective, focusing on the elusive semantics of the clausal gerund (e.g. *Reading books is fun*). It is hoped that this work will be a useful contribution to the active debate that still surrounds the clausal gerund, and that it will convince the reader of the versatility and usefulness of the semiotactic framework in analysing linguistic data.

The project was undertaken when Frits Kortlandt invited me to write a dissertation under his supervision. I am very grateful for the opportunity he has given me and I wish to express my special gratitude to him; I have learned most of what I know about the semiotactic framework from him.

The aim of this work was formulated under Frits Kortlandt's and Egbert Fortuin's supervision. After the expiration of Kortlandt's *ius promovendi*, the work proceeded under the supervision of Ton van Haaften and Egbert Fortuin. The central findings presented in this work were collected and formulated under their meticulous supervision.

I would like to thank my supervisors wholeheartedly for their support throughout the process. I am also grateful to my parents for supporting me in this endeavour and for their advice and help and to my girlfriend Lisa van Vark, who stuck with me through all the stressful moments that inevitably accompany a project such as this. I would also like to extend my gratitude to the friends that have helped me in some way in writing this dissertation, and for the support I have had from other people affiliated with the LUCL. In particular, I would like to thank Milan van Berlo and Joshua Koster for their help.

I hope you will enjoy reading this work.

Lennart van der Velden

Zeist, 3 September 2018

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The underlined sentences refer to examples that are accompanied by a semiotactic notation. Some examples occur in multiple positions. In those cases, the first instance of that sentence will refer to the number of the second, which may be notated where the first was not.

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(1) "Two glasses is good, but five is bad" (Ebeling 1978, p. 279). p.12
(2) The boy eats an apple. p. 13
(3) The hungry boy eats an apple. p. 15
(4) The very hungry boy eats an apple. p. 16
(5) The very hungry boy quickly eats an apple. p. 16
(6) I saw the man yesterday. p. 17
(7) Yesterday I saw the man. p.17
(8) The very hungry boy eats apples. p. 18
(9) Totally clear water p. 19
(10) Water totally clear p. 19
(11) He works fast having drunk a cup of coffee. p. 20
(12) An inkblot p. 22
(13) A blue-black sky p. 22
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(15) Do I eat an apple? p. 24
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(19) Notation of *urbs condita est* in Ebeling (1978, p. 241) p. 30
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(22) I will be reading in my room. See (25) p. 35
(23) I will have been reading in my room (for hours). See (26) p. 35
(24) I am reading in my room. p. 39
(25) I will be reading in my room. p. 39
(26) I will have been reading in my room. p. 40
(27) "She often cries" (Ebeling 1978, p. 372) p. 40
(28) "She often cries" (Ebeling 1978, p. 372) alternatively notated p. 40
(29) The train leaves tomorrow. p. 41

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(31) I haven't done anything like this in years. p. 42
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(38) Any man hunting between 10 and 12 will be arrested for disturbing the peace. p. 50
(39) A man walking in the streets. p. 50
(40) A walking man in the street. p. 50
(41) The woman driving the van is coming closer. p. 52
(42) I believe it is an opportunity worth the risk. p. 52
(43) The woman giving children candy p. 53
(44) "Shielding his eyes, the man looked at the guest" (Ebeling 1978, p. 354) p. 54
(45) This is you driving your car. p. 54
(46) I don't like the drinking you. p. 55
(47) He is aggravating me. p. 56
(48) That is aggravating. p. 56
(49) "Anne was entertaining" (Brinton & Traugott 2005, p. 112) (progressive) p. 57
(50) "Anne was entertaining" (2005, p. 112) (property) p. 57
(51) A hard-working man p. 58
(52) A man working hard p. 58
(53) This is breaking my heart. p. 60
(54) This is heartbreaking. p. 60
(55) This breaks my heart p. 60
(56) The young works hard. p. 61
(57) The young work hard. p. 61
(58) The young worked hard. p. 61
(59) The working are still poor. p. 62
(60) The young at heart p. 62
(61) The hard-working p. 62
(62) The killing of a man takes time. p. 63

(63) The building of a house takes time. p. 63
(64) "Gang members who helped or even looked on as a killing takes place" ("Murder police", 27 September 2009). p. 63
(65) *A building of a house takes time. p. 63
(66) I own a building in the city. p. 63
(67) Illegal gun carrying p. 63

Chapter 3: Gerundives in gradation relations

(68) That guy was *amazingly* funny. p. 67
(69) *Amazingly*, the sprinter broke the record. p. 68
(70) A *stunningly* red dress p. 68
(71) "… I wear that, that *dazzlingly* confounds" (Melville 1851/1980, p. 23, italics added). p. 68
(72) We are progressing *frustratingly* slowly. p. 68
(73) "The blinding red rays from the ruins snapped instantaneously out…" (Lovecraft 1926/2013, p. 151). p. 70
(74) Piping hot soup p. 70
(75) It was scorching hot. p. 71
(76) All preventative measures notwithstanding, the dam broke under the weight. p. 71
(77) The outrage following the scandal was justified. p. 71
(78) He fled the country following the attacks. p. 72
(79) "Considering none of those guys knew how to use cameras, it was pretty amazing when it started to come together" (Helmore, 6 August 2011). p. 72
(80) I still cry *thinking* about it. p. 73
(81) I make my money *driving* cars. p. 73
(82) "I framed my resolution and in heart *trembling* undertook to move it" (Ghandi 1929/1982, p. 436). p. 73
(83) I left the hospital *examined*. p. 76
(84) I believed the surgery would help, *having examined* many studies. p. 76
(85) I was very anxious *being examined for malaria.* p. 77
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Chapter 4: The situational gerund

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(90) She liked *talking*. p. 83

(91) She stopped *talking*. p. 83
(92) She avoided *talking (to him)*. p. 83
(93) She continued *talking*. p. 83
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(Huddleston & Pullum 2002, p. 1204, italics added).
(95) "I resented *Kim mistreating my cat*" p. 84
(p. 1204, emphasis added).
(96) "That way I avoided *her seeing the brand on my inner thigh*" (Swarovski, 2015). p. 84
(97) John left *to work out*. p. 85
(98) John likes *to work out*. p. 85
(99) Stella killed Mickey *to send a message*. p. 85
(100) Stella had counted on *Mickey to toe the line*. p. 85
(101) "I saw the man jumping" p. 86
(Ebeling 1978, p. 308, italics removed).
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(103) I saw a man *writing a book*. p. 87
(104) I saw *a man write a book*. p. 87
(105) *Being loud* is just *being young and dumb*. p. 88
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(108) She sat. p. 88
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(110) *She likes. p. 88
(111) I caught her *mistreating my cat*. p. 89
(112) *I caught *mistreating my cat*. p. 89
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(114) I resent *mistreating my cat*. p. 89
(115) *I resent. p. 89
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(117) *Men being driven insane* is a serious problem. p. 89
(118) I found her *trapped in her room*. p. 89
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(Huddleston & Pullum 2002, p. 1204, emphasis added).
(121) "I caught *Kim/*Kim's mistreating my cat*" p. 90
(p. 1204, emphasis added).

(122) "I can safely say that *to know him* was *to love him*, and *to love him* was *to know him*. Those who knew him loved him, while those who did not know him loved him from afar" (Roddenberry et al. & Landau, 1989). p. 90
(123) *To know the truth* is a burden. p. 90
(124) John left *to work out*. p. 91
(125) John left. p. 91
(126) John likes *to work out*. p. 91
(127) *John likes. p. 91
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(129) *John brought *to pick her up*. p. 91
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(131) John expected *to see her*. p. 91
(132) *John expected. p. 91
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(134) **The man jump* is impressive. p. 92
(135) I saw *a man writing a book*. p. 92
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(139) *I hear *ring*. p. 93
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(141) *To live in fear of attack* is a terrible stress and one which GPs could do without. See (212) p. 94
(142) *Doing so* would have required 18,446,744,073,551,615 grains. See (213) p. 94
(143) "*To do so* would have required 18,446,744,073,709,551,615 grains!" (Featherstone 1975, emphasis added). See (214) p. 94
(144) *Washing the dishes* used to be a drag until I bought a dishwasher. See (215) p. 95
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(158) I hope I'm not sending the wrong message *in doing so.* See (222) p. 97
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(167) "I remembered *to lock up*" (Huddleston & Pullum 2002, p. 1243, emphasis added). See (227) p. 100
(168) "I hate *lying*" (Jespersen 1940, p. 193, emphasis added). See (228) p. 100
(169) "I hate *to lie*" (p. 193, emphasis added). See (229) p. 100
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(171) "Mary began *to hit John*" (p. 85, emphasis added). See (231) p. 101
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(173) He avoided *paying the damage to the other car.* See (233) p. 101
(174) I celebrate *you saving our lives.* See (234) p. 102
(175) I deplore *his insisting I do everything.* See (235) p. 102
(176) I contemplated *intervening on his behalf.* See (236) p. 102
(177) Forgive *my saying so.* See (237) p. 102
(178) We prevented *them escalating the problem.* See (238) p. 102
(179) The government has *prohibited our protesting the new bill.* See (239) p. 102
(180) This will only serve *to cause panic.* See (240) p. 103
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(182) I'm trying *to understand you.* See (242) p. 103
(183) He seems *to be lying.* See (243) p. 104

(184) He appears *to have a hidden agenda.* See (244) p. 104
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(186) "He asked *for Pat to be interviewed*" (p. 1230, emphasis added). See (246) p. 104
(187) Pat asked *to be interviewed.* See (247) p. 104
(188) Pat was asked *to be interviewed.* See (248) p. 104
(189) "They are actually willing *him to do it*" (Isherwood 1964, p. 11, emphasis added). See (249) p. 104
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(192) I counted on *Ed to bake the cookies.* See (252) p. 105
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(195) *I believe *John having liked Anselm.* p. 106
(196) I verified *him to be lying.* See (256) p. 106
(197) *I verified him *(being) lying.* p. 106
(198) "I saw the man jumping" (Ebeling 1978, p. 308) (notation adapted to present style). p. 107
(199) "He likes being rich" (1978, p. 307) (notation adapted to present style). p. 107
(200) "He likes to be rich" (1978, p. 307). p. 108
(201) "I remember filing that article somewhere in the top drawer of my filing cabinet" (Duffley 1999, p. 303). p. 115
(202) "I remember filing that article somewhere in the top drawer of my filing cabinet. The drawer was absolutely full, and I had to squeeze it in at the back" (Egan 2008, p. 69). p. 116
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(204) "He wanted to be home when she arrived" (p. 30). p. 120
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(206) Locking the door p. 135
(207) "*veter svalil berezu*" (Ebeling 1978, p. 292). p. 136
(208) "*berezu valilo vetrom* 'the wind felled the birch'" (1978, p. 337). p. 136
(209) I hate *lying.* p. 140
(210) I hate *to lie.* p. 140

(211) "*Living in fear of attack* is a terrible stress and one which GPs could do without" (Egan 2008, p. 133, emphasis added). p. 142

(212) *To live in fear of attack* is a terrible stress and one which GPs could do without. p. 142

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(236) I contemplated *intervening on his behalf.* p. 156

(237) Forgive *my saying so.* p. 157

(238) We prevented *them escalating the problem.* p. 157

(239) The government has prohibited *our protesting the new bill.* p. 157

(240) This will only serve *to cause panic.* p. 158

(241) He declined *to take up the challenge.* p. 159

(242) I'm trying *to understand you.* p. 159
(243) He seems *to be lying.* p. 160
(244) *He appears to have a hidden agenda.* p. 160
(245) "He asked *Pat to be interviewed*" p. 161
(Huddleston & Pullum 2002, p. 1230, emphasis added)
(246) "He asked *for Pat to be interviewed*" p. 162
(p. 1230, emphasis added).
(247) Pat asked *to be interviewed.* p. 162
(248) Pat was asked *to be interviewed.* p. 162
(249) "They are actually *willing him to do it*" p. 163
(Isherwood 1964, p. 11, emphasis added).
(250) I expect *you to work harder.* p. 163
(251) You are expected *to work harder.* p. 163
(252) I counted on *Ed to bake the cookies.* p. 164
(253) I counted on *Ed to bake the cookies,* alternative notation. p. 164
(254) I counted on *the oven to work* to *bake the cookies.* p. 165
(255) "I believe John *to have liked Anselm*" p. 166
(Kiparsky & Kiparsky 1971, p. 363)
(256) I verified *him to be lying.* p. 166

Chapter 1 – The semiotactic framework

1.1 – Introduction

In the present work, I will develop a complete account of the various uses of *–ing* forms in English. I will do so making use of the semiotactic framework, as I believe this system is discerning enough to analyse the minute distinctions between each of them. This, in itself, is a hypothesis I wish to provide evidence for. The semiotactic framework is underused in my opinion, especially considering the preciseness of its function. I hope to demonstrate this preciseness in the analyses that follow. In particular, a semiotactic explanation for the distinction between the clausal gerund (henceforth referred to as *situational gerund, situation* being a semiotactic term) and the *to*-infinitive will be sought. I believe that a refreshing, new perspective can be gained on this controversial topic by applying the semiotactic framework to analyse these two forms. This will be the third goal of the present work. In total, this means that we have three separate aims:

1. To give a full inventorisation of gerundival forms;
2. To present a new distinction between the situational gerund and the *to*-infinitive, based on semiotactic principles;
3. To prove that the semiotactic framework provides an adequate analytical method for distinguishing all the gerundival forms under discussion in this work, as well as a method of formalisation that is sufficient to express the differences between them.

Since many of the constructions in which *–ing* forms are found have already been satisfactorily analysed, the present work may be said to consist of two separate parts. The first, which spans chapter 1 to 3, is explanatory in nature. The semiotactic framework itself will be described in such detail that the notations that occur throughout this work can be understood. Apart from that, the framework will be applied to constructions about which not much debate is going on: their nature is understood, which makes the application of the semiotactic framework more explanatory than innovative, although the analyses this yields may or may not fall in line with those of other analysts. These analyses may concern uncontroversial constructions (e.g. *a walking man*), but providing a satisfactory analysis for all of them naturally requires a system sufficiently sophisticated to do so. A full definition of the clausal gerund also requires positive as well as negative definition: to find out what the situational gerund *is*, we must know what it is *not*. These analyses will therefore serve to reach all three of the goals set above.

The second part of this work is rather more *exploratory* in nature. Here, I will attempt to give a single meaning description of the situational gerund and the *to*-infinitive, both of which will be argued to be applicable in all contexts in which they may be found. This is in keeping with the principle of *one form – one meaning*, which is essential to semiotactic analysis. A great advantage to the semiotactic framework in this regard is that it does not simply require one to give a description of these meanings, but also to write out in detail how these meanings interact with the rest of the sentence on a case-by-case basis. As such, every notation presented below may be regarded as a clear and falsifiable hypothesis on the nature of the meaning of the sentence.

On the whole, this work is divided into two parts: one part, which spans from chapter 1 to chapter 3, describes the semiotactic framework and applies it to data which have been explained, at least to my knowledge, to a sufficient degree by other linguists. I have done so in an attempt to show the explanatory value of the semiotactic framework. This model was designed to indicate every semantic relationship that can be expressed by the grammar of any language. Significantly, it makes it possible to notate very precisely which meaning interacts with which directly and, as such, also where structural ambiguities may arise. In giving such a notation, a linguist presents the results of his own analysis of the data in the form of a clear and falsifiable statement. This is what makes the semiotactic framework an indispensable tool in the search for the meaning of grammar. I hope to have proven that the semiotactic framework is up to the task of expressing these statements in the first part of this work. Moreover, the description of these more clearly defined gerundival forms made it possible to isolate the topic of the second part: the situational gerund. Here, the (mostly structuralist) principles on which the semiotactic framework is based have been applied to a controversial topic to propose a novel explanation.

As stated before, the present chapter will be dedicated to the explanation of the framework. Chapter 2 will be the first chapter dedicated to *–ing* forms specifically. When one thinks of a gerund, the first example to enter one's mind is most likely a nominal *–ing* form, which is used to introduce a verbal meaning into the sentence as a noun, as in *the changing of the guards*. However, not all nominal gerunds can rightly be thought of as merely nominalising anymore. Reading the sentence *I saw the building*, for example, probably does not lead one to assume that what the writer saw was a process. Rather, a *building* is thought of as a thing, a structure. It is of interest here to analyse the differences between such constructions, and to provide a complete account of them.

Naturally, these two types of nominal constructions do not exhaust the uses of the *–ing* suffix. What to think, for instance, of the difference between *the driving man* and *the man driving*? Can a unified account be given of the subtle meaningful differences between such constructions? Both, naturally, are *participles* in this case, rather than gerunds. In this case, we would probably consider both gerundives to be adjectivally used, but what could motivate the choice for one over the other? These questions will be discussed in chapter 2.

There also is a lot of variation to be found in gerundives that are used adverbially. I will provide an analysis of these in chapter 3. Some of these take the suffix *–ly* (e.g. *He performed astoundingly well*) where others do not (e.g. *She admitted to the crime leaning her head on her hand*). Naturally, a discussion of such participles cannot gloss over other forms, so others will also be discussed. A small group of gerundives can even play the role of a preposition (as in *He did not give any information concerning the whereabouts of the money*) or even that of a conjunction (e.g. *It's a miracle he's alive considering he fell from quite a height*). These last two instances are particularly interesting as these two word groups are considered to be *closed-class*: new words are added to these only very rarely. The term *gerundive* will be used for any participle *–ing* form, and *gerund* will be used for any *–ing* form that introduces an entity. Both are referred to as *gerundival* in this work.

As stated, it is necessary to analyse the gerundival constructions discussed above in order to isolate the construction that is usually called the situational gerund, which I will call the *situational gerund* from now on. This form, which may be said to describe a situation, can be used as a subject (e.g. *Working there is driving me mad*), an object (as in *I don't mind staying here*) or as the complement to a preposition (e.g. *I lost my watch while swimming across the lake*). Formally, these constructions are very similar to constructions discussed above: what is the structural difference, for instance, between *I caught her smoking* and *I remember her smoking*?, or between *She sat talking* and *She enjoyed talking*? This form has been the focus of a lot of discussion, especially among semanticists, because its precise meaning, which in many ways is similar to that of the *to*-infinitive (which can also function as the object of a verb: *I want to be free*), is difficult to isolate due to this 'competition', and the positions each construction can and cannot take (why can one say *I like swimming* and *I like to swim*, for example, but not **I don't mind to swim* or **I want swimming*?). A perfect semantic description of these forms will naturally be one which can account for all these differences purely on the basis of the meaning, rather than invoking any arbitrary selection restrictions

which are not based in semantics. This, then, may be regarded as the biggest challenge to be faced in the present work.

This chapter will present an overview of the essentials of the semiotactic framework. The rest of this study will take the principles explained here as a basis. First, the theoretical background of the framework itself will be discussed. After that, various aspects of the practice of semiotactic notation will be discussed. Following this, some of the relations that syntax allows speakers to forge between meanings will be discussed. In semiotactic notation, these relations are expressed using *functors*: symbols that are placed between meanings. After that, some grammatical meanings will be discussed: *tempus*, *mode*, and *intention*. The sections that follow these descriptions will be concerned with more specific concepts.

1.2 – Theoretical background

The aim of semiotactic analysis is to lay bare the interrelations which exist between separate meanings in a sentence; to find the complex meaning that the sentence as a whole has. The first time Ebeling published some of its fundamentals was in 1954. In the first line, he notes: "[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). In this early paper, the semantic contribution of placement is highlighted using the opposition of *finger-ring* and *ring-finger*. This pair exemplifies two meanings which are related to one another in a different fashion, solely due to the structure of the utterance: a *finger-ring* is a ring that is meant to be worn around the finger, whereas a *ring-finger* is the finger on one's hand around which a ring is commonly worn.

In order to work towards the essential goal of the semiotactic framework, one has to work within the principles that the framework is based on. Naturally, the analysis of language is only possible under the assumption that "a language is a system where all elements are interrelated" (1978, p. 1). This is a presupposition that is made by anyone investigating language. A sequence of pictures without an explicit connection between them could also be perceived as a story, due to the creative power of the human mind. In a similar way, a sequence of words like *man car road house bed* may be interpreted in many ways. One might think of a man driving home to sleep, for instance, or a man using a car to drive in, to live in, and to sleep in, or any other connection. However, in stating that I believe language to be a system within which everything is interrelated, I state that I do not assume it is (merely) this cognitive power that helps us to connect

the dots. Rather, the language itself forges the connections without forcing the hearer or reader to look for them on their own.

Ebeling's work is further influenced by Ferdinand de Saussure's conception of language, in which the idea of the *form-meaning-unit* (i.e. the conception of signs as consisting of two separate but interdependent aspects, that is, the phonological aspect and the semantic aspect) and the principle of *one form–one meaning* as two of the most important principles of the framework. This adage forces the analyst to consider every formal element a single entity, and not to assume the same form to have more than one meaning, or vice versa. The consequence of this is that when a form is isolated, all of its instances must, in the case of semiotactic analysis, be explained giving only a single definition of that form. The meaning must therefore be general enough to subsume all occurrences. Naturally, this does not always hold in practice: homonymy and polysemy can be found in any language. The analyst, however, should not assume that the phenomena he is faced with fall into these categories unless all other possible explanations prove insufficient. For this reason, Ebeling cites Kirsner (1979, p. 11), who argues about this principle: "It is [...] a claim of the analysis that a particular signal always indicates a particular meaning and that a particular meaning is always indicated by a particular signal. Though a given grammatical meaning in combination with different lexical meanings may communicate what are intuitively felt to be widely different meanings, this fact alone cannot justify the setting up of homophonous signals" (cited in Ebeling 2006, p. 11). As the phenomena that will be discussed in this study are exactly of this kind, the challenge is to hold true to this principle.

Now that these terms have been explained, it is possible to show what Ebeling considers to be the steps that speakers and hearers take in communication. As an example, let us take a situation in which I see a necklace on the street somewhere walking with somebody who has lost theirs. Within this context, as in any other, 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 world I wish to communicate verbally. Note that this also requires some interpretation on the part of the speaker. To come to communication, first I must *program* the information, meaning I select the words for (the) appropriate referent(s) to linguistically point out the actual referent. After selecting the most appropriate meaning, I will *code* the message, that is, access the phonological form connected to the meaning. Finally, a speaker will *realise* the speech act by speaking (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*.

Although the above may sound highly psychological, it is as far as Ebeling will go in the discussion of the psychology behind language. As stated, he argues that "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, and the way in which the data is connected to the real world is not of linguistic importance. This is an important point to make here, because it leads into a distinction that is fundamental to the present work, namely between *interpretation* and *meaning*. This may seem obvious at first glance, but drawing a fine distinction between the two may in practice be difficult, yet it is essential for the description of language (and only language). Interpretation can be defined as "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.)" (Ebeling 2006, p. 27).[1] In a sentence like *Five men are carrying five tables*, for instance, interpretation is required to select between a *distributive* reading (i.e. five men each carrying five tables) or a collective one (i.e. five men carrying five tables in total). The language itself does not distinguish between the two; the object of the action is a set of five tables. The *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. This is not more or less *correct* than the collective reading: if this is what the speaker means, then communication has simply been successful. In fact, use of any language requires a measure of interpretation. The point is merely that whatever must be interpreted cannot be part of the language, and therefore does not fall within the scope of the semiotactic framework. Related to the distinction between *meaning* and *interpretation* is the distinction between *appropriate referents* and *referents*. *Appropriate referents* are all the entities in the real or imaginary world which fit the *meaning* of an utterance, whereas the *referents* are those things that are actually referred to by the speaker. In order for the hearer to select the referents from all the appropriate referents,

[1] "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, spreeksituatie, achtergrondkennis der gesprekspartners, e.d.)" (Ebeling 2006, p. 27).

an interpretive step must be taken. For instance, when someone says *That man is looking at me*, a hearer may readily identify who the speaker is referring to in that moment, but the linguistic data does not refer to the same person every time this sentence is uttered. In a different situation, a different man may just as well be looking at a different speaker, and the same sentence could still be used. The term *interpretation*, then, will be used to refer to cognitive steps taken by the hearer on the basis of the *meaning* of an utterance. Only the meaning can be analysed systematically through the use of the semiotactic framework, which is not to say that interpretation is any less important in the use or understanding of language. The image of the object or the situation in the mind of the hearer, referred to in this framework as a *projection*, is an instance of interpretation. Language provides meanings which interact with one another in a specific way, and the way in which this complex meaning relates to the rest of the world is for the hearer to determine.

1.3 – Application of the framework

Apart from these abstract outlines, there are more specific notions that underpin the semiotactic framework, which must be borne in mind when formulating meanings using this system. These will be discussed in this section.

Convergence and divergence: in the semiotactic framework, *convergent* elements are elements that refer to the same entity, and *divergent* elements refer to separate entities. A phrase like *the white dress on the table*, for instance, contains both convergent meanings and divergent meanings. The first part of this phrase, *the white dress*, is completely *convergent*, for instance: they all contribute to the projection of a single entity. The entity in question is *dress*. We are given more information to narrow down which dress it is, however. For one, the phrase *a dress* has different appropriate referents than *the dress*. An indefinite is one that is not *autoprominent*, i.e. one that cannot be isolated within the context of the speech situation. The phrase *the white dress*, on the other hand, shows that the dress is prominent in the context of the speech situation (i.e. the dress is *autoprominent*). Moreover, we are not just looking for an indefinite dress, but also for one that is white. As this explanation shows, *the* and *white* have separate meanings, but they do not refer to separate entities: they are simply there to specify which group of dresses can be called *appropriate referents* of the phrase. As such, the three meanings *the, white,* and *dress* are convergent in the phrase *the white dress*.

However, the phrase *the table* does not refer to something that directly combines with the features of *the white dress*, because, on its own, it does not say anything about the

dress. Rather, *the table* has its own entity, i.e. the table in question. The speaker gave us only definiteness (autoprominence) on which to base the set of appropriate referents for this phrase. In other words, they assumed that the hearer would understand which table was meant. It is not just any table, it is a table you know I am referring to. As this rephrasing already shows, *the* as a meaning is convergent with *table*: both narrow the set of appropriate referents of the same thing. *The, white,* or *dress* do not do so, however, so *the white dress* and *the table* are *divergent.*

Interestingly, there is a clear connection between these two meanings in the whole of the phrase. This connection is indicated by the word *on.* The two separate entities are coordinated in relation to one another through this word. As such, *on* must distribute two *roles*: one role for the dress, which is on the table, and one for the table that the dress is on. The word *on* first and foremost specifies *a white dress*: the rest only follows to help the hearer narrow down the group of appropriate referents of *dress* again. To do so, its relation to another entity is given here: *x on y.* A meaning which connects two entities, like *on* in this phrase, is called *divergent valence.*

Event period (EP) (narrated event)[2]*, narrated period (NP), and* THE *period*: these terms are crucial for a complete understanding of the place of temporality in the semiotactic framework. These terms break down in the following way:

Event period (EP):	the period during which the event described is projected to take place
Narrated period (NP):	the period which is actually being referred to using the sentence
THE period:	the *autoprominent* moment

Starting from the top, the EP refers to the lexical content of any sentence. For instance, when I say *I wrote a book*, this indicates that at some time, there was an event in which I performed this action. The NP is the time the sentence is about. In this case, the two are the same. That is to say, the message is that this book-writing event took place at some point in the past. The difference between the EP and the NP may appear small from this explanation, but there are meanings, i.e. aspectual meanings, which separate the NP from the EP. For example, *I have written a book* is not directly about the book-

[2] In this work, the term *event period* will be used instead of *narrated event*, because the term is essentially used only for temporal analysis, and in this context it is not the event itself (i.e. the information below the sigma) that is important, but rather the period which this state of affairs occurs and the place it takes with regard to other periods.

writing event. Rather, it is about the present, and the fact that it is marked by the book-writing event having been completed. In other words, the EP is placed before the NP. The full implications of this will be discussed in section 1.6 below, but this example is given here to show that the difference between the two can have important implications. The NP is the *actual* situation that the sentence describes, which may simply temporally be related to, rather than defined by, the event that is described in that sentence. Lastly, THE period is called *autoprominent*. The notion this expresses is essentially "being in the forefront of the frame of reference" (Ebeling 1978, p. 14). The frame of reference is the moment of speaking or writing, usually. In other words, it is defined not by the information within the sentence, but rather by the context within which the sentence is found. This meaning, and its relation to the NP, are crucial for an understanding of tense. When I say *I wrote a book*, this means that the action is in the past with regard to the autoprominent moment. In this case, one would interpret the autoprominent moment to be the moment of speaking. In other words, the NP of this sentence is *before* THE period in this case. A sentence like *I am writing a book*, on the other hand, places the autoprominent moment within the NP. This leads to the conclusion that the book-writing event is still ongoing. This, too, will be discussed in detail in 1.6.

1.4 – Notation 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). The principles above are in themselves important. They are part of an endeavour to elucidate the relations that syntax lays between unitary meanings. In these works, Ebeling aims to establish a formal system to express these relations. For instance, how would one express the relation between subject and predicate? How are the words in *the loudly barking dog* related to one another? Ebeling posits a number of relational symbols (functors), to express all of these relations. In order to express these relations, Ebeling has designed a notational method, designing it to be able to capture all semiotactic relations that languages around the world can make. The notions described above are important to understanding it, but they do not directly describe the symbols and conventions that make up this notational method. Explaining the notational system of the semiotactic framework is the aim of the present section.

1.4.1 – The sigma ('Σ') and the nexus

Arguably the most important symbol within the semiotactic theory is the *sigma*, which commonly *dominates* the *nexus* ('='). Before delving into the meaning of these two

functors, however, it is important to note that it is here assumed that any full sentence will describe a *situation*: a temporally limited state of affairs. For instance, *the reading man* is not a situation, because there is no explicit temporal limit to the relationship between *man* and *reading*. However, *The man is reading* is of a rather different nature. In this case, one ascribes to the man the agent role in a reading event. Not only that, but it is also placed in the present. The connection between *the man* and *reading* can, in such cases, be expressed using the nexus. The relationship thus forged is temporally limited: rather than ascribing a feature to an entity, we are saying that there is a situation within which that entity carries that feature. In order to accommodate the meanings which specify the temporal scope of a situation (tense and aspect, for example), the sigma is introduced, which is placed directly above the nexus, so that it *dominates* it: it contains everything within it. The sigma thus comes to represent the entire situation, and meanings like tense and aspect are placed on the same line as the sigma to specify them.

The 'bare bones' of a notation of a full sentence thus come to look like this:

'Σ
x = *y*'

Fig. 1 - The bare bones of a sentence notation

In the figure above, the apostrophes are added to show that it is a semantic notation. Ebeling takes a *sign* to be construed out of form and meaning (*a*, 'p'), following De Saussure. The apostrophes enclose the entire notation rather than every individual element, because as a whole it expresses the complex meaning of the sentence as a whole. As the semiotactic framework is used to describe the meaning of the sentence, apostrophes are always placed around the notation, as is done around the *p* in (*a*, 'p'). The sigma itself adds no information 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. The *x* in the notation above is called the *first nexus member*, and the *y* is called the *second nexus member*. Ebeling uses these terms to avoid the terms "subject" and "predicate", as these terms have become opaque through overuse (Ebeling 2006, p. 152). I will use these terms interchangeably with Ebeling's terms, however. The equals sign is appropriately chosen: what any sentence usually does is ascribe a meaning, usually a property or an action, to the first nexus member. Not only that, but this relation between the first and second nexus member is usually limited in time. For instance, *Father is reading the newspaper* does not imply that father's entire existence revolves around reading the

newspaper. It rather indicates that he is doing so right now, and might stop at any moment (see 1.7 for a discussion on aspect). Because this temporal limitation is part of the meaning of this sentence, it must be notated. This is where the sigma comes in: it presents the situation described in its entirety, without adding or detracting anything from it. Any temporal meaning (tense, aspect, etc.) will therefore be notated on this level, and thus specify the timeframe of the situation as a whole.

Ebeling cites Otto Jespersen as his source of inspiration for his conception of the nexus. Jespersen compared *The dog barks*, which contains a nexus relationship, to *A barking dog*, which does not, but instead involves what he calls *junction*. He notes: "a nexus always contains two ideas which must necessarily remain separate: the secondary term adds something new to what has already been named. Whereas the junction is more stiff and rigid, the nexus is more pliable; it is, as it were animated and articulated" (Jespersen 1969, p. 114-6, cited in Ebeling 2006, p. 152). I would argue that this animation is due to the fact that *The dog barks* indicates a *proposition* (statement) about the dog, namely that it is barking. In semiotactic terms, the dog is the first nexus member, and the meaning that constitutes the second nexus member (the agent role of a barking action) is ascribed to it. Such a proposition by necessity has some (abstract) temporal features. It is for this reason that the sigma dominates the nexus relation specifically: it contains the result of the connection that the nexus entails, and it is this connection that is limited in time. In the example *The dog barks*, the proposition is made that, during the time which may be referred to by using the present tense, the dog is the agent of a barking action. If the sentence is transformed to read *The dog barked*, the proposition does not refer to the present, but to some unspecified time in the past. This sort of temporal specification does not specify either the dog or the barking directly, but the whole of the situation. This is therefore notated by specifying the sigma rather than any element within the situation (see 1.3.4). In the case of *a barking dog*, however, no proposition is made about the dog as such, and no temporal features are implied: this phrase simply refers to a dog that carries the feature that it barks, regardless of time. This also explains why Jespersen argues that the two ideas in a nexus relation remain separate: in *The dog barks,* its barking is not necessarily a feature of the dog per se, nor is the dog introduced to specify the barking action. Rather, it is stated that the situation exists that the dog is performing the action, and that the connection between the two meanings is temporally limited. The rigidity Jespersen refers to concerning junction, on the other hand, may be explained by the fact that *a barking dog* simply refers to a dog that is defined by his barking, irrespective of the time in which it occurs. As this description already implies, the two notions also do not remain separate: the barking is introduced to specify the dog.

Before elaborating on other examples, it should be noted that it is also possible to create a situation in which no nexus is present. Ebeling notes that in some cases singular agreement can also refer to a situation rather than a plural meaning. Consider the truncated notation of (1), for example:

(1) "Two glasses is good, but five is bad" (Ebeling 1978, p. 279).

'Σ. . .

'Σ = good. . .'

glass. . .'

The triple dots in the notations above serve to show that the notation is not complete. Rather than simply notating a subject that is marked for number, the first nexus member of (1) contains a sigma, as the notation shows, which dominates the meaning 'glass',[3] because there is no plural agreement on the verb *be*. This type of notation is defined by Ebeling as "such a situation Σ that *x* is a component of Σ" (2006, p. 195).[4] It may already be noted that there is no proposition being made about the existence of the glasses. Rather, the speaker of this utterance only presents a situation within which the glasses exist. As we will see in chapter 4, lack of a proposition in a situation yields a different projection: not a claim concerning the real or imaginary world which can be affirmed or denied, but simply a situation in which something is present.

1.4.2 – The assignation of roles

When a nexus is present, *x* and *y* are both represented on the same line, whereas the sigma is on the line above it, dominating the nexus. In semiotactic notation, this has a specific purpose: meanings that are notated on the same line refer to the same entity and as such are *convergent* (see section 1.2). In other words, when we say *The dog barked*, the assertion is that in the timeframe described (i.e. before the present), the dog in question is the agent of a barking action. However, it is worth noting that *x* and *y* remain separate still: the connection between the subject and the predicate is what is conveyed, and this connection only is temporally limited to the timeframe that the tense and aspect of the sentence indicate. Outside of the temporal boundaries of the sigma, then, the two meanings are not stated to converge. *The dog barked* is in the past tense, so at some point before the present *dog* was the agent of *bark*, but that tells us

[3] For uses such as those described in (1) above, Ebeling uses the symbol 'Σ^{sup}', which stands for "superimposed sigma", indicating that the projection of a situation in which *two glasses* occurs is superimposed by the syntactic form of the sentence as a whole, rather than as a consequence of the form itself.

[2] "Een zodanige situatie Σ dat *x* een bestanddeel van Σ is" (2006, p. 195)

nothing about the present moment, for example. The story is different in the case of *a barking dog*. Here, the connection is not temporally limited. That is to say: the meaning of *a barking dog* is such that *barking* is a property of the dog in question, and therefore both *barking* and *dog* relate to the same entity. That is the essence of convergence. Although our real-world knowledge helps us to determine that the dog probably is not incessantly barking for as long as it exists, there is no limit to the connection between *dog* and *bark* in this instance.

In order to further exemplify this distinction, let us analyse the sentence *The boy eats an apple*. Within this situation, there are clearly two divergent entities: the boy and the apple. As such, what falls below the sigma line must contain two lines. A closer look at this sentence tells us that both entities are in some way connected to the meaning *eat*: the first nexus member *boy* is the agent of the action, whereas *apple* describes the entity that undergoes this action. As such, the verb distributes the roles that each of these entities play in the sentence. These notions may become a little less abstract when we apply them in a notation. Using the semiotactic framework, this yields the following:

(2) The boy eats an apple.

‘Σ. . .

boy. . . = [*x*; *x* eats *y*]

[*y*; *x* eats *y*]; apple. . .’

As the figure indicates, the boy is the first nexus member. This entity is equated to the *x*-role (the agent role) of the eating action in this notation. The apple is the undergoer of that event: it takes the *y*-role of this action. It is on a separate line, because it is a separate entity.

The above explains why the boy and the apple appear on two different lines in (2), but not necessarily the notation of the verb. A bivalent verb is assumed to have a single meaning namely one “of a relation between entities in the world” (Ebeling 1978, p. 148). It describes a single process involving two entities. As such, there are still two features to this single meaning, because it describes what each of them does at any point during the process. This means that a verbal meaning like this must ascribe something to both meanings, even though they are divergent. In this case, it describes what the eater does, and what is eaten. These separate meaningful parts are referred to as *relational features*, for obvious reasons: in (2), the verb links the apple and the boy by presenting them as separate players in a single eating event. Relational features are always presented in brackets, and when these are notated directly above one another,

this indicates that they each are a part of the same single meaning. In (2), the two bracketed features together represent a single eating event this way.

There is another aspect to the notation above that must be discussed, and that is the symbol for complementation: ';' outside the brackets. About this symbol, Ebeling notes: "its value partly corresponds with that of "="[5]" (2006, p. 238),[6] in that it forges essentially the same relation between *apple* and the object role of *eat* in (2) above. However, it is not identical to this functor. The difference is in the *assemblage* that it implies: the order in which the syntactic structure of the sentence presents items. Active and passive voice sentences are primarily different for this reason: *The boy eats an apple* presents the agent of the eating-event as the subject (i.e. the first nexus member), whereas *An apple was eaten (by the boy)* presents the patient in this position.

In the case of Ebeling's own example "Piet eet brood" (*Pete eats bread*, Ebeling 2006, p. 238), Ebeling argues that "that which is conjured up by the part of the complex dominated by 'Σ' is a situation which concerns Pete first and foremost; the bread is merely mentioned to further specify Pete's situation" (p. 238).[7] He further states that "the symbol ";" indicates that what is to the right of it realises a subordinate valence within a plurivalent property by which the dominating valence is characterised" (p. 238-9).[8] In other words, the relation between the agent role and the first nexus member is the primary message of a situation with a nexus, whereas the complement merely adds extra information to this essential message.

1.4.3 – Functors

Apart from the basic elements described above, there are a limited number of other relations, which can be used in a wide variety of ways to express particular meanings. In the present section, the most fundamental of these will be explained. The discussion will start with *limitation*, which is most often used to express the relation between noun and adjective. After that, *gradation* will be explained, which primarily describes the

[5] In the present work, Ebeling's own use of apostrophes will be maintained, as these are meaningful in his work. Single apostrophes indicate that what is between it is a *sign* in his 2006 work, whereas in his 1978 work, double apostrophes are used to signal this.

[6] "De waarde ervan komt gedeeltelijk overeen met die van "="" (Ebeling 2006, p. 238).

[7] "Dat wat door het door 'Σ' gedomineerde gedeelte van het complex wordt opgeroepen is een situatie die in de eerste plaats Piet betreft; het brood wordt vermeld ter nadere specificatie van Piets situatie" (Ebeling 2006, p. 238).

[8] "Het symbool ";" geeft derhalve aan dat wat er rechts van staat een ondergeschikte valentie realiseert binnen een plurivalente eigenschap waardoor de dominerende valentie gekarakteriseerd wordt" (Ebeling 2006, p. 238-9).

relation between adverbial meanings and other elements. *Stratification*, which is commonly associated with meanings relating to number, will be explored in the third section. *Temporal gradation* and *temporal limitation* will be discussed separately. Lastly, *incorporation* will be discussed, which indicates most of the synthetic structures found in the English language, and is often accompanied by a separate symbol denoting *divergence*.

1.4.3.1 – LIMITATION

An example which elaborates on the sentence notated in (2) would be *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: only the hungry ones are now appropriate referents. This relationship is expressed using the symbol "–", which expresses *limitation*, meaning that it limits the appropriate referents of "boy" to those boys who also have the property that they are hungry. This relation is naturally convergent, as the meanings on either side of the limitation symbol refer to the same entity. This property is placed to the right of the word describing the category. *The hungry boy* would thus be notated as 'boy – hungry…'. The relationship described above also applies to the meaning introduced by the article, which Ebeling notates using the symbol 'DEF', which denotes that the entity which it specifies is *autoprominent* (Ebeling 2006, p. 112) ('DEF' is presented in small capitals because it constitutes a meaning that is grammatical). This may be paraphrased 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 autoprominent state of affairs within the context of the speech act. Naturally, the context of a speech act is not set in stone. It takes interpretation to single out the correct entity. Conversely, when the article *a* (symbolised as "INDEF") is used, the referent is *non-autoprominent* (p. 113), which means that the referent is not inferable from the context. For this reason, the sentence *The hungry boy eats an apple* is notated as follows:

(3) The hungry boy eats an apple

'Σ. . .

boy – hungry – DEF. . . = [*x*; *x* eats *y*]

[*y*; *x* eats *y*]; apple – INDEF. . .'

1.4.3.2 – GRADATION

Another important functor is that of *gradation* (symbol: '>'). This relation is different from limitation, in that it symbolises a relationship which is not directly convergent, but one that is convergent with an *abstraction*, i.e. a representation of a given property

as an independent entity (t. For example, when I say *the very hungry boy eats an apple*, it cannot be said that the boy is *very* or that we take a set *hungry* and take from that set the subset of *very hungries* to infer the subset of appropriate *hungries*. Rather, what is specified is the *hunger* inherent in the meaning *hungry*, rather than *hungry* itself. Of this hunger we then say that it is present to a high degree within the situation we are describing. *Hunger* is an *abstraction*, as it refers to the state of being hungry. In semiotactic notation, such a meaning is traditionally indicated using '<>', e.g. '<hungry>'. In the present work, this symbol will be replaced by '^', e.g. '^hungry'. When gradation is used, however, the abstraction itself is not present in the notation, so this symbol does not play a role in (4) *The very hungry boy eats an apple* is simply notated in the following way:

(4) The very hungry boy eats an apple.

		'Σ. . .
'boy – hungry > very – DEF. . .	=	[*x*; *x* eats *y*]
		[*y*; *x* eats *y*] ; apple – INDEF. . .'

Gradation is especially important, because it can be used in a myriad of ways. Consider, for example, that this functor does not only describe the attribution of a property to an abstraction of another attribute, but also to abstraction of actions. In a sentence like *The very hungry boy quickly eats an apple*, the abstraction of *eat*, i.e. the eating action, is specified by *quick*: its features occur in rapid succession. In other words, although the meaning *quickly* is connected to the agent role of the eating event, we are not specifying the agent directly (i.e. we are not saying that the agent himself is quick). Rather, we are specifying the action that the subject engages in: *eating*. Paraphrasing this, we might say that *the boy eats, and the eating was quick*. The notation of this sentence would therefore come to look like this:

(5) The very hungry boy quickly eats an apple.

		'Σ. . .
'boy – hungry > very – DEF. . .	=	[*x*; *x* eats *y*] > quick
		[*y*; *x* eats *y*] ; apple – INDEF. . .'

In this instance, note that within the notation, every *syntactic index*, i.e. every element showing a specific relationship without itself attributing a semantic element, e.g. *–ly* on *quickly*, is removed. Of course, the phonetic indicators of such relations are not necessary within a description of the relations themselves.

The above does not, however, exhaust all possible semantic relations. Specifically, a point made by Geerdink-Verkoren (2008) is that these relations may also be *reversed*. She argues that reversed symbols ought to be used "with the added meaning of a reversed word order" (p. 22). Central to the notion of reversed symbols is the idea that any complete sentence consists of two parts: the first and the second nexus member. The subject is the first nexus member in any notation. Any other element (including, importantly, the sigma), is part of the predicate. Notably, when an element (e.g. an adjunct) occurs in initial position, without referring to the subject, this may alter the notation. Example (6) shows an instance of this:

(6) I saw the man yesterday.

'Σ. . .

me = [*x*; *x* sees *y*] > yesterday

[*y*; *x* sees *y*]; man – DEF. . .'

However, the notation changes the moment the order of the elements is changed to (7):

(7) Yesterday I saw the man.

'yesterday < Σ. . .

me = [*x*; *x* sees *y*]

[*y*; *x* sees *y*]; man – DEF. . .'

In this instance, it would not be entirely accurate to state that *yesterday* as an element specifies the type of entity the first person is. Rather, it specifies the situation as a whole, by specifying the condition under which it occurs. The essential difference between the meanings of these two sentences is that in (6) the projection of *yesterday* specifies the seeing event. In Hilde Hasselgård's (2011, p. 53) terms, the adverbial takes *predicational scope* in (6). In this position, then, it places the action in a specific temporal position. However, in the case of (7), *yesterday* as an element has taken *sentential scope*, in which position it therefore effects a modification of "the whole proposition plus following sentence(s) [or] the speech act" (p. 53), according to Hasselgård. The connection of one sentence to another is outside the scope of the semiotactic framework, so that aspect is not relevant here, but its effect on the entire proposition is. This semantic distinction, then, can only be expressed by making use of the reversed gradation symbol ('<'). Note also that *I* is represented as 'me' in the notation, to avoid using a capital letter for a meaning which is not grammatical.

1.4.3.3 – STRATIFICATION

A further functor to be discussed is that symbolising *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 a projection of the independent unit *newspaper*, and then multiply it as a whole, without specifying the newspaper itself. By inference, every instance of an independent unit without this marker refers to a single instance of such a unit (notated using 'SG' in the present work). Extending the previous example sentence this way leads to the following:

(8) The very hungry boy eats apples.

'Σ. . .

boy – hungry > very / SG – DEF = [*x*; *x* eats *y*]
[*y*; *x* eats *y*]; apple / PL'

As the above notation shows, *the boy* is both definite and singular, whereas *apples*, because 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, not autoprominent.

1.4.3.4 – TEMPORAL LIMITATION AND TEMPORAL GRADATION

Apart from entities and events being ascribed certain features, it is also possible to single out the same entity within a certain situation. To indicate this connection, a different symbol is used: *temporal limitation* ('~').[9] As has been explained above, non-temporal limitation is used to link two meanings in such a way that the meaning of the one becomes a property of the other. This relation is given using the symbol '–'. Temporal limitation is slightly different: rather than focusing on the overlap between

[9] It must be noted here that Kortlandt (1980) considers the distinction between temporal gradation and temporal limitation to be irrelevant, as they are simply in complementary distribution: wherever one can be used, the other cannot (p. 2). In broad strokes, we may say that temporal limitation only specifies those meanings that are typically specified by adjectives, i.e. entities, whereas temporal gradation is used in combination with meanings which normally combine with adverbials, e.g. verbs or entire situations. Their function is the same, however: to contrast the occurrence of a meaning *with* a certain meaning attributed to it to the occurrence of that meaning *without* that meaning. He concludes: "Thus, temporal gradation and temporal limitation are variants, the choice between them being determined by the semiotactic context" (p. 2). In this work, the distinction is maintained, however, as I believe the parallel between these forms and atemporal limitation and gradation to be a useful one in illustrating the differences between various gerundival constructions.

two meanings in order to select only those which meet both criteria (e.g. *red apples* are both apple and red), *temporal limitation* focuses on an entity in a specific state. That is to say: when someone refers to water as *totally clear water*, the clarity is presented as a property of the water. However, in the context of a water purification facility, for example, one might well use a different construction. Someone working at the plant may show you the water coming in dirty. When this water is processed, the result is crystal clear water. At that point, one might say: *This is the same water totally clear*. The difference between *totally clear water* and *water totally clear* is that the former example specifies the water on the basis of an inherent property, but on its state in the latter case. This relation is indicated using a squiggly line instead of a straight one: '~'. The notations of the example sentences above would therefore look as follows:

(9) Totally clear water
'water – clear > total. . .'

(10) Water totally clear
'water ~ clear > total. . .'

As the examples given here already show, there is a clear formal difference between these two meanings.

There is yet another semiotactic relation that is relevant in the context of adverbial specification, namely that of *temporal gradation*. There is a close connection with non-temporal gradation, just as there is a close connection between temporal and non-temporal limitation. The distinction between non-temporal limitation and temporal limitation may be described as a difference in dimension: rather than specifying a category (i.e. the entity described by the noun) 'flatly' and selecting the appropriate referents within that category on the basis of an additional feature, temporal limitation takes that category described by the noun, and specifies it by indicating what state the entity must be in to be appropriate. Similarly, gradation selects a meaning, and takes the abstraction of that meaning to specify it. Temporal gradation, on the other hand, specifies the temporal dimension of it occurring. For example: one might say *He works fast*, and mean that the working that is performed by him proceeds quickly. In other words, not just any type of working action is referred to, but only the type that is fast. However, if one states *He works fast having drunk a cup of coffee*, work is not proceeding quickly at all times, but only when it is concomitant with his having drunk a cup of coffee. It is still the abstraction *working* that is specified here, but the specification of it being fast has a further stipulation, which is on the temporal plane. To further elucidate this point, fig. 2 is added, which contains a metaphorical

illustration of the difference in interaction between non-temporal gradation and temporal gradation:

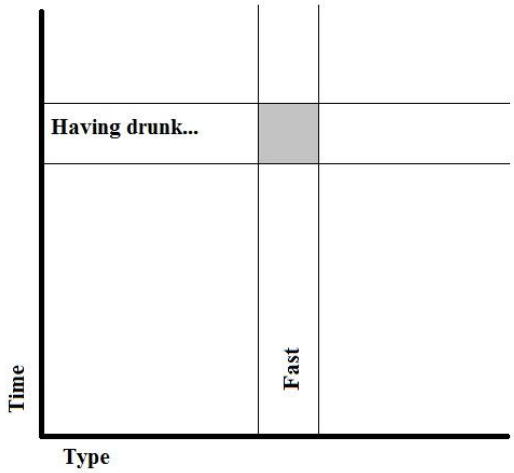

Fig. 2 – A representation of temporal gradation vis-à-vis non-temporal gradation using the example sentence *He works fast having drunk a cup of coffee.*

In the figure above, the entirety of the plane may be taken to represent all potential meanings of the abstraction *working*. The *x*-axis represents all (atemporal) types of *working*, from which the specific type *fast* is selected. Rather than simply attributing this to the first nexus member of the sentence, a further stipulation is given, namely *having drunk a cup of coffee*. This specification gives a margin of time which is appropriate in this context. The cross-section of these two meanings is what is ascribed to the first nexus member of the sentence. This relation is notated using the symbol ',' by Ebeling. However, as certain relational symbols must be reversed, this symbol alone is not sufficient. Following Geerdink-Verkoren (2008), therefore, I will use '⊃' for ordinary temporal gradation, and '⊂' for reversed temporal gradation. The truncated notation of (11) therefore looks as follows:

(11) He works fast having drunk a cup of coffee.

'Σ . . .

he = [*x*; *x* works] > fast ⊃ [*x*; *x* drinks *y*]. . .'

The interaction between the aspectual meaning, expressed by *have* and the perfect form of *drink*, and the rest of the construction will be discussed in chapter 3. For now, it will

suffice to say that the above shows that his working fast is concomitant with his having drunk coffee.

1.4.3.5 – Incorporation and divergence

Another functor to be explained is *incorporation*, which is best explained in conjunction with *divergence*, as they often occur together. Incorporation is explained by Ebeling using the phrases *a blot of ink* and *an inkblot*. This example will here be used to explain this relation.

Ebeling notes that "it is intuitively felt that for a speaker of [*an inkblot*] the assemblage is such that for the characterization of the referent he selects from the start the whole complex of features… while a speaker of [*a blot of ink*] proceeds more analytically, first selecting the features mapped as [*blot*] and then those mapped as [*ink*]…" (1978, p. 387). In the former case, incorporation (also called *close-knitting*) is used. Before we get to the functor, however, it is important to note the ramifications of the difference between these two constructions. It may be clear from their forms that *inkblot* is more synthetic, less analytic, than *blot of ink*. This has consequences for the relations that these elements (can) have with other meanings: whereas in *blot of ink* it is possible to specify both the blot and the ink individually (e.g. *a red blot of ink* and *a blot of red ink* (p. 387)), an *inkblot* can only be read as a unified entity. In other words, not only is the form of *inkblot* more like a single word, but it also functions more like a single word in relation to other elements. This explains why the relation between the elements needs to be represented differently. Moreover, *inkblot* must be treated as a construction rather than as a single word. Combining nouns in this way is a productive word-formation process, so the relation between the words in the resulting compound must be predictable.

In both cases, however, the two elements *ink* and *blot* appear as *divergent* entities. *A blot of ink* indicates that a *blot* is discussed, with some relation to (the meaning of) *ink*. This does not mean, however, that the relation between them is semantically equal: it is a blot specified by the properties of ink, not the other way around. In other words, the meaning of *ink* is separate from the meaning of *blot* in a meaningful way: it is affected by the meaning, but it *is* not that meaning. Just like one would say that *a purveyor of marmalade* is not himself made of marmalade, grammatically this distinction holds equally true for *a blot of ink*. In the same way, the close-knitting relationship also does not create a convergent relation: just like a notepad is not a note in the same way that it is a pad, an inkblot is not ink in the same way as it is a blot. Only *blot* describes the entity directly. For this reason, this type of compound is an *endocentric* compound:

"the semantic head (or *centre*) of the compound is 'inside' (*endo-*) the compound" (Haspelmath & Sims 2010, p. 139).

How then does one notate the relationship that exists between *blot* and *ink* in *inkblot*? This is done by using two separate functors: one to indicate that the two meanings are indeed divergent (which is done using the symbol '↓'), and another to show that the two elements are in a synthetic relationship (for which we use the symbol '‿'. Together, they would be used as shown below:

(12) An inkblot
'blot ↓ / SG – INDEF
‿ ink'

Divergence is not required in cases in which a specifying word is itself connected to an entity or another property word through close-knitting, e.g.:

(13) A blue-black sky
'sky – blue‿black / SG – INDEF'

In (13), both the features of *black* and of *blue* are convergent with *sky*, but the relation between them is synthetic. That is to say, the relation is not semantically specified in a way that can be further analysed, as would, for instance, be the case with *a blue and black sky* or *a blue yet black sky*. The synthesis of the two words, then, is all that the semiotactic notation can express, alongside the convergence of the two meanings.

1.4.4 – Unspecified relations

Another relation that has not been discussed up to this point concerns the *possessive* construction. Using the example "John's coat", Ebeling notes:

> The relation between John and the coat designated by an occurrence of John's coat and specified by the frame of reference, is one from an infinite set of relations, each designated by an occurrence of *John's coat*, and specified by different frames of reference: the appropriate referent may be not only a coat owned by John, or given by him as a present to somebody else, but also his wife's coat which he is bringing to the laundry, etc." (1978, p. 149)

In other words, the relation that is indicated by the possessive *'s* does not, in itself, denote possession at all. Rather, when the context changes, the relation indicated seems to shift. At that point, one may wonder whether or not one may speak of one meaning,

"to the effect that all interpretations are subsumed under one meaning '[a coat] which has something to do with John'," (p. 149) or whether each of these meanings are taken separately "because there are relations thinkable which are covered by this generalized meaning but unacceptable as an interpretation of the relation expressed by *John's coat*" (p. 149). As Ebeling writes: "In the latter event this phrase remains infinitely homonymous" (p. 149). Syntactic *homonymy* is the occurrence of two separate meanings which take the same form in a language, whereas syntactic *polysemy* is the occurrence of a meaning, from which the multitude of meanings are derived through the process of interpretation. Semiotactically relevant to this distinction is that *syntactically homonymous* relations must be given in separate notations, whereas this does not go for syntactically polysemous meanings, since the distinction between them essentially boils down to the interpretation of a single relation. In this case, Ebeling argues for an *unspecified* relation, by which he means that "the infinite set of relations is reduced to one unspecified relation" (p. 150), which does boil down to *a coat which has something to do with John*. The proper way to indicate this would have to show that a. the coat is the entity specified; and b. that the entity by which this coat is specified, i.e. Jack, indirectly specifies the coat (because the coat is not Jack, but rather has something to do with him). As said in the above, Ebeling introduces the downward arrow '↓' for a relation of divergence. This divergence alone is no indicator of the relation between the two elements, however: still the type of relation needs to be specified. In this instance, limitation accurately describes the specification: out of the group of coats, only those coats that are in some unspecified relation with Jack are referred to. Any implication of *possession* is therefore interpretive. The totality of the notation therefore becomes:

(14) Jack's coat
'coat ↓
– Jack'

1.4.5 – Intention and Mode

Apart from the aspects already discussed above, every sentence has a meaningful word order (which, as a sign, is referred to as *mode*). In English, the word order SVO expressed in *I eat apples,* though inconspicuously, does also add meaning to a sentence, namely that the projection it represents is perceived by the speaker to be part of the real world (symbolised by 'REAL' in the notation) which means that it is "projected in the brain 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).[10] 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).[11]

Finally, the intonation of a sentence is also important to its meaning. Ebeling uses the term *intention* for the sign that this adds to the sentence. Take the following example:

(15) Do I eat an apple?

'Σ . . . / HYP / INC

me = [*x*; *x* eats *y*]

[*y*; *x* eats *y*]; apple . . .'

The usual intonation of a question is one which rises toward the end of the sentence, whereas the sentence *I eat an apple* is likely expressed with more neutral or 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).[12] The prototypical declarative 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 between intonation and word order makes it possible to account for non-prototypical combinations. For example, a 'REAL' mode could be used in combination with an 'INC' 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

[10] "in het brein van de spreker afgebeeld als iets waarvan hij aanneemt dat het aanwezig is in de tijd waarin die afbeelding het situeert" (Ebeling 2006, p. 290).

[11] "in het brein van de spreker afgebeeld als iets waarvan hij niet weet of het zelf of het tegendeel ervan aanwezig is in de tijd waarin die afbeelding het situeert" (Ebeling 2006, p. 290).

[12] "iets waarvan de spreker te kennen geeft dat de gegeven afbeelding ervan zonder verdere informatie niet noodzakelijkerwijs de juiste is" (Ebeling 2006, p. 290).

would, for instance, fall into the realm of the possible, a propositional statement would fall into the realm of the situations which are argued to be true, etc. These meanings are notated on the sigma line, as they are applicable to the projection of the entire situation. Specifically, they have to do with the knowledge of the speaker and his or her need for more information. The relation between these meanings and the sigma is presented using stratification, because these meanings deal with the extent to which the situation described is present in the real or imaginary world.[13]

1.5 – A note on simplification

In the sections above, every element of every phrase is given in the notation for clarity's sake. However, in what follows I will abbreviate the notations in a number of ways. For example, above I might have used the notation '[*x*; *x* eats *y*]' every time the agentive role of the eating action had to be presented, but from this point on the same meaning will be given using '[eat$_1$]' (as introduced by Geerdink-Verkoren (2008)), taking the identity of the two notations to be given. Likewise, the subscript number 2 might be used for the direct object, and the subscript number 3 will be used for the indirect object. Moreover, Ebeling has created some symbols for more grammatical meanings, e.g. '$_1$DEM' for *that* as a demonstrative marker, or 'ID' for the same word used as a relative pronoun. In what follows, none of these types of symbols will be used. Also, the grammatical number and definiteness will not be notated every time an entity is introduced, unless this entity itself is the topic of discussion. Lastly, since the symbols for mode and intention have been explained above, these will not be given in what follows unless this has a specific explanatory function. The temporal specification will be given, however, since the presence or absence of this is an important aspect of discussing the various properties of different kinds of situations.

1.6 – Coordination

Coordination is the act of making two or more elements take the same syntactic position in a sentence. Classic examples of coordinating conjunctions are *and* and *or*. Semiotactically speaking, this should result in a convergent meaning. As discussed in

[13] Ebeling (2006) argues that these meanings ought to be notated using limitation instead, for the following reason: "because these situations differ from one another, albeit interpretively" ("Doordat deze situaties van elkaar verschillen, zij het interpretatief" (Ebeling 2006, p. 290)) per sentence, "the interpretation of 'DECL' changes" (p. 290) ("past de interpretatie van 'DECL' zich aan" (Ebeling 2006, p. 290). This may be true, but it does not change the character of the situation described, only its applicability to the real world. In my view, this does not make it into a type of situation, just one that is only applicable to the world insofar as the speaker is sure of his assertion.

chapter 1, *convergence* is expressed by placing elements on the same line, indicating that they are part of the same meaning. In particular, when *and* is used, both meanings apply equally, whereas in the case of *or* only one of the two applies exclusively. For instance, when one says *I like chicken and beef*, what the speaker presents to the hearer is that *chicken* and *beef* are both the object of the liking to the same degree. On the other hand, when one says *I usually drink coffee or tea with breakfast*, *coffee* and *tea* each have the same potential for being the object of the drinking. In any given event to which this sentence appropriately refers, only one of the two is present. For this reason, they are not set apart. Rather, each element has an equal claim to the role, so both occur on the same line: they are convergent. If coordinated elements fill the same syntactic position, then it stands to reason that they would also be notated on the same line within the semiotactic notation. The connection that a coordinating conjunction makes, then, must relate meanings on the same line in the notation. Consider the following example:

(16) The cat and the dog
'(cat / SG – DEF) > and < (dog / SG – DEF)'

In (16), the immediate constituent (IC) structure of this notation is given explicitly by employing brackets, because the relation the coordinator creates is versatile: it does not simply relate to the element directly adjacent to it, but the entity as a whole in this instance, with all the specifications that have been applied to it. The brackets show that the gradation symbol relates the whole phrase *the cat* to *the dog*, rather than just *cat* and *dog* in isolation.

Coordinating conjunctions can do more than placing two entities in the same position, however. For instance, two properties can be coordinated and attributed to an entity, resulting in a notation like the following:

(17) Proposed notation for "a red and white dress" (Ebeling 1978, p. 220).
'dress – (red > and < white) / SG – INDEF'

Once again, the two properties are specified to take the same position in the notation, and therefore presented on the same line. Gradation is used in this instance, because neither colour takes on any shade of the other, turning them into hues of pink. Rather, it is the property that *red* represents as a whole that takes a semiotactically equal position to the property *white*. As Geerdink-Verkoren (2008) explains: "In the mathematical descriptions the phrases that are conjoined by coordinative particles are all put on the same line, between the relation symbols '>' for gradation, and the

reversed gradation symbol '<', thus indicating that these particles are bivalent in that they connect two sentence parts, but these parts are coordinate and not subordinate" (p. 88). The bivalence referred to does indicate that each of the two elements is presented as separate, although they do occur in the same syntactic position.

This approach to coordination is different from Ebeling's, however. According to him, in a phrase like *the cat and the dog*, the entity *cat* is not convergent to *the dog*. Rather, what conjunctions do, in his opinion, is include both of them into one entity (Ebeling (1978, p. 218-20; 2006, p. 281–8)). As has been discussed in chapter 1, brackets are used to indicate that separate parts of a single meaning are represented in more than one line. In the case of transitive verbs, the fact that they take both a subject and an object exemplifies this. Both the subject and the object play a role in the event, but both entities are separate, and each plays a different role within the same event. As such, these roles must remain divergent within the notation, but part of the meaning of the transitive verb occurs in both divergent positions (see (2)). In essence, Ebeling applies the same logic to coordination. Note the following notation:

(18) "The cat and the dog" (1978, p. 220) notated in the style of Ebeling (2006).
'[x; $x = y + z$]
[y; $x = y + z$]; cat / SG – DEF
[z; $x = y + z$]; dog / SG – DEF'

As the symbols within the brackets show, the elements within *y* and *z* are combined via the word *and* (symbolised by the '+' in the notation above), and together they form a resulting entity consisting of both elements together. In the case of (18), this would imply that relation indicated by *and* is *inclusion into one entity,* which distributes two distinct roles, namely the first and the second element within that new entity. These two together form the topmost layer of the meaning.

However, there are some problems with Ebeling's notation. First of all, it is not the function of coordination to represent two elements as being part of one entity, within which each element has its own role. Rather, a coordinator simply places two elements in the same semiotactic position. This is more accurately represented by convergence. Moreover, the method proposed by Ebeling seems to entail abstraction: rather than indicating the relation on its own, there is a third element which abstracts from that relation a third entity. In other words, not only does *and* indicate a relation between two meanings in this case, but also the relation of these meanings together with a third entity: the sum of their parts. The problem that this gives rise to is the fact that it implies that *the cat* and *the dog* are both *divergent* from the meaning *the cat and the*

dog, whereas they are precisely the parts that make up this phrase's meaning. Convergence is exactly the tool that is used to express this sameness of meaning.

1.7 – Time: tense, aspect, temporal adverbials

Tense and aspect are fundamental notions to the English language, yet arriving at a clear definition of them is a complicated matter. Moreover, any definition given here must also be compatible with the semiotactic model. These two problems must each be addressed separately. First, the notions of tense and aspect will be discussed. The placement of these meanings within the semiotactic notation will follow after that.

1.7.1 – Tense: Past simple, present simple, 'future simple'

Before we can delve into these topics, it is important to go over the various aspects of time that the semiotactic framework distinguishes. For one, there is THE period, or *orientation point*. This meaning is not markedly different from that of the article *the*. In fact, it is introduced with the article in mind. The notion this expresses is essentially "being in the forefront of the frame of reference" (Ebeling 1978, p. 14). This is also referred to as *autoprominence*. The event under discussion and THE period are independently defined. In the case of the present tense, the event contains the orientation point: at that point, a present tense sentence is current. In introducing the notion of *autoprominence*, Ebeling appears to solve a number of related problems all at once. He notes:

> The definitions of some meanings require a reference to something that is fixed separately each time these meanings are used. If this fixed something is temporally or locally determined, it is usually called the "orientation point". For example, the statement *x is behind y* makes sense only if it is known with respect to what or whom it is meant to be true. . . Thus a rough paraphrase of "*x* behind *y*" is "*x* so placed with respect to *y* that *y* is between *x* and THE object. (1978, p. 13)

It appears, then, that a thing "being in the forefront of the frame of reference" is pervasive in language as a whole, and not just in time. He goes on to note that "the meaning of a past tense [stands for] 'preceding THE period'" (p. 14). The period preceding THE period in this case is the *narrated period* (NP): this is the time which is actually being discussed. This period being discussed must be distinguished from the *event period* (EP) of the sentence, i.e. the timeframe of the event described in the sentence.

It appears that these three notions are sufficient for the description of time in language: the statement *I was hungry* normally implies that at THE period (which is the moment of speaking in most cases) the situation of me being hungry no longer applies. In the same way, the definition of the past tense given above also assumes such a relation between the NP and THE period. The projection evoked in the sentence is my being hungry (i.e. NP = EP, I am referring to the entire time of my being hungry), which occurred before the orientation point (i.e. before THE period). This configuration of NP and EP (NP = EP) may be considered to be *aspect-neutral*. That is to say, when someone does not add any aspectual meaning, the entire event (i.e. the EP) is the message of the sentence (i.e. the NP). When no aspect is present, these two elements therefore overlap completely.

The present tense is arguably the most common tense. Ebeling gave the following definition of the semantic element 'NOW' in the context of a present progressive sentence ("John is reading a newspaper"):

> 'NOW' is to be understood as 'a fact |f| such that NP(|f|) has its beginning and ending period in NE(|f|) [EP in this work], and NP(|f|) includes THE period as its orientation point'. (Ebeling 1978, p. 239)

For the purposes of the present explanation, we may take |f| to refer to an event or a situation. Ebeling continues: "However, since the NP, the NE [or EP], and the orientation point can be three different situations, there are contexts where the procedures relegate their projections to different layers. In order to arrive at uniform notations, the application of a special rule is required" (p. 239). In other words, whenever a distinction is made between these three periods, they each must be treated as divergent meanings. In the quote above, however, specifications of all these periods are still conflated, but these different periods clearly require separate meanings to specify them. He applies the principle of giving each of these periods its own separate layer to the Latin sentence "*urbs condita est* 'the city is/was founded'" (p. 240). This sentence contains a perfect aspect meaning as well as a present tense meaning. Ebeling describes the meaning of 'CONCL', his symbol for the perfect aspect, as "a fact |f| or a feature |f|, such that the NE(|f|) [or EP] has an ending point which characterizes NP(|f|) by being the first moment of NP(|f|)" (p. 240). Given that we are talking about aspect on a sentential level in this chapter, it suffices to regard "|f|" as a situation. Paraphrasing the above in this way yields: *a situation in which the EP has an ending*

point which characterises the situation's NP by being the first moment of that NP.[14] This meaning, as well as the present tense meaning, are represented in his notation in the following way:

(19) Notation of *urbs condita est* in Ebeling (1978, p. 241)[15]

"... Σ . [*x*; *y*R$_1$(NE(*x*))]
[*y*; *y*R$_1$(NE(*x*))] . [*z*; *w*R$_2$ *z*]
[*w*; *w*R$_2$ *z*] . THE moment
city = [founded]
[founding]..."

About this notation, Ebeling notes that R_1 signifies "starting at, and characterised by, the point of completion of" (p. 241), which naturally corresponds to 'CONCL', whereas R_2 refers to "included in" (p. 241). Let us analyse this notation from top to bottom. The sigma line represents the EP: this is characterised as *x*. It is said about *y* that it is characterised by the point of completion of *x*, which corresponds exactly to the definition of the perfect given above. The second line of the notation above refers to the NP: this is the meaning that is itself characterised by the point of completion of *x*, but it is also the period in which THE moment is included: the present tense meaning says *w* is *included in z*, and that *y* is *convergent* with *z*. In contrast to the past tense meaning described above, then, the present tense meaning is presented here as "NP includes THE period", as *w* is convergent with THE period, which R_2 connects to *z*, the NP, by stating that it is "included in" *z*.

Although the above notation is more precise, it is clearly much clunkier than the notations we are used to. Rule c in Ebeling's work (p. 241), which allows us to rewrite these meanings, which are essentially relational, as single meanings on the sigma line as a notational convention: the two notations are identical in meaning. The above notation of *urbs condita est* thus becomes:

[14] As we will see in section 3.4, sometimes aspectual meanings can also be applied directly to verbs within a larger sentence, in which case it is the EP (i.e. the event) which is coordinated with the NP (i.e. the rest of the event described).

[15] Note the use of '.'. At this stage of the analysis, Ebeling uses this symbol to indicate an as yet unspecified relation. Later this symbols is replaced in these positions by the '/' symbol.

(20) Notation of *urbs condita est* in Ebeling (1978, p. 240)
"... Σ . CONCL . NOW
city = [founded]
[founding]...."

In the above, then, 'CONCL' refers to the perfect aspect meaning, and 'NOW' refers to the NP being included in THE period. This is the definition of the present tense that will be maintained in this work.

To recapitulate, the definition of the past tense held to here is "preceding THE period" (Ebeling 1978, p. 14), and the definition of the present tense is "including THE period". The above definitions are sufficient for the description of the present simple and the past simple. However, a different picture emerges when discussing what is commonly referred to as the *future simple*. An example of this would be *I will be hungry*. The structure of this sentence is clearly different from the other sentences. The 'tense' in this sentence is not morphologically given. Rather, it is introduced by the verb *will*. This might not have made a significant difference. However, 'another' tense meaning also can also affect this verb itself: *I would be hungry* is the past tense version of present tense *I will be hungry*. This being the case, the semantics of the verb *will* cannot simply take the place of either of these tenses. The future reference that is contained in *will* can therefore not be said to place the event with regard to the orientation point, as this is what the tense marking does. One might be tempted to argue that it places the event period after the narrated period. In other words, when one says *I will be hungry*, one is still talking about the present, but marking the present by placing it in a relation to an expected event – in this case being hungry. *I will be hungry* would present the present as the narrated period, and the event period as following the present moment. *I would be hungry*, by contrast, places the narrated period in the past (i.e. before THE period), and places the event of being hungry in some projected future from the perspective of that narrated period.

However, this description falls short, because there is nothing wrong with present tense sentences which also convey messages about the future, e.g. *The train leaves tomorrow* or *We're having dinner at eight*. If the function of *will* were simply to project the event into the future from the perspective of the NP, then surely it would be required in these cases. However, *The train will leave tomorrow* and *We will be having dinner at eight* sound rather less definitive than the present variants. Contrasting these examples, it appears that *will* gives information about the attitude of the speaker towards its occurring. In this way, its modal meaning is similar to that of a *mode* or *intention* (see section 1.5), rather than a tense.

1.7.2 – Aspect and modality

Aspectual meanings have already been discussed above to a considerable degree. Ebeling considers the function of tense to be relating the period under discussion to the autoprominent period. When they occur without any aspectual marking, it is also assumed that the narrated period and the event period are one and the same: the meanings are not made divergent. For instance, *I was hungry* places the NP of the situation before THE period (usually the moment of speaking). Moreover, it refers to the entire time I was hungry: no part is explicitly included or excluded of this state of affairs. As we have also seen in the above, the 'future tense' in the English language fulfils a rather different function, namely indicating the speaker's uncertainty about the situation described, rather than simply future reference. As will be shown in what follows, aspectual meanings coordinate the NP and the EP of a situation, rather than the NP and THE period of a situation.

Two aspects are distinguished in the English language: the perfect aspect and the progressive. As noted, Ebeling gives a clear definition of the perfect aspect: "a fact |f| or a feature |f|, such that NE(|f|) [EP here] has an ending point which characterises NP(|f|) by being the first moment of NP(|f|)" (Ebeling 1978, p. 240), which can be paraphrased as *a situation in which the EP has an ending point which characterises the situation's NP by being the first moment of that NP*. The EP in question, though part of the message, is placed outside of the period that the situation specifically refers to. As such, a perfect aspect sentence does not refer to the event itself directly, but to the time that follows that situation. A simple example of a perfect sentence would be *I have written many words*. This sentence does not refer to the present moment as the moment in which words are being written. Rather, the period after this EP is the NP, meaning that the word-writing event (i.e. the EP) precedes the moment under discussion (i.e. the NP), which includes the present. In other words, perfect aspect made it so that the time that the sentence refers to is different from the time in which the event discussed in the sentence occurs. In this case, the event precedes the moment discussed: right now, the writing event is complete.

The progressive also needs to be discussed. As argued above, the first time Ebeling discusses 'NOW', aspect and tense are still conflated. He gives a provisional definition of 'NOW' in the context of a progressive sentence ("John is reading a newspaper" (p. 239)) as a "a fact |f| such that NP(|f|) has its beginning and ending period in NE(|f|) [EP here], and NP(|f|) includes THE period as its orientation point" (Ebeling 1978, p. 239). The part "includes THE period as its orientation point" refers to the present tense, as discussed above. Although Ebeling does not define the progressive again in isolation,

the unequivocal meaning of the present tense presented above in the context of "*urbs condita est*" (p. 241), as well as the requirement of the NP, EP, and THE period to be defined divergently, leaves "a fact |f| such that NP(|f|) has its beginning and ending period in NE(|f|) [EP here]" as the definition of the progressive aspect. This would mean that the event is not related as a whole, but rather only the parts *within* the event, without the initiation or the conclusion of the event. To verify this perspective on the progressive aspect, it seems appropriate to turn to another analyst, who provides a more extensive discussion of this aspect. Wolfgang Klein (1994) does just this. He bases his work on terms which are different, but in practice correspond to various components of semiotactic analysis as well. For one, he uses the term *time of utterance* (TU) instead of *THE period*. In most cases, this term does lead to an accurate representation of time: the statement *I am hungry* is true if the speaker is hungry at the moment of speaking. Klein does note some of the limitations of this definition, however:

> In a sense, a coherent sequence of utterances – a text, be it written or spoken – is a unit, and it should have a single relatum. But then, it would be strange to assume that this relatum is, for example, the time at which the whole text was produced: what is, then, the utterance time of the Bible, or the first book of Moses? In these cases, the characterisation of the deictic relatum as 'time of utterance' is clearly insufficient. (1994, p. 67)

Ebeling seems to have resolved this problem by defining this orientation point by its deictic nature alone. Nevertheless, because Klein is cognisant of this caveat to his term, his generalisations are still compatible with a semiotactic perspective.

Klein further distinguishes between what he calls the *time of situation* (TSit), which he defines as the timeframe within which the situation described actually holds, and the *topic time* (TT), which is the "time for which such a claim is made" (1994, p. 3). As an example, he provides the sentence "There was a book on the table. It was in Russian" (p. 4). The topic time of the latter sentence is relegated to the past, but naturally the situation of the book being Russian does not end in that past. This proves that "tense doesn't directly specify the 'time of the situation'; rather, it imposes a temporal constraint on the time for which the assertion is made" (1994, p. xii). If one were to look for semiotactic analogues to these two terms, EP and NP would naturally present themselves. Both the *topic time* and the NP refer to the timeframe the sentence refers to, regardless. It appears that TSit does not refer to any aspect of the sentence itself at all, but rather to the real world. The notion of *event period*, on the other hand, strictly

refers to an aspect of the semantics of the sentence. Given that *interpretation* falls outside the scope of the semiotactic framework, the notion of EP therefore seems to be better suited for the present work. On the other hand, the notion of TSit does make it possible to make some more generalisations about the compatibility of aspectual features with different types of verbs. For instance, Klein notes that 0-state contents (i.e. indefinitely true statements) do not combine with aspectual meanings: "*Two plus two is making four" (p. 101) (the asterisk symbolises unacceptability). Klein: "[0-state verbs are] those for which there is no TT-contrast; if they are linked to a particular TT, then they are automatically linked to any other TT" (1994, p. 101). From a semiotactic perspective, we would merely say that the interpretation leads to an illogical situation. In any case, when Klein's work is interpreted with this in mind, the generalisations he presents are valuable within the framework. This corresponds with the observation above that tense marking positions the NP with respect to THE period.

Interestingly, Klein also argues that "aspect concerns the relation between TT and TSit – the way, or sometimes ways, in which some situation is hooked up to some TT" (p. 6). Given that TT corresponds to NP, and TSit is comparable to EP, this would suggest that this is equivalent to saying that aspect concerns the relation between EP and NP, which is exactly the distinction Ebeling describes. On the topic of the progressive, Klein notes that "the time for which an assertion is made falls entirely within the time of the situation; this gives the impression that the situation is, so to speak, seen from its inside" (1994, p. 108). This leads to a contrastive reading between sentences like "*John slept*" and "*John was sleeping*" (p. 110), for example. Klein notes:

> Somehow, the latter sounds 'stative'. . . The former, by contrast, sounds 'like an event', on par with *John opened the window*, although *to sleep* is normally not considered to be an event verb. The time-relational analysis of PERFECTIVE and IMPERFECTIVE accounts for these intuitions: in the IMPERFECTIVE, nothing changes within TT, no matter whether the lexical content includes one or two states. In the perfective, there is always such a change within TT. . . for the latter, the ensuing state is lexically characterised, whereas this is not so for the former. (p. 110)

The term *perfective* must not be confused with the term *perfect* in the quote above. A *perfective* event contains its own conclusion, whereas the *perfect* is marked by this event already having been completed (hence TT follows TSit in the perfect). In the above, *John slept* is regarded as perfective: the entire event is referred to, including its end. By contrast, the *imperfective* refers to an event as it is ongoing, but not being completed. In

the case of *sleeping*, this means that nothing is happening: the person remains asleep. By contrast, *John slept* covers the entire sleeping event, i.e. also its beginning and endpoints, which is why it sounds like an *event*. For this reason, the *imperfective* variant (i.e. the progressive "*John was sleeping*") is characterised by Klein as "TT INCL TSit" (p. 108), which means "TSit is interpreted as fully including TT" (p. 99). In other words, TSit encapsulates TT completely. Klein's definition is equivalent to what has been taken to be Ebeling's definition of the progressive, i.e. "a fact |f| such that NP(|f|) has its beginning and ending period in EP(|f|)" (1978, p. 239). This definition of the progressive will therefore be maintained. One is not reading when one starts to read, nor is one reading when one is done reading. One is only reading when the reading event is ongoing.

In sum, the definitions of the two aspectual meanings in English can be contrasted to the definitions of tense by the things they relate: aspectual meanings relate the NP to the EP, whereas tense relates the NP to THE period. It has been argued above that *will* has a function similar to mode or intention: it marks the amount of certainty of the speaker rather than simply referring to the future. Tense meanings do not combine in the same clause. One cannot say, for instance, **He hassed problems*. However, aspect meanings can appear in the same sentence. To exemplify this, note the following examples:

(21) She is reading in my room.
(22) She will be reading in my room.
(23) She will have been reading in my room (for hours).

All of these sentences are perfectly acceptable. This leads to two conclusions: a) any clause can only have one tense; and b) there can be more than one aspectual meaning in a clause. The relations between all these meanings must be clarified for a complete picture of tense and aspect to emerge.

The first example is fairly easy to explain: the aspectual meaning places the NP within the EP of *reading in my room*, and the tense marking makes explicit that THE period falls within this NP. As the semiotactic notations above showed, the state of affairs that marks the EP (i.e. the nexus relation in most sentences) is dominated by the sigma, so that this can be specified by temporal meanings (see section 4.5.3.2 for a deeper discussion of nexus and sigma). Looking at the form of (23) allows us to deduce the order in which these temporal meanings apply. The two temporal meanings here distinguished are the present tense and the progressive. In a present simple sentence, there is agreement between the subject of the sentence and the main verb, e.g. *She reads*

in my room. The progressive meaning, on the other hand, is associated with the structure *be* + V-*ing* (i.e. the finite verb of the original sentence is affixed with –*ing*, and *be* becomes the new finite verb). If the tense meaning were applied before the progressive meaning, this would therefore lead to *She reads in my room* first, which would then be turned into **She be readsing in my room*. The fact that the result is not a present progressive sentence means that the order must be reversed: the progressive is applied first, which singles out a part of the reading event in which it is ongoing. Then, THE period is related to the NP in the way the present tense requires: NP includes THE period. The order in which the meanings are applied is important, because this will have to be reflected in the notation.

Example (22) refers to a situation in the present, in which the speaker is projecting an ongoing event (in the future). Looking at the form of this construction shows us a lot about the order in which the temporal/modal meanings are applied here. To analyse this, let us first discuss these forms. As mentioned, the progressive in English takes the form *be* + V-*ing*. Apart from that, the modal verb *will* is applied in the following way: *will* + VINF, as a sentence like *I will eat* shows. Lastly, tense marking requires present tense agreement on the main verb. In the case of (22), however, the verb *will* takes this agreement, and it never shows number agreement, as *He will eat* shows. It can only be contrasted to its past tense form: *He would eat*. Taking these notions together, the following picture emerges:

*She read*INF *in my room*	No temporal meanings applied
*She be*INF *reading in my room*	Progressive applied
*She will*INF *be reading in my room*	*Will* and progressive applied
She will be reading in my room	Tense, *will* and progressive applied

As we can see, the order in which these meanings are applied to the situation as a whole is reflected in the form. The progressive meaning comes first, which is followed by the modal meaning *will*. The tense of the sentence cannot be shown overtly on *will*, but it may be noted that the past tense variant of this sentence is *She would be reading in my room,* showing that the verb *will* does take tense agreement.

This ordering can be further exemplified by looking at (23), in which two aspectual meanings peacefully coexist. This raises the interesting question of how these meanings interact. It may be clear, right off the bat, that the NP of the one aspectual meaning is not identical to that of the other. This would mean that we are both viewing the event from the outside (as the perfect aspect requires) and from the inside (which is what the progressive contributes). This likely means that the meaning that is applied first will

have an effect on what the second meaning specifies. It will here be assumed that when two aspectual meanings occur together, both meanings are left intact, and change the meaning in a particular order, rather than both affecting exactly the same situation.

With this in mind, let us turn to what Klein has argued about the interaction of the perfect and the progressive, using the contrast between "John had washed the car" and "John had been washing the car" as an example (p. 119):

> The first utterance puts TT into the posttime of *John washed the car*, the second in the posttime of *John was washing the car*. In the first case, the target state of John's washing the car was reached ('car washed'). In the second, it is not, or at least, not necessarily; we may be still in the source state of John's washing the car; nothing in the lexical content tells us how this posttime is: John could be bored, tired, wet, the car may be half-washed, or whatever. It is only our world knowledge which tells us how the world is after someone's having been washing the car. (1994, p. 119)

This characterisation of the perfect progressive suggests that the progressive meaning is the first meaning to specify the situation, because when an imperfective event is placed in the past, it is unclear whether it has been completed. The opposite (i.e. the perfect being applied first) would lead to a reading in which a situation in which something is completed is still ongoing, which is illogical. If we apply the progressive meaning first in the case of *She will have been reading in my room,* this would again be *She be*INF *reading in my room*. How do we progress from this point forward? We may consider the first NP/EP configuration, in which a reading event is ongoing, as an entirely new situation. Doing so allows us to take this situation and configure the NP and EP in the way the perfect aspect prescribes. Note, however, that *have been reading* does not imply that the reading event is completed in the past, as Klein has also noted. Rather, it is the *ongoing* reading event that is placed before the NP of the perfect situation. Since what is placed before the NP by the perfect is the EP, this leads to the conclusion that *the NP of the progressive situation plays the role of the EP in the perfect situation*. As such, *She will have been reading in my room* does not imply that the situation of her reading in my room appears in the future of a completed period. Rather, it means that the reading will have been going on for some time at a certain point in the projected future. The perfect aspect will therefore influence the meaning of the progressive, before *will* projects this as uncertain. This corresponds to the way in which these temporal meanings are applied. First, the progressive (*be* + V-*ing*) is applied, after which the perfect (have + V-

ed) is. The modal *will* and the tense meaning follow in the same way as they did in (22). This leads to the following ordering:

*She read*INF *in my room*	No meanings applied
*She be*INF *reading in my room*	Progressive applied
*She have*INF *been reading in my room*	Perfect and progressive applied
*She will*INF *have been reading in my room*	*Will,* perfect and progressive applied
She will have been reading in my room	Tense, *will,* perfect and progressive applied

In the above, the perspective taken here on tense, aspect, and modality has been laid out. It boils down to the following main points:

a. Tense relates THE period to the NP of a situation;

b. Without aspect, there is no explicit distinction between the EP and the NP of a situation;

c. Aspectual meanings specify the NP in relation to the EP of the event;

d. Modal verbs, such as *will*, serve to specify the truth value the speaker attaches to his or her description of the situation;

e. When more than one aspectual meaning is given in a sentence, they occur in a specific order, and NP_1 plays the role of EP_2 in the successive configuration;

f. When more than one aspectual meaning is given in a sentence, the final NP is specified for modality and tense.

1.7.3 – The notation of tense and aspect

It is important now to implement these principles in the semiotactic framework. Before any notations can be drawn up, the relations that the tenses and aspectual markers contribute must be linked to symbols which can be included in the notation. These are presented below:

'PR'	=	"containing THE period"
'PA'	=	"preceding THE period"
'PF'	=	"an event or situation of which the EP has an ending point which characterises the situation's NP by being the first moment of that NP"
'PROG'	=	"an event or situation of which the NP finds its beginning and ending points in EP"
'WILL'	=	"presented as existing in the imagination of the speaker"

Most of these correspond to slightly different symbols in Ebeling's (1978) work, and the definitions presented are somewhat simplified, but the essential message conveyed using them is the same. Concerning the notation of tense and aspect, Ebeling notes that stratification is to be used when elements refer to the EP and NP (1978, p. 372). Taking 'PR' as an example, the fact that the projection is limited to a time connected to the present quantifies, rather than giving any specific characteristic of the situation itself. That is to say, it does not add anything to the projection of the situation itself, but it rather says something about where on the timeline this situation is to be found. Remember that one would notate *five apples* using stratification (see 1.3.3.3) because it does not specify anything about the kind of apples, but rather about the number of times the meaning 'apple' is projected. In the same way, any specification of the temporal properties of a situation as a whole does not change that situation in itself, but rather what place it takes on the timeline (i.e. what part of the timeline it covers). Since tense and aspect deal in temporal quantification rather than changing anything about the situation itself, both these types of meaning belong on the sigma line. The order in which the temporal meanings here described are applied to the situation must be presented from left to right in the semiotactic notations. Take the notation of (23) above (repeated in (24) below):

(24) She is reading in my room.

'Σ / PROG / PR

she = $read_1$ > [in_1]

[in_2]; room. . .'

In the notation above, the progressive meaning is applied before the present tense meaning is. The interaction between these meanings has already been explained in section 1.7.2. Moving on, (22) (repeated in (25)) provides a further meaning, i.e. a modal one. As stated, the progressive applies before the modal verb, and the present tense meaning applies last. This is semiotactically notated as follows:

(25) She will be reading in my room.

'Σ / PROG / WILL / PR

she = $read_1$ > [in_1]

[in_2]; room. . .'

It is useful to consider the implications of notating the modal verb *will* in this way. Is this an adequate way of representing all modal verbs? Note that *can, may, shall* etc. and their past tense variants are all considered modal verbs. I would also say that the impact of all these verbs is not on the projection of the event itself, but rather on the possibility

of its manifestation in the world. In this sense, they must all bear at least some relation to the NP as a whole, rather than the event described. Without defining all these meanings, it is assumed here that they must all be notated on the sigma line for this reason, and because they are all formally equivalent (i.e. they all require a bare verb to follow them and do not inflect for person).

The final example to be notated is (23) (repeated in (26)). As discussed above, *She will have been reading in my room* characterises THE period by being before a period after an ongoing reading event. This configuration is notated as follows:

(26) She will have been reading in my room.

	‘Σ / PROG / PF / WILL / PR			
she	=	$read_1$	>	$[in_1]$
				$[in_2]$; room. . .’

1.7.4 – Temporal adverbials

In the above, just a few sentences containing temporal adverbials have been mentioned. Of course, their status in the semiotactic notation must also be elucidated. Is their status different from that of other adverbials? Ebeling has consistently notated temporal adverbials on the sigma line (1978, p. 372; 2006, p. 172). An example of this is given below:

(27) “She often cries” (Ebeling 1978, p. 372).

	“...Σ / often / NOW
she	= crying. . .”

About this notation, Ebeling notes: “ ‘Σ’ with its dominated layer is the projection of features of one act of crying, ‘often’ of features of the sum of all these acts, and ‘NOW’ of features of the period in which these acts are intermittently present” (p. 372). There are some problems with this assessment, which have to do with what the EP is, what it expresses, and what it can do. Ebeling considers the EP to be more or less homogenous: it can only refer to the event on the nexus line, and this event can only be a full event. I would argue for a different perspective on these meanings, however. In Ebeling’s example, *often* is an adverb because it attributes its meaning to the verb *crying*. The notation we would get if we left this relation intact is the following:

(28) “She often cries” (Ebeling 1978, p. 372) alternatively notated.

	‘Σ / PR		
she	=	cry_1	> often’

The EP of this notation would be one in which 'she' is the subject of an intermittent crying event. In other words: in this notation, the verbal meaning 'cry_1' would be specified by a meaning containing 'intermittent' and 'frequent'. If these are regarded as properties of the event itself, then the EP of the event is just a straight line, in which crying often occurs (but, by implication, also times in which is not crying). This representation has certain advantages. For one, it may be noted that it keeps the relations that the grammar of the language presents intact. It also keeps every lexical meaning, i.e. every part of the projection of the event itself, under the sigma. The features of the EP are completely determined by situation described below the sigma. In fact, the two are identical. The term EP focuses on the duration of the nexus event, the length of which is always determined through the use of interpretation. When an element only concerns this EP, rather than its position compared to the NP, it must therefore be notated below the sigma. For instance, we may say *She read the book quickly*, and this might lead to the projection of a shorter EP with the word *quickly* than without, but this does not mean that *quickly* should be on the sigma line. Rather, it specifies the way in which the reading event proceeds, which may lead to the logical conclusion that the EP was not as long as might have been expected. Something may consistently be true, even though it does not always manifest itself. For instance, when one says *I speak a little Russian*, clearly this does not indicate that the sentence one utters at that moment is Russian itself, which one might have expected, because the sentence is in the present tense. The sentence simply conveys that one has the capacity to do so, and may therefore be assumed to engage in the activity occasionally. It is this state of affairs that the nexus relation conveys – and this therefore functions as the EP, which holds also true at the moment of speaking. Similarly, *often crying* may give rise to the projection of a longer EP, in which crying and not-crying follow one another in succession, but that does not mean that both these states together are not part of the EP. The word *often* does not change the relationship between the EP and the NP or between the NP and THE period: it merely specifies the event itself. For this reason, I would propose not notating it on the sigma line, but rather below the sigma line. The implications of this can be shown using other examples:

(29) The train leaves tomorrow.
'Σ / PR
train = $leave_1$ > tomorrow'

(30) They checked out yesterday.
'Σ / PA
they = $check_out_1$ > yesterday'

(31) I haven't done anything like this in years.

		‘Σ / PF / PR		
me	=	[do_1]	>	[in_1]
		[do_2]; anything . . .		
				[in_2]; year’

(32) We're having dinner at eight.

		‘Σ / PROG / PR		
we	=	[$have_1$]	>	[at_1]
		[$have_2$]; dinner		
				[at_2]; eight’

Sentence (29) is in the present tense, yet it contains the word *tomorrow*. If this were notated on the sigma line, one might have expected the present (THE period) to be contained in the timeframe contributed by *tomorrow*, which is does not cover the meaning of the sentence: the time denoted by *tomorrow* is by definition not the present. The present tense indicates the relevance of the event to the speech situation: the situation in the present is marked by the event which is set to happen tomorrow. The point of a sentence like this is to connect the eating event to the temporal adverbial, and together they are relevant to the present moment. This is markedly different from saying that the moment of speaking *is* tomorrow, which would be the projection of the event if the NP was specified by *tomorrow*, and THE period was found in that period. In (30) the past tense makes clear that there is a lack of relevance to the speech situation: in THE period, this event does not play a role. Of course, the event only occurred *yesterday* from the perspective of *today*, which includes the present moment, but this is no reason to use the present tense. Rather, it contributes the occurrence at the relevant moment. Past events are not relevant in this way, unless the present perfect is used, in which case it is relevant in that the conclusion of the event marks the situation as it exists right now.

The importance of contextual relevance can be shown by analysing a present perfect sentence. Such a sentence contains the present tense, yet the event described is placed in the past, before the NP. Sentence (31) requires that *in years* only specify the event, and nothing else. If *in years* positioned the NP (or THE period), this would mean that *in years* occurs now. This does not seem to hold, however. Rather, what is conveyed is that at the present moment, the time of *me doing nothing like this for years* has ended. For this reason, the meaning of this sentence can only be maintained if the event itself is specified. The event is in the past from the perspective of THE period. In this case, the situation is described because of its contrast with the present. The situation in which it

has ended is the NP in which THE period is found for this reason. This is what the perfect aspect contributes to this sentence. The fact that it does not occur anymore *is* relevant to the present in this case: it is what sets it apart. The present tense makes sense for this reason.

Similarly, (32) contains a present progressive as well as a time indication. We assume that this is a reference to the future, even though there is no explicit prompt to do so. That is to say that when we take the sentence literally, it means that it is now eight o' clock, and we are eating, but the fact that this statement is made, makes clear that interpretively, the event is to take place in the future. This cannot mean that the situation as a whole is set there, however, through overt means: if the narrated period were to fall into the EP if the NP were determined by *at eight o' clock*, the present moment would have to be in the future. We may say, rather, that the point of a sentence like this is to connect the eating event to the timeframe, and together they are relevant to the present moment. For this reason, the present tense is used here. The progressive is used because the event is projected to be ongoing at that moment. For these reasons, the notation given above is presented in the way it is.

1.8 – Conclusion

In summary, the following fundamental points form the basis for the semiotactic framework:

- *Language as a set of form-meaning units*: linguistic signs consist of two parts: a phonetic part (i.e. the sound associated with it), and a semantic part (i.e. the message associated with it). The connection between these forms may be arbitrary (e.g. there is nothing doglike about the sounds that make up the word *dog*), but the connection between them is invariant within the same language;

- *One form – one meaning*: the assumption that one form only expresses one meaning, which forces the linguist to distinguish signs on the basis of their forms, and to generalise in order to give a single, unified meaning for a single form;

- *Distinction between interpretation and meaning*: the meaning that a given sentence or phrase conveys is often not sufficient: the hearer will have to complete the projection through *interpretation*: he or she will have to take the context of the speech situation into account to find the intended message of the speaker. This does not mean, however, that his or her speech situation itself is part of the linguistic data;

Moreover, the following notions are important in the application of the semiotactic framework:

- *Convergence and divergence*: elements can either be used to specify the same meaning (in which case they are convergent, and occur on the same line in the notation) or they refer to separate meanings (in which case they are placed on different lines in the notation). When a divergent relation is presented without any accompanying meaning, the symbol used is '↓'. If a meaning connects two divergent meanings, this means that it distributes two divergent roles. These are each expressed on a separate line, notated directly above one another, and enclosed by brackets '[ ]', to indicate that both aspects are part of a single complex meaning;

- *Situation* (symbol 'Σ'): every full sentence projects a situation, i.e. a state of affairs which is limited in time (although this may not be overt in every language). The sigma dominates the rest of the notation, and can be specified by temporal, modal and aspectual meanings;

- *Nexus* (symbol '='): the message contained in a full sentence is usually that something is true about something else for some specified amount of time. The thing about which the statement is made and the attributes ascribed to it are separated through the nexus, indicating that the two forms are divergent: the first nexus member is not argued to carry the properties described in the second nexus member forever, but only for the time referred to by the situation. The relation between first and second nexus member only serves to characterise the situation, not either of these elements individually;

- *Limitation:* limitation (symbol '–') indicates that the entity or entities to the left of it carry the properties of what is to the right of it (e.g. *the barking dog* → 'dog – $bark_1$'). This relation can also be temporal in nature (temporal limitation, symbol '~'), in which case it does not limit the category of entities referred to, but rather the state such an entity must be in to be an appropriate entity (e.g. *a dog barking* → 'dog ~ $bark_1$');

- *Gradation* (symbol '>'): gradation also specifies meanings, but not directly. Rather, it specifies the *abstraction* of such a meaning (i.e. a meaning represented as an entity, itself symbolised here using '^'). In *I ran quickly*, for instance, it is not the subject that is described as quick, but the running (→ 'me = run_1 > quick'). This relation can also be temporal (temporal gradation, symbol '⊃'), meaning that the occurrence of that meaning is predicated upon some other meaning also occurring, e.g. *I work hard having drunk a cup of coffee* → 'hard ⊃ $drink_1$. . .';

- *Stratification* (symbol '/'): some meanings do not specify other meanings per se, but rather the amount of times a given meaning occurs (e.g. *five apples* → 'apple / 5'). This

is also used to indicate temporal specifications on the sigma, as these do not change the situation itself, but rather the time within which it is found;

- *Incorporation* (symbol '‿'): sometimes two words are presented as a single unit: they specify or indicate whatever meaning they are connected to together (e.g. *blue-black* → 'blue‿black').

- *Time*: in the analysis of time, three different periods are distinguished within the semiotactic framework:

Event period (EP):	the period during which the event described projected to take place
Narrated period (NP):	the period which is actually being referred to using the sentence
THE period:	the *autoprominent* moment

Tense meanings relate THE period to the NP, *aspectual* meanings relate the NP to the EP, and *modal* meanings specify the certainty of the speaker towards NP, much like the *mode* (meaningful word order) and the intention (meaningful intonational pattern) of any spoken sentence. These meanings are all placed on the sigma line, and specify the situation through stratification.

Chapter 2 – Gerundives in limitation relations and gerunds as entities

2.1 – Introduction

Gerundives are often used to indicate a property. Such a form usually indicates what kind of action a certain entity is performing within the projection presented. In such contexts, they take on certain characteristics of adjectives, but they still display some typically verbal properties as well. It is the aim of the present chapter to inventorise these properties, and to elucidate what they express about the relations between these gerundives and the rest of the sentence. These forms will be discussed first. The group of words in this category will be referred to as *gerundival adjectives* for convenience, because they fulfil a function similar to words commonly referred to as adjectives. Other forms are here considered *lexicalised*, and will be called *adjectival gerundives* as opposed to *adjectival gerundives* for the purposes of the present discussion. These forms will be analysed in section 3 in order to establish what it means for one of these forms to lexicalise on a semantic level, and in what ways these differ from adjectival gerundives. Sometimes attributively used gerundives can also occur in isolation. These forms will be discussed in section 2.4, so that they can be distinguished from *gerunds*, i.e. *–ing* forms taking positions entities would normally take. This category of *–ing* forms will be discussed in the final section of this chapter.

2.2 – Characteristics of adjectival gerundives

Gerundives indicating properties usually enter into a *limitation* relation. As stated in chapter 1, *limitation* shows that a meaning is added to the projection of another meaning. In this way, a subcategory of the initial meaning is singled out. For instance, when someone says *I like roses*, the entire category of the word *roses* is projected. That is to say, all things that fall into this category are appropriate: he/she likes them all. However, when someone says *I like red roses*, the picture changes: only those roses that also carry the property that they are red are now appropriate: he/she only likes the things in this subcategory. This is notated in the following way:

(33) I like red roses.

	‘Σ / PR	
me	=	[like$_1$]
		[like$_2$]; rose – red’

The symbol ‘–’ in the above shows that what is liked are not simply roses, but ones that also carry the property ‘red’. In a similar way, many gerundives help to single out entities by attributing to them an activity they are engaged in. To do so, a single gerundive can take the same position as *red* in the sentence above. This is what most

people would instantly associate with the adjective: an extra property is attributed to the entity in question. Take (34) as an example:

(34) A walking man
'man – $walk_1$'

This notation shows that the agent role in the walking event is attributed to *man*, meaning that not any man will do: only one engaged in this activity fits the category. Note that this relation is different from that between a subject and a predicate. In a full sentence like *A man was walking down the street*, for example, the full message is the attribution of the agent role to *a man*. As such, the subject *man* is not specified any further before being attributed this role. In the case of (34), however, this is the case. The agent role helps the hearer to access the appropriate subcategory of men: rather than referring to men in general, this phrase singles out a single specimen engaged in the activity of walking. Note that in (33) and (34) the specifying meaning is placed in the *attributive* position, i.e. before the entity they specify. In what is to follow, this position will be contrasted to the *postpositive* position, i.e. in the position following the word referring to the entity.

The adjectival gerundive can also be found in another position, however: after the entity in question, e.g. *a man hunting is a sight to see*, *John driving* etc. On the topic of this position for adjectives, Quirk et al. note the following: "the postpositive structures can of course be regarded as reduced relative clauses" (1985, p. 420). From a semiotactic perspective, however, one cannot speak of constructions in such terms. The structure of the result of this 'reduction' is a new construction, with its own relations. The etymology of this form should play no role in the analysis.

The meaning of *a man hunting* is slightly different from *a hunting man*. It does come close to that of *a man who is hunting*, in that the relationship between *man* and *hunting* is temporal rather than constant. However, any element referring to an actual relative clause is missing: there is no relative pronoun and no finite verb. This temporal relationship is expressed through grammatical rather than lexical means. Due to the temporality associated with these constructions then, gerundives following entities would be notated as follows:

(35) A man hunting is a sight to see.
'Σ / PR
man ~ $hunt_1$ = sight . . .'

This analysis is identical to that proposed by Ebeling for "Peter reading (written under a photograph" (1978, p. 313). In the above, *hunting* does not specify *man* like *walking* does in (34). Rather than ascribing the activity as a simple property, here it is rather the appropriateness of *man* in its subject position that is altered. That is to say that (35) expresses that a man is a sight to see, but that this state of affairs is only true *when the man is engaged in hunting*. In short, the difference between *a hunting man* and *a man hunting* is as follows: *a hunting man* is a man carrying the property that he hunts, whereas *a man hunting* refers to any man so long as that man is engaged in the verbal action of hunting. A phrase with a relative clause comes close to this in meaning: *a man who is hunting* refers to a man in the subject role of an ongoing hunting situation. This is also temporally defined, but this temporality is derived from the fact that the relative clause is temporally specified. For this reason, the correct notation of this phrase would be:

(36) A man who is hunting
'man – [who$_1$]
Σ / PROG / PR
[who$_2$] = hunt$_1$'

Here, the property of being a man who is hunting can only be applied for as long as the situation described by the sigma endures. However, this is not directly caused by the way in which the relative clause is ascribed to the man. In some way, this relative clause is more restrictive than the temporal limitation construction: it only singles out the group of singular men who are engaged in this particular ongoing hunting activity. The temporal limitation construction in (35), however, applies to any man, whenever they are hunting within the duration of the matrix EP (which may be interpreted as indefinite in (35)). The fact that the relative clause is more restrictive this way can be shown by using a past tense example, and contrasting it to a temporal limitation example:

(37) Any man who was hunting between 10 and 12 will be arrested for disturbing the peace.

'Σ / WILL / PR
man – [who$_1$] – any = arrest$_2$
Σ / PROG / PA
[who$_2$] = hunt$_1$ > [between$_1$]. . .'

(38) Any man hunting between 10 and 12 will be arrested for disturbing the peace.

'Σ / WILL / PR

man ~ $hunt_1$ > [$between_1$]. . . = $arrest_2$'

In (37), the situation described is one in which the men who were engaged in a past hunting event between 10 and 12 will be arrested. In (38), the message is rather that this fate will befall any man who hunts between 10 and 12 anytime this occurs. This is exactly what temporal limitation expresses. Cases in which the participle follows the entity specified will not be analysed as reduced relative clauses in the present work for these reasons.

There are also contexts in which it is impossible to place a gerundive before the entity, in which case it is placed in the postpositive position, just like elements specifying the entity through temporal limitation. However, temporal limitation cannot be used in these cases. Typically, this occurs when this element is itself specified by a modifier adjunct, e.g.:

(39) A man walking in the street.

'man – $walk_1$ > [in_1]

[in_2]; street'

This construction can be contrasted to (40):

(40) A walking man in the street.

'man – $walk_1$ – [in_1]

[in_2]; street'

It is clear that there is a difference: in the second example, it is the man himself who is specified as being in the street, as well as engaged in walking. This presents us with a problem, because in (39), the adjective following the entity specifies it temporally. However, it is impossible for the verb itself to be specified in the attributive position (*e.g. *a walking in the street man*) The question, then, is whether or not this position still specifies the entity temporally if there is no alternative. In other words, there is no choice between **a walking in the street man* and *a man walking in the street,* but there is between *a hunting man* and *a man hunting.* Can we still determine which functor is to be used in such a case? It is important to take what Ebeling has written on this topic into account. He states:

> A usually dark room is appropriate as a referent of *a dark room,* even if it is brightly illuminated at the moment when it is referred to by this phrase. But also a usually bright room is appropriate, provided it is dark at the relevant moment. In the former event the feature |dark| opposes the room to other rooms (there is non-temporal limitation), in the latter event the feature |dark| opposes the room as it is at a given time to itself as it is at some other time (there is temporal limitation). As demonstrated by the example, the difference need not be reflected in the form. (1978, p. 312)

What this statement by Ebeling shows is that there is polysemy in a great number of these types of constructions. Even the notation that is typically associated with non-temporal limitation can be *interpreted* as temporal. However, when a connection between form and meaning is found (i.e. in the case of *a man hunting* versus *a hunting man*), this relation must be reflected in the notation, and when it is not reflected in the form, it does not warrant notation. The same is true in the case of *a man walking in the street*: whether or not there is temporality present is a matter of interpretation, because no formal distinction can be made. The notations in (39) and (40) take this into account. In the above, the function of *in the street* is determined by the element adjacent to it. In the latter case this is *man.* Therefore, the man in this instance carries the property 'in the street' directly: this phrase does not simply refer to the category of 'man', but only to that subset of this category that is also 'in the street'. Furthermore, the word *walking* also attributes its meaning to this form through limitation. This means that the appropriate category is not just 'man', nor just the subcategory that is 'in the street', but rather those singular men that are both walking *and* in the street.

Although (39) is interpretively identical to (40) in many ways, the fact that *in the street* is adjacent to *walking* in this example therefore means that these two elements enter into a relationship. The only meaning adjacent to *man* (apart from *a*) is *walking*, so this is the only meaning directly specifying the entity *man*. This means that the category of appropriate referents is specified by the agent role of *walking*. However, *walking* itself is specified: the walking occurs in the street. Since it is this specified walking event that the referent performs, it stands to reason that the man himself would be in the street too. However, this is only attributed to the man indirectly, as an aspect of the walking event attributed to him. In short, where the contrast cannot be made explicit though the positioning of the gerundive, atemporal limitation will be used. Adjacent elements specify one another.

Another feature of adjectival gerundives is the fact that they can take arguments, but only when they follow the entity, e.g. *a woman driving a van, parents buying groceries,* etc. These must be distinguished from situational gerund constructions. Usually, these constructions can be distinguished from one another on the basis of the sentence as a whole. One could, for instance, make a statement like *The woman driving the van is coming closer*, in which case the subject would not be interpreted as a situation in its own right. Rather, it is the woman, who is specified by the fact that she is driving the van, who is coming closer. Contrastively, *Kids driving cars disturbs me* contains a situational gerund: the subject is a situation in which kids are driving cars. This type of construction will be discussed extensively in chapter 4. For now, it is important to determine whether or not a specifying construction structured like *The woman driving the van* to be analysed as containing temporal or atemporal limitation. Since it is impossible for adjectival gerundives to occur before the noun in cases where they are accompanied by an object, should they be considered temporal? In a way, this question answers itself: if the element can only take a single position, its position cannot be used to indicate different semantic relations. As such, since the form of the construction does not universally lead to the temporal interpretation, this specific meaning cannot be said to be inherent in it. For this reason, the correct semiotactic notation of this construction does not contain temporal limitation:

(41) The woman driving the van is coming closer.

		‘Σ / PROG / PR	
woman –	[drive$_1$]	=	come$_1$ > close > COMP
	[drive$_2$]; van’		

The fact that these gerundives can take arguments sets them apart from most adjectives. As Huddleston & Pullum note, for instance: “whereas many verbs take objects, there are only one or two adjectives that are transitive (*worth* and *like*), so NPs [noun phrases] within the predicate are normally related to an adjective by means of a preposition” (2002, p. 527). An example of *worth* being used transitively is given below:

(42) I believe it is an opportunity worth the risk.

	‘Σ / PR			
me	=	[believe$_1$]		
		[believe$_2$];	Σ / PR	
		it	= opportunity –[worth$_1$]	
				[worth$_2$]; risk’

It seems that the fact that this is common when an adjectival gerundive is used is a characteristic of the verbs themselves that is carried over into this function. Moreover, to my knowledge no non-verbal has yet been presented which can take three arguments in English (i.e. an indirect object as a third argument), whereas, if the verbal form that receives the *–ing* morpheme can take three arguments, then so can the adjectival gerundive derived from it, e.g.:

(43) The woman giving children candy
'woman – [$give_1$]
[$give_3$]; child
[$give_2$]; candy'

The attributive position and the postpositive position are the only positions open to the adjectival gerundive. This limit also sets the morpheme *–ing* apart from other deverbal morphemes, e.g. for the morpheme *–able* almost all positions are open: *so believable a man, a believable man, a man vulnerable to attack* and *That man is believable.* This is because of the meanings that the two morphemes introduce: *–ing* requires the element that is being specified to perform the action at hand, whereas *–able* indicates the possibility of the verb to take the specified element as its object: *a believable story* indicates that the situation *X believes the story* is possible. Possibility is gradable, whereas performance is binary: one either does something or not.[16] Note that *gradability* here has nothing to do with the semiotactic relation of *gradation.* Some words have meanings which specify the amount or extent of something else, such as *very. Believable* is a gradable adjective because *very* can be applied to it: *a very believable story*. Contrastively, gerundives which refer to an activity, cannot be graded in this way: **a very walking man*. For this reason, the *–ing* form can only create "absolute adjectives", which are otherwise rather rare. Even more or less unequivocal cases like *unique* can often be specified by *very*, for example. Only a few adjectives never allow for this, e.g. *ultimate.* The fact that these gerundives do not allow for this, then, can be considered a feature specific to them, which they have due to their verbal semantics.

A special case of temporal limitation is found in cases with a different prosodic structure. In particular, it is interesting to note the following notation:

[16] Naturally, it is possible for verbal forms to be quantified when they are applied predicatively (e.g. I love you very much) but this does not quantify whether one does or not, but rather the frequency or intensity with which it is done.

(44) “Shielding his eyes, the man looked at the guest”
(Ebeling 1978, p. 354).

	‘Σ / PA		
man ~ $shield_1$. . .	=	$look_1$ >	[at_1]
			[at_2]; guest. . .’

The notation above is the notation proposed by Ebeling for cases such as this. The assemblage of this structure indicates that the element *shielding his eyes* specifies the subject of the sentence first, and in such a way that it does not specify the man as carrying the property of shielding his eyes, but rather as a man *while* he is shielding his eyes. In other words: the shielding event and the looking event occur at the same time. It must be noted, however, that there are some sentences with a similar structure which do not lead to a projection which can be described in this manner. For example, *Knocking twice, she let herself in* does not seem to imply that the two events (knocking and entering) occur at the same time, but rather that one follows the other. These are, however, interpretive differences. There is no formal distinction between this and the notation in (44) above, nor is there any way in which this sentence precludes the possibility of the two events actually occurring together. It can also refer to someone who knocks on the door while opening it (something many people do). A similar sentence also clearly shows this: *Knocking on the wall beside her with every step, she walked through the hall.* Here, the walking event and the knocking event also clearly align. For this reason, the same notation applies to this kind of interpretively different sentence.

Finally, notable exceptions to the generalisation that the postpositive position does not lead to a notation with temporal limitation with an object are constructions containing pronouns. The adjective is often postpositive in such cases, and always refers to a state rather than a property. For instance, one could say *This is you drunk* when showing a picture of someone who was drunk at the moment it was taken. The same goes for the following:

(45) This is you driving your car.

	‘Σ / PR	
this	= you ~	[$drive_1$]
		[$drive_2$]; car’

The use of temporal gradation is justified in such cases, because by using a pronoun, one is singling out entities that are *autoprominent*, i.e. contextually evident. There is no way to specify the entity or entities further by attributing atemporal properties to them:

there are no other *you*s, so *you driving your car* cannot refer to a subcategory of *you*s. In other words: autoprominent entities are already maximally specific. The same is true for proper nouns like *John*: whenever one uses them, the autoprominence of the referent is presupposed. The only aspect left to be specified in such a context is the timeframe within which the referent is presented.

However, it is possible to specify a pronoun in the attributive position in a few restricted cases. For instance, when the pronoun is grammatically made into an entity through the use of a determiner, this new entity can take attributive adjectives:

(46) I don't like the drinking you.

	'Σ / PR	
me	=	[like$_1$] / NO
		[like$_2$]; you – drink$_1$ / SG – DEF'

The definite article is included in the notation here, because it is a necessary condition for this type of specification. This newly created entity takes atemporal specification, but it must be borne in mind that it is just that: a newly created entity. In practice, this does refer to the same person in a different state, but grammatically (46) refers to a different *you*.

2.4 – Lexicalised gerundival adjectives

Although the adjectival gerundive has been shown to take only two positions (i.e. before and after the entity), the attributive and the post-positive, some adjectival *–ing* forms can be found in every position that has been distinguished by Huddleston & Pullum (2002) and Quirk et al. (1985). The reason for this is that these forms have *lexicalised*: they have become single, unified meanings, although they were originally formed out of two distinct meaningful elements. More specifically, the definition of lexicalisation held to in this work is that proposed by Brinton & Traugott (2005, p. 95):

> Lexicalization is the change whereby in certain linguistic contexts speakers use a syntactic construction or word formation as a new contentful form with formal and semantic properties that are not completely derivable or predictable from the constituents of that construction or the word formation pattern. Over time there may be further loss of internal constituency and the item may become more lexical.

As the definition above shows, there is a clear contrast between lexicalisation and *word-formation*, which is the process by which two meaningful elements can be put together

to create a new meaning in a wholly predictable and productive manner. Word-formation also describes the way in which an adjective is made out of a verb as described in 2.3: one takes a verb, say *drive*, and adds a derivational morpheme to this verb, *–ing*, and one is left with a new word, *driving*, which has a wholly predictable meaning (in the case of the adjective): 'taking the *x*-role in the verbal event'. In the case of a lexicalised form, however, the combination yields a result that is not predictably derivable from the two parts: rather than placing the entity specified in the role of performing an action, it is attributed the property of having some unspecified involvement with the verbal action, or perhaps not even that anymore. An example of this would be *A painstaking effort.* In this instance, the effort is not described as taking pains. Rather, *painstaking* describes a property, "acting with, showing, or involving great care and attention" (*painstaking* Heritage, 2011). The word is derived from a gerundive, but it has, in its entirety, attained its own, separate meaning. For such forms, the term *gerundival adjective* is used here instead of *adjectival gerundive*: the fact that it is an adjective is placed on the foreground, rather than its gerundival nature, which it has moved away from.

2.4.1 – Monovalent gerundival adjectives

As stated above, gerundival forms which attain a separate, purely adjectival meaning become *gerundival adjectives* in the terminology used here. A good example of this would be the word *aggravating*, derived from *aggravate*, a purely transitive verb. Consider the following examples:

(47) He is aggravating me.

'Σ / PROG / PR

he = [aggravate$_1$]

[aggravate$_2$]; me'

(48) That is aggravating.

'Σ / PR

that = aggravating'

Example (47) contains a verb, whereas (48) contains a gerundival adjective. This is expressed in the description by writing the word out in full, i.e. with *–ing* attached. This is because every part of its form is now part of a new word, with its own meaning. This is what lexicalisation refers to. The fact that a gerundival form of a transitive verb can occur intransitively can indicate lexicalisation, as the examples above show. Semantically, the difference between the (47) and (48) is that one may say (48) without experiencing the aggravation at the present moment. This is because it is essentially a

stative fact: the autoprominent entity has the property or tendency to aggravate. Contrastively, when one uses (47), this means that the aggravation is taking place at that very moment. In many ways, the analysis presented above resembles that given by Brinton & Traugott (2005), who make a distinction between V-forms and participial adjectives (p. 112). On the topic of the form being used predicatively, they state that "the V-form is aspectual while the present participial Adj is not. In PDE [Present-Day English] V-forms can have objects and complements… while present participial Adjs cannot; complements of present participial Adjs require prepositions" (p. 112). For instance, while it is impossible to say **That is very aggravating me*, it is possible to use a preposition to add this entity via the preposition *to*: *That is very aggravating to me*.

Problems distinguishing the progressive form from the gerundival adjective can arise when the gerundival form in question is not transitive in every context. An example of this type is given by Brinton & Traugott: "Anne was entertaining" (2005, p. 112). This sentence can be analysed in two ways: either Anne was in the process of entertaining someone, or she is ascribed the characteristic that she tended to entertain at that moment. Here we find ourselves faced with an instance of syntactic homonymy. The notations of these two readings would therefore be:

(49) "Anne was entertaining" (Brinton & Traugott 2005, p. 112) (progressive).
'Σ / PROG / PA
Anne = entertain$_1$'

(50) "Anne was entertaining" (2005, p. 112) (property).
'Σ / PA
Anne = entertaining'

A technique to distinguish between the two regardless of their homonymy is suggested by Huddleston & Pullum:

> One test for adjectival status is the possibility of replacing *be* by other complex-intransitive verbs such as *seem* and *become*. Thus we have *This seems disturbing*, *He became distressed*, *He appeared drunk*, but not **He seemed sleeping, *He became killed*, **They appeared seen*. A second test is modification by *very* and *too*. (2002, p. 541)

The test that Huddleston & Pullum describe in this quote bases itself on the basic distinction that is also described here: the possibility of grading a property, and the impossibility of grading participation in an event.

A further property of gerundival adjectives is that they can also undergo the other specifications that have been described as typical of adjectives by Quirk et al. above. For instance, something that is *degrading* can also be described as *very degrading*. Moreover, a character trait can be described as someone's *most endearing* trait, whereas it is impossible to say that someone is **very walking*, or **most walking*. As Quirk et al. state: "premodification by the intensifier *very* is an explicit indication that the forms have achieved adjective status" (1985, p. 414). On the basis of this, it appears that temporality and gradability are opposites. Huddleston & Pullum do present gradability as a characteristic of adjectives, but they also note that "there are… a great many adjectives that are non-gradable" (2002, p. 524). As discussed above, however, usually these can also be graded, e.g. *That is very unique*. This being the case, a predicative adjective construction can easily be distinguished from a progressive verb by trying to fit an adverb into the sentence: *I am waiting / *I am slightly waiting* or *This is astonishing / This is very astonishing*.

The constructions here distinguished also show a difference in the way in which they interact with elements specifying them. Consider, for instance, the sentence *He is working hard*. This progressive construction is relatively easy to analyse: in this situation, *he* is the agent of the working action, and the working is hard. The construction *He is hard-working* is rather different: when this is said of someone, he is ascribed the property of having the propensity to work hard. Note, again, that this does not imply that it actually manifests itself in the present. One may wonder whether this incorporated item should be notated as simple gradation or as incorporation (see section 1.4.3.5). As stated, the lexicalised gerundival adjective adds a property to the carrier. In this instance, it contributes the propensity to work. Regarded from this perspective, it is clear that *hard* does not specify this through gradation: it is not the property itself that is hard, but the manner in which the work is performed, which is not predictably derivable from the cross-section of the property and the adjective. As such, incorporation seems more appropriate:

(51) A hard-working man
'man – working‿hard'

(52) A man working hard
'man – work > hard'

More examples of this kind will be discussed in section 2.4.2 below.

2.4.2 – Bivalent gerundival adjectives

It may be wondered how the distinction made above is maintained in the case of bivalent verbs. The example sentences *This is heartbreaking* and *This is breaking my heart* show this distinction. Here, the attribution of a property and the attribution of participation in an activity is immediately made clear: the former is not a dynamic sort of verbal meaning, because what is ascribed to the subject is the *property* that tends to break (an) otherwise unspecified heart(s). On the other hand, in the second sentence it is clear that the autoprominent entity or situation (i.e. *this*) is in fact taking part in a breaking action that is ongoing, of which *my heart* is the object. Moreover, although interpretively the heart does not take any other role than the object role in *heartbreaking*, this does not necessarily mean that the combination of a noun and a verb in this way can always be considered to indicate such a relation between the verbal meaning and the noun in question. For instance, as Huddleston & Pullum (2002) point out, "it is also possible for the noun to correspond to the complement of a preposition" (p. 1658), as is the case in "ocean-going" and "law-abiding". In these examples, the entities *ocean* and *law* are not merely the objects of the verbs, but they would usually be described as being in some prepositional relation to these verbal events. *Ocean-going* refers to something going *to* the ocean, and a *law-abiding* citizen is someone who abides *by* the law. These constructions have in common with *heartbreaking* that the noun and the verb within the lexicalised form are in a divergent relation to one another: the breaking is not such that it is a heart, nor is the going an ocean. Rather, the breaking has an indirect relation with the heart, and so does the going with the ocean.[17]

[17] The above distinction may have the appearance of being more or less complete, but it seems that gerundival adjectives come in many shapes and sizes, some of which differ from those discussed above in many ways. For instance, although above the example of *heartbreaking* has been analysed to show that lexicalised forms can be used predicatively, there are numerous forms which cannot appear in this position, even though they are structurally very similar. For instance, one cannot say **He is award-winning*, although *an award-winning actor* is acceptable. Interestingly, an award-winning actor is an award-winning actor the moment he wins his first award. As such, the relationship between the entity and the property is unspecified on a temporal level, so the idea that it is a property rather than participation in an event, and hence that it constitutes a lexicalised word, is still upheld here. However, it also shows that the fact that it is a property does not universally make it gradable: not every type of temporally unspecified attribution can lead to gradability, because one cannot say **a very award-winning actor*. In this case, then, we are again faced with an absolute kind of adjective: there is no such thing as winning an award to a lesser or greater degree, and therefore the application of this epithet is binary. It may be for this exact reason that it cannot take the predicative position: because it is neither verbal nor non-binary, it is apt to lead to confusion in the predicative position.

The progressive, the adjectival and the simple aspect may therefore be notated as shown below respectively:

(53) This is breaking my heart.

	‘Σ / PROG / PR		
this	=	[break$_1$]	
		[break$_2$]; heart	↓
			– me’

(54) This is heartbreaking.

	‘Σ / PR		
this	=	breaking	↓
			‿ heart’

(55) This breaks my heart.

	‘Σ / PR		
this	=	[break$_1$]	
		[break$_2$]; heart	↓
			– me’

2.5 – Gerundives describing entities

A property can also occur on its own, to categorise the entity in a syntactic position. A good example of this is found in the following sentence: “Now, too many of the working are still poor” (Walker, 11 July 2015). In this sentence, *the working*, although it does not contain an overt entity, does serve as the subject of the sentence. In this position, as Quirk et al. note, “these adjectives are restricted to generic reference and take plural concord” (1985, p. 422). That is to say, when such adjectives are used to refer to people rather than to other phenomena, they only allow for generic reference. Note, however, that Quirk et al. make a distinction that need not be made from a semiotactic perspective: sentences like “The young students found the course difficult, the older found it easy” are described as “cases of textual ellipsis” (p. 422). Even though interpretively this may have the effect described, there is no formal correlate to indicate this. Although contexts within which the ellipsis analysis can more easily be interpreted, there is no syntactic link between the entity in the first sentence and the second. This is evinced by the fact that this ellipsis also occurs when the same type of entity is referred to in separate sentences. For instance, one may say *The old machine was fast. The new is slow* without any grammatical transgression. It is true that in many cases, when an adjective that usually applies to a human is used in this way, the entity is often interpreted to be human. However, there is no grammatical necessity for this to

be true. Moreover, no syntactic difference exists between humans and other entities when they are referred to this way: *The old are wise* versus *The old [car] is broken* are both correct, just like *The old [phones] were faster* and *The young [fighter] is winning from the old*. Naturally, the context would be required for an accurate interpretation, but this is normal in language. As such, the same notation seems to apply in all these cases. The method of notating this is essentially no different from the manner in which adjectives have been notated earlier on, except that there is no entity in this context to which the adjective can be linked. The adjectives present only the category within which the meaning can be found. Since the category which an adjective presents must necessarily be one which an entity can carry, the adjective cannot introduce anything but an entity in this position. This entity can be both singular and plural: this information is transmitted through the inflection on the verb. In cases where this is missing, homonymy occurs, as shown by the examples below:

(56) The young works hard.

	‘Σ / PR	
young / SING – DEF	=	$work_1$ > hard’

(57) The young work hard.

	‘Σ / PR	
young / PL – DEF	=	$work_1$ > hard’

(58) The young worked hard.

	‘Σ / PA	
young – DEF	=	$work_1$ > hard’

Now that it has been established how these constructions can be accounted for, the *–ing* forms that can take this position must be examined. First of all, it seems pertinent to decide whether these forms should be regarded as lexicalised adjectives or as adjectival gerundives. Neither set of criteria fits the bill perfectly in every single context. For one, no verb in this position can take an object. Going back to the example “many of the working are still poor” (Walker, 11 July 2015), the alternative **The working jobs are still poor* is unacceptable. Apart from that, in this position it also does not take regular specification: **The working hard are still poor* is unacceptable. Both of these facts would lead one to conclude that in this position, only lexicalised forms can be used, and it certainly is true that these can occur in this position: *The hard-working are still poor* is acceptable. Semantically, the gerundive certainly does entail involvement in this case, but this involvement in the action cannot be specified in any obvious way. The reason for this is given by Quirk et al.: “Adjectives which can premodify personal

nouns *(the young people)* can be noun-phrase heads *(the young)* with plural and generic reference denoting classes, categories, or types of people" (1985, p. 421). It seems, then, that there may be a connection between this position and the attributive position: when a form takes this position, it can occur on its own, but, as has been shown before, when it is specified further, it usually takes the postpositive position (e.g. *the men working hard*), making it impossible for such specified adjectives to occur in isolation. This would explain the fact that certain types of modification can occur in this position: *the very industrious* is perfectly acceptable. Moreover, *the young at heart* may refer to *the young men at heart* (as in, for example, *We are young men at heart*). This seems to indicate that a postpositive modifier may accompany an attributive adjective occurring in such a construction, just so long as the adjective itself takes the attributive position. This would also explain why *the hard-working in the company* is acceptable, even though neither **the working hard* nor **the in the company* are, because it is not postpositive. The correct examples discussed here thus come to look as follows:

(59) The working are still poor.
'Σ / PR
work$_1$ / PL – DEF = poor > still'

(60) The young at heart
'young > [at$_1$] – DEF
[at$_2$]; heart'

(61) The hard-working
'working‿hard – DEF'

2.6 – Nominalisations with –ing

One of the most basic functions of *–ing* is *nominalisation*, i.e. the process whereby a meaning is presented as an entity. There are various ways in which entities can be notated in the notation. For instance, they could simply be notated as a word, e.g. "dog" → 'dog / SG', as an abstraction, e.g. "redness" → '^red', or even as a situation. Moreover, as entities, they can be plural or singular, and either definite or indefinite. All of these terms may or may not be relevant in the case of the nominal gerund. This depends in its entirety on the semantic effect that the presence or absence of these elements has on the notation of the gerundival form. It is also interesting to note the semantic variation that can occur within the same syntactic configuration. Some of the semantic and syntactic variation that exists within the class of nominal gerunds will here be inventorised, and a subdivision in the types of gerunds that exist will be proposed.

The characteristics of various different nominal gerunds indicate something about their meanings. The following sentences make this clear:

(62) The killing of a man takes time.

		‘Σ / PR	
^kill	↓	=	[take$_1$]
	– man		[take$_2$]; time’

(63) The building of a house takes time.

		‘Σ / PR	
^build	↓	=	[take$_1$]
	– house		[take$_2$]; time’

(64) “Gang members who helped or even looked on as a killing takes place” (“Murder police”, 27 September 2009)

‘member	↓	–	[who$_1$]	
	‿ gang			
			Σ / PA	
		[who$_2$]	= help$_1$… >	[as$_1$]
				[as$_2$]; Σ / PR
			^kill / SG – INDEF	= take‿place$_1$’

(65) *A building of a house takes time.

(66) I own a building in the city.

	‘Σ / PR			
me	=	[own$_1$]		
		[own$_2$]; building –		[in$_1$]
				[in$_2$]; city’

(67) Illegal gun carrying

‘^carry$_1$	↓	– illegal
	‿gun’	

The verbal meaning of *kill* can manifest itself either as countable or uncountable, as (62) and (64) show. The same is true, apparently, of the nominalisation of the verb *to build*. However, it is clear that some structural differences do exist, given the semantic difference between (64) and (66). These will here be discussed. Concerning sentences (62) and (63), it is clear that what is discussed is an action. More specifically, in both

cases a *universal* seems to be discussed: rather than a specific instance of something happening, what is being referred to here is an abstracted, generic event, as is more often the case when an indefinite article in the divergent meaning is involved: the same would not be said of *the killing of the man*. This comes close to the distinction between a *type* (i.e. the universal reading, the properties of any event referred to using these forms) and a *token* (i.e. a reading in which a single instance of an event is referred to). In both cases, however, the action itself is described as a unified entity: rather than discussing a process taking time, the hearer must take the entirety of the meaning of the word as being in (an undefined) relation to the noun in the prepositional phrase. In both (62) and (63), then, abstraction is at play. I conceive of the meaning of *of* as an undefined divergent relation, like Ebeling (1978, p. 393), because it can relate the subject of the action, or the object, or even more meanings which do not seem related to one another. For instance, *the killing of 1991* does not suggest that the year itself was killed, but rather that there was a killing that took place in that year. This means that some interpretation must be involved, but what they have in common is that they require divergence. This, then, is the only thing that can be notated semiotactically. The notations are therefore given as shown above.

Moving on, it is possible to refer to these types of meanings using an indefinite article in some cases. The interpretation of such a event as a *token* rather than a type is invoked: rather than considering the concept of an event occurring, an instance is discussed in (64). It may be tempting to conceive of these examples as semantically different, because our interpretation of them clearly is: we are referring to concrete events, not abstracted meanings. However, every part of the verbal meaning is present in these tokens as well: *a killing* is an event which is construed as an entity (hence the determiner, for example). For these reasons, the gerunds do not contribute any other semantic features than those inherent in the abstractions of the verbs. The notation of (64) still contains abstraction.

The same cannot be said, however, for (65). This sentence, although structurally similar to (63), is ungrammatical. In this instance, I believe it may be said that the construction *a building* immediately invokes the projection of a construction, the result of *building*. This meaning is rather different: unlike *a killing*, *a building* does not contain all the semantic features that the verb does. As such, it seems that polysemy is involved here, and that the interpretive selection of one or the other is predominantly motivated by the surrounding elements. That is to say, the structure of a phrase as a whole can help the hearer identify if what is being discussed is a type or a token, and it seems that, in the case of *building*, a token instance forces the interpretation of the word as

"something built with a roof and walls, such as a house or factory" (Collins 2014), rather than as "the act of constructing something" (WordNet 2012). The meaning referred to in (65) and (66) cannot rightly be considered an abstraction from the meaning of the verb anymore, but rather a specific separate meaning. For this reason, (66) is notated as shown above. This explains a fundamental difference between two types of gerund: on the one hand, we have the gerund that directly derives its meaning from the verb, and another that does not. The latter usually concerns the result of that action rather than the action itself, and as such cannot be considered an abstraction.

In some contexts, a gerund can also be found without any article accompanying it, as is shown in (67). This form shows an interesting property: incorporation with the word *gun*. I would argue that it is impossible for an abstracted verbal form to distribute any of the roles that the verb can normally distribute. This is a verbal property, which must be lost in the process of abstraction. Although it may be tempting, then, to consider this close-knitting to be a separate form used for the purpose of filling the object role, because *illegal gun carrying* seems to imply that the gun is being carried, this is not the case here. Rather, a carrying action is presented as an entity, and in a divergent incorporation relation with the meaning *gun*. This is supported by the fact that compounds of this nature do not universally contribute this specific kind of divergent connection, as examples like *beach-going* indicate. Therefore, this form is notated in the way shown above.

2.7 – Conclusion

In the above, the various ways in which the *–ing* form can specify other meanings through limitations have been explored. In the majority of cases, this will simply occur via atemporal limitation. When such a construction is used, the set of appropriate referents is specified to be engaged in the activity described by the gerundive (e.g. *the walking man* → all those singular men which are engaged in walking are appropriate referents). When a contrast can be made between this form and another (e.g. *the man walking*), this indicates that there is *temporal* limitation, indicating that the meaning does not single out a subcategory, but rather a state for the entity in question to be in, in order to be an appropriate referent (i.e. *the man walking* refers to the same autoprominent man, but in a different state: engaged in the walking activity – as opposed to *the man sitting*, for instance). However, there are also lexicalised *gerundival adjectives*, which, rather than attributing a role in an activity, often seem to refer to the propensity of something to engage in that activity (e.g. *The very frustrating idea*). These meanings are gradable, unlike adjectival gerundives, and they cannot distribute the roles the verbal meaning usually can. Some of these lexicalised forms occur

compounded to another meaning (e.g. *painstaking*), but this does not systematically refer to a single type of connection: all we can glean from this relation is that the two meanings (*pains* and *taking*) are in a divergent incorporation relation. Nominal gerunds have also been discussed in this chapter. Broadly speaking, gerunds which refer to the full extent of the verbal meaning, be it universally or in a specific instance (e.g. *the killing of a man* or *a killing*), are instances of abstraction of the verbal meaning. However, when it refers to the result of such an action (e.g. *a building*), this is a separate meaning.

Chapter 3 – Gerundives in gradation relations

3.1 – Introduction

Apart from the forms discussed in chapter 2, gerundive constructions can also specify meanings through gradation in a variety of ways. There are some parallels to be found between the distinctions made in chapter 2 and in this chapter. The aim of this case is to connect positions within the sentence to specific semantic relations. In particular, it will be shown that formal properties distinguish those adverbials that link to the rest of the sentence on the basis of regular gradation from the ones that do so by temporal gradation. Section 3.2 will discuss gerundival adverbials in an atemporal relation to the rest of the sentence. After that, some forms which have *grammaticalised* will be discussed in 3.3. That is to say, some forms have developed in such a way as to perform prepositional (e.g. *discussions concerning religion*) or even conjunctival functions (e.g. *I have serious doubts about the truth of that statement, considering there is no evidence to back it up*). All of these forms relate to the rest of the sentence through atemporal gradation, which is why they are discussed here. The sentential positions which allow for *temporal* gradation will be further explored in 3.4. These positions can usually be taken by other participial forms as well, which will also be discussed. Moreover, the discussion in section 3.4 will concern itself with the progressive and perfect aspect in combination with participle forms, as well as the distinction between active and passive forms (e.g. *I work hard having drunk a cup of coffee* or *I slept, being tormented by dreams*).

3.2 – Atemporal gradation and gerundives

Meanings connected to other meanings through gradation specify the abstraction of the form they are connected to rather than the meaning of the form itself (see section 1.3.3.2). For instance, when someone says *I ran quickly,* the property 'quick' is not added to the *x*-role in that event. In other words, it does not mean that the agent was quick directly: someone who ran quickly once does not always carry the property that he is quick. Rather, it is ascribed to the event itself: I ran, and the running I engaged in was quick. Often, adverbial forms take the deadjectival affix *–ly*.

These forms can take the positions usually attributed to regular adjuncts as well, as the two sentences below show:

(68) That guy was *amazingly* funny.
'Σ / PA
guy = funny > amazing'

(69) *Amazingly*, the sprinter broke the record.

‘amazing < Σ / PR

sprinter = [break$_1$]

[break$_2$]; record’

In sentence (68), it is clear that *amazing* is not something that is ascribed to the subject of the sentence as a whole, but rather to one of the properties that he possesses. In this regard, the function of this gerundival is similar to that of *very* in (4) above. It appears to specify the meaning it accompanies by specifying the degree to which it is present. Sentence (69), on the other hand, is of a rather different nature: here, the word *amazingly*, attributes a feature to the situation as a whole. A reasonable paraphrase of (69) would be *It is amazing that the sprinter broke the record*, showing that the meaning of *amazingly* is attributed to the situation as a whole, rather than to any single meaning within that situation.

It seems there are only a limited number of gerundives that take positions of atemporal gradation. Sentences (70 – 72) provide some examples:

(70) A *stunningly* red dress

‘dress – red > stunning’

(71) “… I wear that, that *dazzlingly* confounds”

(Melville 1980, p. 23, italics added).

‘Σ / PR

me = [wear$_1$]

[wear$_2$] ; that ↓

– Σ / PR

X =confound$_1$> dazzling’

(72) We are progressing *frustratingly* slowly.

‘Σ / PROG / PR

we = progress$_1$ > slow > frustrating’

These sentences contain gerundives performing the basic functions of the adverb. In (70), for instance, *stunningly* contributes the meaning that *redness* that is ascribed to

the dress is of such a nature that it tends to dazzle the beholder. A verbal meaning is specified in (71): "that, that dazzlingly confounds" is something that confounds in a way that is dazzling. Finally, in sentence (72), the slowness of the progress is such that it is frustrating. Note that although gerundival forms themselves naturally encode events, these forms do not do so. Rather, they encode a specific sort of property: in (70) and (72) this is a propensity (i.e. to stun or to frustrate), whereas in (71) it seems to encode a degree through the feeling it invokes. None of these can therefore rightly be said to place anyone or anything in a specific role in the verbal action they might have been expected to contribute. That is to say: the verbal meaning expressed by the gerund in isolation is not itself introduced in any of these examples. The fact that this is not the case indicates that these forms have lexicalised like the lexicalised adjectival forms described in chapter 2. The idea that these forms are lexicalised is further bolstered by a number of other factors:

a. The fact that these forms take *–ly* is an indication that their content is not merely that of an action anymore – this suffix is normally used to indicate that a property meaning is applied through gradation (e.g. *beautiful – beautifully*);

b. Like gerundival adjectives, these forms may take objects in highly restricted contexts, and when they do, they are prefixed to the verbal meaning, indicating that they have lexicalised together (e.g. *painstakingly*, *heartbreakingly* cannot occur without their interpreted objects: **takingly, *breakingly*);

c. Properties can be quantified, but participation in an event cannot. The fact that the forms affixed with *–ly* do allow for grading, then, indicates that they contribute property meanings (e.g. *an absolutely stunningly red dress*).

d. The fact that the meanings without *–ly* essentially exhibit the same behaviours in adjectival contexts (*e.g. It is frustrating* is lexicalised (non-progressive), but *It is frustrating me* is not), leads one to conclude that the forms are lexicalised.

e. Example (72) contains *frustrating*, which, when referring to an action, is transitive. In (72), however, the verb has lost this function.

Following this analysis, it is here assumed that the *–ing* form is part of the word that resulted from this lexicalisation. It must be explicitly included in the notation of these forms for this reason. This is why the semiotactic notations of (70–2) are still suffixed by *–ing*: each represents a word on its own, rather than a meaning in a specific position.

The above analysis leads to the conclusion that gerundival forms ending in *–ly* are generally lexicalised forms. Naturally, there are certain contexts in which such meanings are used as to specify through limitation instead. For instance, sentence (70) above could be adapted to *a stunning red dress*. In this sentence, it is not that the redness of the dress is stunning, but rather that the dress as a whole is both stunning and red. In other words, when the gerund takes the position before the noun it specifies without *–ly*, it clearly does specify it via limitation. It may appear that adjectives close together interact with one another, but in practice many instances do not show any formal difference that would indicate a different kind of relation:

(73) "The blinding red rays from the ruins snapped instantaneously out…" (Lovecraft 1926/2013, p. 151).

		'Σ / PA
ray – red – blinding –	[from$_1$] [from$_2$]; ruin'	=snap$_1$> out > instantaneous

For the form analysed above, it may be accurate to say that, since it is possible either to include or omit the deadjectival *–ly* affix, the gerundive is lexicalised, and interacts differently with or without the *–ly* suffix (e.g. in *the blindingly red rays*, the gerundive does directly specify the redness of the rays in question). However, there are also some gerundives which have lexicalised into adverbs exclusively, without the affix *–ly*. As Brinton & Traugott state: "many present participial degree Advs were figurative like *piping* ('emitting a hissing/piping sound because of the heat')… Most were replaced by the end of the nineteenth century, while *piping hot* has become a fixed expression" (2005, p. 121). Brinton & Traugott rightly consider this an instance of grammaticalisation. Consider the following example:

(74) Piping hot soup
'soup – hot > piping'

Another form that may be perceived to have a similar status is *scorching*. This form is taken as adverb in some contexts (WordNet 2008), as in the context of sentences like (75) below:

(75) It was scorching hot.
'Σ / PA
it = hot > scorching'

In such cases, the *–ing* suffix is again notated, because the word as a whole has a meaning that is different from the verbal meaning *scorch*.

3.3 – Prepositionally and conjunctivally used gerundives

As Brinton & Traugott point out, there are some gerundives which have acquired prepositional and even conjunctival functions. In these roles, they can therefore connect two elements via a meaning that does not entail participation in a dynamic event. Some example sentences containing constructions of this nature will here be discussed. Take, for example, sentence (76) below:

(76) All preventative measures notwithstanding, the dam broke under the weight.
[notwithstanding$_1$] < 'Σ / PA
dam = break$_1$ > [under$_1$]
[under$_2$]; weight
[notwithstanding$_2$]; measure . . .'

Note that *notwithstanding* is a preposition: it coordinates the existence of one thing with that of another. In this position, this form takes sentential scope (see section 1.4.3.2). In (76), there is no entity is withstanding or not withstanding anything. Rather, the contribution of the word *notwithstanding* seems to be closer to that of *regardless*: preventative measures have been taken, but regardless of that, the dam broke. For this reason, it seems that it is not any entity in particular that is specified, but the occurrence of the event as a whole. For this reason, the notation looks as is shown above. It is also possible for prepositionally used gerundives to connect to the rest of the situation via limitation, as the notation of (77) shows:

(77) The outrage following the scandal was justified.
'Σ / PA
outrage – [following$_1$] = justify$_2$
[following$_2$]; scandal'

In this context, the distinction between the grammaticalised preposition and the verbal form is only found in the semantic contribution. The projection that results from this is not one in which the outrage is pursuing a scandal, but that the outrage came chronologically after it occurred. Although it cannot be denied that this construction

probably finds its origin in metaphor, the prepositional use is firmly established as separate. To provide further evidence of this, sentence (78) is provided, which looks as follows in semiotactic notation:

(78) He fled the country following the attacks.

‘Σ / PA

he = [flee$_1$] > [following$_1$]

[flee$_2$]; country

[following$_2$]; attack’

In the notation above, it is clearly shown that the metaphorical origin is no longer of influence, and instances such as this need not be considered set expressions any longer. The reason for this is that if it were taken to be a metaphorical construction, the literal construction would have the person fleeing the country, and this fleeing would be contingent upon his following the attacks, because in this position, the gerundive would ordinarily be connected using temporal gradation (see 3.4 below).

Some forms derived from gerundives also evolved into conjunctions, as (79) below shows:

(79) “Considering none of those guys knew how to use cameras, it was pretty amazing when it started to come together”
(Helmore, 6 August 2011).

‘[considering$_1$] < Σ / PR

it = amazing > [when$_1$]

[when$_2$]; Σ / PA

it = [start$_1$]. . .

[considering$_2$]; Σ / PA

none ↓ = [know$_1$]

– guy [know$_2$]; Σ

X = [use$_1$] > how

[use$_2$]; camera’

This is a rather complex notation, with many different situations being coordinated. For now, it is the connection that *considering* contributes that deserves our attention. As conjunctions in initial position tend to do, this conjunction provides a connection between the first situation and the second. That is to say, there is a causal relation between the two situations: because none of the people discussed knew anything about cameras, it was all the more amazing that the project was a success. As such, it is not one isolated meaning that is causally linked, but the whole of the situation.

3.4 – Temporal gradation and participles

Moving on, it is notable that there are various positions in a sentence which lead to a relation of temporal gradation rather than an atemporal one. These positions seem to be open to participles, but not to adverbs as such. Since temporal gradation relates two meanings by making them occur at the same time, this actually makes sense: both meanings refer to the same carrier, rather than to each other. In other words, when one says *I work hard having drunk a cup of coffee* (see 1.4), I am saying that both my working hard and my having drunk a cup of coffee occur together – not that my hard working is of the type that I have drunk a cup of coffee. For this reason, *–ly* suffixed words do not usually fill temporal gradation positions. For this reason a sentence like **I work hard stunningly* does not sound correct.

Temporal gradation usually does not exist between adverbs and other elements. The fact that temporal gradation itself implies simultaneity precludes this: both meanings apply to the same entity, not to one another. As such, it seems likely that in a relation of temporal gradation, a participle contributes its full meaning. Sentences (80–82) contain examples of this:

(80) I still cry *thinking* about it.

	‘Σ / PR							
me	=	cry_1	>	still	⊃	$think_1$	>	[$about_1$] [$about_2$]; it’

(81) I make my money *driving* cars.

	‘Σ / PR				
me	=	[$make_1$] [$make_2$]; money↓		⊃	[$drive_1$]
			– me		
					[$drive_2$]; car’

(82) “I framed my resolution and in heart *trembling* undertook to move it” (Ghandi 1929/1982, p. 436).

	‘Σ / PA				
me	= [$frame_1$] > and <			[in_1] < $tremble_1$ ⊂	$undertake_1$ . . .
	[$frame_2$]; resolution ↓				
			– me		
				[in_2]; heart’	

Sentence (80) means that the crying happens while the subject is thinking about it. A similar example is found in (81). The sentence gives the impression of being similar in meaning to *I make my money by driving cars*, and interpretively this may well be the case, but it must be noted that *driving cars* is placed in the same relation with *make* as *cry* with *thinking about it* in (80). The making of the money is therefore contingent upon his driving the cars. Lastly, in (82), *trembling* indicates the event that is concomitant with the speaker's undertaking. Therefore, temporal gradation is used to indicate this relation. What is more, the trembling is also specified in such a way that it only pertains to the heart.

One of the most obvious differences between these examples and those in (68–72) is that the gerundives do not take *–ly*. In (80–82), moreover, the gerundive forms have retained more features typically associated with verbs: they can take objects (*driving cars*) and they can be modified by prepositions (*thinking about it*), but not by degree modifiers: **I make my money very driving cars*. The most important difference between these gerundival forms and those described in (68–72), however, is the fact that, rather than specifying the meanings they accompany directly, they rather seem to indicate a condition on those meanings being part of the projection. In other words: in the case of (80), the crying is contingent upon the act of thinking about whatever *it* represents. Similarly, the money in (81) is only being made when the subject drives cars. Lastly, (82) provides an example of reversed temporal gradation on the main verb. This still leads to the projection that the undertaking took place as the subject was trembling.

3.5 – The gerundival participle: aspect and voice

Quirk et al. (1985) note that in many positions similar to those discussed above, aspectual meanings as well as voice distinctions can also be made. There is no reason to move away from the notation of the participle normally used on the level of the sigma: any event, whether represented as the main verb of a sentence, or only to specify an entity, has an event period inherent in its meaning. As shown in chapter 1, in the semiotactic framework, aspectual meaning is analysed using the distinction between the *narrated period* and the *event period*. This does not, in itself, require a sigma. As Ebeling has stated: "The relation is completely symbolised by "=", the line above it with 'Σ' represents the portion of the world that is also unambiguously expressed by "="" (Ebeling 2006, p. 152).[18] In other words, the sigma merely repeats the situation as a whole, so that the situation as a whole can be specified for tense and aspect. This does

[18] "De relatie is volledig gesymboliseerd door "=", de regel erboven met 'Σ' staat voor het stukje wereld dat ook al ondubbelzinnig door "=" is aangeduid" (Ebeling 2006, p. 152).

not mean, however, that within that situation there cannot be a temporal relation. In fact, it means quite the opposite: the sigma does not add temporality; it merely copies whatever information (temporal or otherwise) is expressed in $x = y$ or simply x. Within this nexus relationship, however, it is also possible that one thing is temporally contingent on another, as was shown in 3.4. Going back to an earlier example, *I work hard having drunk a cup of coffee* means that it is presently the case that my working hard occurs whenever I have drunk a cup of coffee. The sentence clearly does not express that I work hard while I am drinking it, or before I drink it. This situation as a whole is placed in the present. Aspectual meanings therefore do not merely occur on the sigma line, but also on verbal meanings *within* clauses. When an aspectual meaning is used in combination with a verb rather than a full clause, it is only the NP of the event that is relevant. For instance, *I work hard having drunk a cup of coffee* contains a perfect aspect. This means that I do not work hard while I drink coffee, but rather after the EP of the coffee-drinking event: this is where the perfect places the NP. This NP is what is presented as concomitant with the working event, meaning that the speaker works hard when the coffee drinking event has just occurred. In other words the combination of the verbal meaning and the aspectual meaning is the same as with a sigma (see section 1.7.2), and the resulting NP of this specification is what is happening while the main verb event is occurring. Moreover, the subject of the first verb and the second verb are the same. For example, in *I work hard having drunk a cup of coffee*, *I* is the subject of *work* and of *drink* (or, more precisely, *have drunk*). Both are unambiguously ascribed to the subject of the entire sentence. For this reason, both verbal meanings must appear on the same line in the notation: they both describe the same entity's actions, and the relations between them. For this reason, it would lead to an inaccurate notation to present one of these verbal meanings using a separate sigma, as this would make this convergence impossible. This is not mere interpretation, as this holds systematically.

In their grammar, Quirk et al. (1985) provide a list of temporally grading elements that are used in both the active and the passive voice, as well as in combination with either the progressive or the perfect aspect, or with both of them together. The table they present is shown below:

	Infinitives	Participles
Simple	*to examine*	*examining*
B	*to have examined*	*having examined*
C	*to be examining*	*[being] examining*
D	*to be examined*	*[being] examined*
Complex		
BC	*to have been examining*	*having been examining*
BD	*to have been examined*	*having been examined*
CD	*to be being examined*	*[being] being examined*
BCD	*to have been being examined*	*having been being examined*
	<rare>	*<rare>*

Fig. 3 – Representation of table presented in Quirk et al. (1985, p. 153)

In the table above, B represents the perfective meaning, C represents progressivity, and D symbolises the passive voice. The table above shows that a wide variety of combinations can occur. Concerning the bracketed items on the right-hand side of the table, they state the following: "Whenever a phrase should theoretically begin with the auxiliary *being,* this participle is omitted. In this way, the *–ed* participle phrase *examined* is regarded as a special variant of the *-ing* participle phrase, *viz* the representative of the passive construction D" (p. 153). This type of reasoning seems to imply a deviation from the principle of *one form-one meaning*. However, the result of the analysis by Quirk et al. seems to hold. Consider the example sentences presented below:

(83) I left the hospital *examined.*

'Σ / PA

me = $leave_1$ ⊃ $examine_2$'

(84) I believed the surgery would help, *having examined* many studies.

'Σ / PA

me = [$believe_1$] ⊃ [$examine_1$] / PF

[$believe_2$]; Σ / WILL / PA

surgery = $help_1$

[$examine_2$]; study / many'

The various ways in which a participle can be introduced in the sentence all differ in the semantic contribution they make. For instance, a perfect form is introduced by

adding *–ing* to *have*, and presenting the verb in question in the perfect form, like in (84). However, a perfect form can also occur on its own, as shown in (83). This cannot be the perfect aspect, as (84) already contains this form. Rather, the perfect in isolation presents the verbal action in the passive (expressed through the subscript '2'): in (83), *I* am not the one doing the examining. Naturally, the projection of this sentence will most likely be one in which the person has already undergone both, but the structure of the sentence only reveals what is shown above. Quirk et al. also note that a sentence like *The person writing reports is my colleague* can be interpreted in a host of ways: as the person who *will write, will be writing, writes, is writing, wrote* or *was writing* (p. 1263). These options are all interpretive, however: the only information the "reduced" sentence gives you is *writing*, which is not aspectually specific in this context. Similarly, there are many ways in which *examined* could be interpreted, but only the passive construction is explicitly given by the form of the sentence. It is common for passive sentences to be interpreted as more or less perfective, due to their form: the passive always includes the perfect form of the verb. For example, a sentence like *I am surprised* may easily be interpreted as referring to the result of an event, but formally there is no reason for this interpretation. It is, moreover, impossible for this form to actually have this meaning, because this would make the sentence *I have been surprised* pleonastic: the perfect aspect would then be added to something which is already completed. The sentence *I left the hospital having been examined* would have been illogical for the same reason. Contrastively, in a construction like *I am badly hurt*, the pain will in most cases be projected as ongoing: something hurts the person in question. In the same way, a sentence like *I entered the hospital badly hurt* does not lead to the interpretation that the pain occurred before the entering. The fact that the interpretation may lead to a different temporal configuration is therefore common, but still just that: interpretation. In (84), by contrast, the belief that the surgery would help only occurs at the moment the studies have been examined. This is due to the perfect being involved: it places the EP of the verbal event before the NP, and the NP is presented as occurring at the same time as the believing event. In other words, before the studies had been read, the belief did not occur (at least, the structure of the sentence does not tell us that it did). Rather, only when the studies had been read, the belief occurs in the present situation.

A passive also occurs in the following sentence, which contains the progressive meaning as well:

(85) I was very anxious *being examined for malaria.*

'Σ / PA

me = anxious > very ⊃ examine$_2$ / PROG . . .'

In this example, the perfective interpretation that the passive evoked in (84) is blocked. This is because the meaning of the progressive is involved here. It places the NP inside the verbal action, forcing it to be read as ongoing. In this case, then, the anxiety occurred while the examination was in progress. The NP of the participle is in a temporal gradation relation with *anxious* in this instance. The progressive aspect can also combine with the perfect aspect on a verb. This follows essentially the same pattern as described in section 1.7.2. Consider, the following example:

(86) I went home *having been partying* by myself all night.

	‘Σ / PA			
me	= [go_1] > home ⊃	[$party_1$] >	[by_1]	/ PROG / PF
			[by_2]; myself’	

In (86), the going event is related to the fact that the first person had been partying all night. The sentence presents these notions in such a way that it appears that the first person only leaves after the partying alone has been going on for a while. The progressive meaning is applied first, after which the perfect aspect is applied. Formally, this is clear from the fact that it appears that *be partying* (the progressive form) has taken the verbal position in the perfect aspect structure *have* + V-*ed*. It is therefore applied *after* the progressive. This structure, in turn, receives the gerundive suffix *–ing* on *have* on account of its being used to temporally specify *go home*. If this structure were reversed, *have* +V-*ed* would be placed in the *be* + V-*ing* construction, yielding **being having partied*. This analysis also makes semantic sense: being engaged in the partying has occurred up until the present, and now the person who has done so is going home. However, the perfect aspect used in this sentence does not necessitate that the action itself is necessarily completely over. Rather, what is placed in the past is the narrated period singled out by the progressive, which was itself placed within the event period, but this itself does not necessarily mean that the entire event period was singled out. In this instance, however, the interpretation of this sentence would usually imply as much.

As discussed above, the passive form can also be used in combination with the perfect:

(87) I was relieved, *having been examined* for malaria.

	‘Σ / PA			
me	= relieved ⊃	[$examine_2$] >	[for_1]	/ PF
			[for_2]; malaria’	

Like other lexicalised forms, "relieved" in this context cannot be said to be derived from *relieve* proper. Rather, the word refers to a sensation, not an action, and this meaning is only *derived* from the earlier form. For this reason, 'relieved' appears as a single lexical item in the above notation. Moving on, the first person only felt relieved after he or she was the object of a malaria examination. The perfect aspect expresses this: since this meaning places the actual event (the examination) before the moment actually described, it is clear that the relief only occurred within the situation when the examination was complete.

Lastly, the combination of the progressive, the perfect aspect *and* the passive voice will be discussed. Sentence (88) shows all these meanings combined into one:

(88) I was bored, *having been being examined* for hours.

	'Σ / PA			
me	= bored ⊃	[examine$_2$]	>	[for$_1$] / PROG / PF [for$_2$]; hour'

As the above indicates, the person undergoing the examination only felt bored after having undergone it for hours. The structure is similar to that of (88), with the distinction that here the gerundive verb is also passive. For this reason, two forms of *be* occur. The passive form is usually *be* + V-*ed,* and the progressive takes *be* + V-*ing.* When they occur together, then, two *be*s are used. Also, the perfect (*have* + VPF) adds *have* and requires a perfect form. The combination thus yields the structure *having been being examined.* The boredom only sets in, therefore, after the examination has been going on for a long time. In this context, however, the interpretation that the event stretches on beyond the narrated period singled out by the progressive: the examination will most likely go on during the period in which the person is bored.

3.7 Conclusion

In the above, it has been shown that only lexicalised gerundival adjectives can take positions which are traditionally associated with the adverbial position. That is to say, the meanings which display essentially the same features as the lexicalised forms in chapter 2 (i.e. reference to a propensity rather than an activity in its own right, gradability, and an inability to distribute roles) can take the adverbial suffix *–ly* (e.g. *We are progressing frustratingly slowly*). When the lexicalisation process has taken a different turn, gerundives can occasionally also fulfil prepositional functions (e.g. *The outrage following the scandal was justified*) or even conjunctival functions (e.g. "Considering none of those guys knew how to use cameras, it was pretty amazing when it started to come together" (Helmore, 6 August 2011)). Contrastively, gerundives

which are not lexicalised seem to take positions in which they create a temporal gradation connection. This means that the meaning they specify (usually the main verb) only occurs in the projection of the situation if the event in the gerundive is also projected (e.g. *I sat talking*). In this position, since they convey their full verbal meaning, they can also be specified for aspect and voice (e.g. *I work hard having drunk a cup of coffee*, which refers to the event of my working hard occurring only when the event of drinking a cup of coffee is completed, or *I left the hospital examined*, which contains a passive participle).

Chapter 4 – The situational gerund

4.1 – Introduction

The situational (or, more commonly, the clausal) gerund is interesting, as it furnishes the English language with a third nonfinite form, after the *to*-infinitive and the bare infinitive. The situational gerund and the *to*-infinitive structures have more or less twined together, one might say. For example, in many sentences they can occur as near-synonyms (e.g. *I like reading* and *I like to read*). In some other cases a real difference in meaning can be detected (e.g. saying *I remembered buying milk* refers to you remembering the moment you did it, but *I remembered to buy milk* means that you did it because you remembered). Lastly, there are also positions in which one or the other can be found, but not both (e.g. "She wanted to dance / *She wanted dancing" (Wierzbicka 1988, p. 24) and "He imagined being blind (*to be blind)" (p. 59)). This being the case, there must be similarities between them, but the fact that there are distributional differences indicates that they are not identical in meaning either. To come to a full understanding of the meaning of the situational gerund, finding out the differences and similarities between this form and the *to*-infinitive is essential. Of course, the bare infinitive is also a potential candidate for competition (e.g. *I heard him shoot his gun*). The question that I will attempt to answer, then, is the following: what is the difference in meaning between the situational gerund and the other infinitival forms that can explain these distributional differences, and how can this difference be reflected in semiotactic notation?

To find a potential answer to this question, first it is important to isolate each of these infinitival forms as *signs* in the Saussurean sense of the word. That is to say: the first step is to show that there are semantic as well as formal differences between the nonfinite forms and other, related forms. It will appear that the bare infinitive cannot be regarded as equivalent to the situational gerund and the *to*-infinitive by performing this analysis, but the situational gerund and the *to*-infinitive can. We will then examine the positions that the situational gerund and the *to*-infinitive can take. An overview of those that are discussed in the present work will be given in the third section. The distinction must be detailed enough to explain the difference in meaning between the two forms where both can be used, and why only one of them is grammatically acceptable in other contexts. Broadly speaking, there are three positions that these nonfinites can take in a sentence: they can occur as the subject of a sentence, as the object of a preposition, and as the object to the main verb of the sentence. However, as the examples above already indicate, the appropriateness of either nonfinite depends on the sentence as a whole, which, as will be hypothesised here, is due to the difference

in meaning between the two nonfinite structures. After that, the distinction Ebeling proposes to explain these constructions within (some of) these phenomena will be examined in the fourth section. Different explanations can be found in the vast extant literature on the subject of the English nonfinite constructions. The necessity of presenting new notations to account for the differences between the two nonfinites discussed here will become clear from the literature review. The new distinction and its explanatory value will be presented in the fourth section of this chapter. To further elucidate the semiotactic distinction found, the fifth chapter will be devoted to the notation of the examples given in section 4.3, with an eye to prove the applicability of the distinction proposed in every context distinguished in this chapter.

4.2 – English nonfinite forms: form and meaning

In the present section, the three nonfinite forms will be isolated as Saussurean signs. In order to meet the criteria to be signs, a construction must have its own semantic properties, as well as its own formal properties. As it is the semantic properties that prompt the investigation in the first place, it seems appropriate to start with these. First, the semantic properties of the situational gerund will be discussed. The *to*-infinitive will be analysed after that, and the bare infinitive will be analysed last. Having analysed all of them semantically, an assessment of the independence of these forms will then be performed in the same order. Since there are syntactic structures that are formally identical to both the situational gerund and the *to*-infinitive, both must be shown to be instances of syntactic homonymy. As such, it will not be the formal features themselves that will be compared and contrasted to other constructions. This means that the principle of *one form – one meaning* cannot be maintained in its strictest (i.e. the phonetic) sense. It can still be made clear that different meanings clearly underlie their structures with relative ease. This also goes for words like *well, f*or instance. *Well* in its adverbial meaning has the same phonetic structure as the word *well* referring to a hole in the ground dug for water, yet one would never confuse the two in sentences like *He dances well* or *He is digging a well.* Similarly, *to* + infinitive constructions mean something radically different and occur in different positions than *to*-infinitives, yet one cannot distinguish them by simply hearing them in isolation. Rather, they will be set apart on the basis of their *syntactic* properties. This can be done by contrasting constructions on the basis of their grammaticality, and inferring the difference in the positions that these constructions take. Note that in this chapter, the term *situation* will be used to describe the meaning of an entire nonfinite clause, whereas the terms *event* and *verbal action* are both used to refer to the semantic content of the nonfinite verb *within* such a clause.

4.2.1 – Semantic properties of the nonfinite forms

In this section, it will be shown that the nonfinite constructions under discussion display different semantic features. This will be the first indication that the situational gerund is indeed different from the forms discussed in the preceding chapters. Apart from that, both the *to*-infinitive and the bare infinitive will be analysed along the same lines.

4.2.1.1 – Semantic properties of the situational gerund

The formal properties which distinguish the situational gerund from gerundive temporal gradation constructions will here be shown using some minimal pairs. There are essentially two separate constructions to contrast the situational gerund to: gerundives in temporal limitation relations and gerundives in temporal gradation relations. The differences between these two will be discussed separately, because the features of each are slightly different.

Let us first look at the following pair:

(89) She sat *talking*.
(90) She liked *talking*.

On the surface, these two sentences may appear to be rather similar, but semantically it is not hard to note a difference. As discussed in chapter 3, (89) contains a gerundive in a temporal gradation relation with the main verb. In other words, the sitting event is going on while the talking is going on. The same relation cannot be said to exist, however, in (90). When one utters (90), one is not stating that a liking event is occurring at the same time as a talking event, as some analysts (e.g. Wierzbicka 1988) have suggested. This would imply that the liking event did not have an object at all, according to the analysis provided above. Rather, the talking is the thing that the subject likes, whether she is performing it or not. The construction certainly does not connote temporal identity between *liking* and *talking*, because *liking*, being a state, is more or less constantly true (even when someone is asleep, for instance). The same cannot be said of talking. Other examples highlight the contrast between these constructions even more. Take, for instance, (91–93) below:

(91) She stopped *talking*.
(92) She avoided *talking (to him)*.
(93) She continued *talking*.

In all of these cases, the relation between the gerund and the main verb is not simply one of sameness of time. In (91), this is clear because the main verb directly applies to

the gerund: the talking is what is stopped, rather than that some other activity was stopped while the talking went on (which would be the case, for instance in *She stopped the car, smelling of alcohol*). Similarly, (92) does not imply that the two events occurred simultaneously. In fact, this would be impossible: if something happens, you have not avoided that thing happening. The main verb event ensures that the second does not occur. Lastly, (93) may at first appear to be an example of sameness of time, but it is not. Rather, the verbal content of the main verb frames the event described by the gerund. The person was not simply talking during the NP, but also before that time. This seems to be the fundamental difference between *She talked* and *She continued talking*: the projection of the talking event simply fills the NP in the former case, whereas it stretches out before the NP in the latter. In the context of some main verbs, temporal gradation therefore does not suffice as a description of the connection between main verb and gerund.

Similar differences can also be found in cases where there is another entity present as well. Huddleston & Pullum (2002) provide some examples of this. Note (94–6) below, for example:

> (94) "I caught *Kim mistreating my cat*"
> (Huddleston & Pullum 2002, p. 1204, italics added).
> (95) "I resented *Kim mistreating my cat*" (p. 1204, emphasis added).
> (96) "That way I avoided *her seeing the brand on my inner thigh*"
> (Swarovski, 2015).

Huddleston & Pullum remark that "[the first] example might be glossed as 'I caught Kim in the act of mistreating my cat'; Kim is the patient-argument of *catch*. In [(95)], however, it wasn't Kim that I resented, but the whole situation in which Kim mistreated my cat" (p. 1204). The description of the first example corresponds neatly to a notation with temporal gradation as discussed in chapter 3 above: she was caught in the process of mistreating the cat. This is exactly the kind of relation that the symbol '⊃' forges. By contrast, the fact that in (95) the *whole situation* is resented clearly indicates a reading of *Kim mistreating my cat* as a nonfinite clause. An English sentence which comes close to the meaning of this sentence is *I resent that Kim mistreats my cat.* Sentence (96) provides a further example. The explanation given of participial gerundive constructions does not suffice as an explanation for (96). If I avoided her while she saw the brand on my thigh, then I have not succeeded in hiding the brand from her. Rather, this would result in a situation in which her seeing my brand and my avoidance of her would have occurred simultaneously. That this is not the intention of the writer of this sentence becomes clear, if from nothing else, from the context in

which it is used: the sentence is preceded by "when I had taken off all my clothes, I had made sure to hop in the bath while Nell grabbed the lotions for my hair" (Swarovski, 2015). The only conclusion open to the reader, then, seems to be that Nell herself is not avoided, but rather the situation in which Nell sees the branding. Having thus provided a brief description of the participial construction and the grammaticalised situational gerund, it still stands to be proven that this is in fact a separate *form-meaning unit*. In order to do so, some of the distinct formal features of the situational gerund will be discussed below.

4.2.1.2 – SEMANTIC PROPERTIES OF THE *TO*-INFINITIVE

In a sense, the *to*-infinitive has to compete with itself. That is to say: the *to*-infinitive is often formally identical to a prepositional *to*-phrase, so the competing pattern would be *to* + infinitive. Semantically, there is a tangible difference between these two patterns, as the examples below show:

(97) John left *to work out.*
(98) John likes *to work out.*

In the first example, the working-out event is predicated upon the leaving. John left as a means to an end, which is working out. In (98), however, the relation between these forms is rather different. The liking event is not a means to an end at all. Rather, the liking concerns the activity as a whole. In a way, this is similar to saying *John likes ice-cream*: here, the liking event clearly takes *ice-cream* as its object. Semantically, (98) is rather similar: the sentence does not make any claim as such about whether or not a particular working out event will happen or not, or that John's liking it has any effect on its occurrence. The message is simply that John enjoys engaging in the activity of working out. A similar distinction exists between the following examples:

(99) Stella killed Mickey *to send a message.*
(100) Stella had counted on *Mickey to toe the line.*

In example (99), the object of Stella's killing action is simply Mickey. The *to*-construction following this message clarifies something about Stella's reason for doing so. The murder was a means to an end: she killed him, with hopes that this would send a message to other people. Example (99) is similar in this regard to (97): here, the leaving event was a means to an end as well: John deemed it necessary to leave in order that he might engage in a work-out. The *to*-construction in (100) is different. Here, what was counted on was not simply Mickey, but rather the situation that he would toe the line. If the *to*-construction were analysed here in the same way as in (99), this

would mean that she counted on Mickey, so that she herself might toe the line. Clearly, this is not the intended message. In this way, (98) resembles (100): rather than standing alone, the *to*-infinitive is part of a construction which, as a whole, seems to perform the object role of the verb. In (98), what he likes is the situation in which he works out, whereas in (100), what is counted on is (or had been) the situation in which Mickey toed the line. This suggests that Mickey is the subject of *toe the line* in (100), rather than simply the object of *counted on*. In short, the four examples above suggest that the *to*-infinitive in (99) semantically does play a different role than the prepositional *to*-construction in (100), and that the *to*-infinitive can also have an overt subject. This, too, has to be connected to formal differences in order for the *to*-infinitive to count as a sign of its own.

4.2.1.3 – Semantic properties of the bare infinitive

The bare infinitive can only appear in a small number of contexts, in which it is almost always in competition with a temporal limitation gerundive. Consider Ebeling's examples below:

(101) "I saw the man jumping" (Ebeling 1978, p. 308, italics removed).
(102) "I saw the man jump" (p. 308, italics removed).

About the semantic difference between the two forms, Ebeling notes the following: "Intuitively, with [101], what I see in the first place is rather the man than his action, whereas, with [102], such a feeling is absent or at least less strong. This impression is perhaps corroborated by the observation that it is more acceptable to pronounce *I saw the man* with a complete sentence intonation and then to add *jumping* as an afterthought than to do so with *jump*: one has a feeling that the delayed addition of *jump* changes the structure of the sentence" (1978, p. 309). Thomas Egan seems to analyse this form in a similar way: as a situation standing on its own. About the semantics of this situation, he notes: "Either it is actually realised at the time of the main verb. . . or, if it [is] located in time after the main verb, it follows hard upon it." (Egan 2008, p. 91). He further notes: "Immediacy and certainty of realisation are two things that all instances of bare infinitive complement constructions have in common. Another is the fact that in all cases the event or state in question is profiled as an undifferentiated whole", by which he means "the *bare infinitive* is used to profile a process as a whole, making no reference to the unfolding in time of the process in question" (p. 92). In (102), for example, the whole jumping event is projected as a whole, occurring at exactly the same moment as the watching, and also as being completed there and then.

It may still be wondered, however, how immediacy and certainty of realisation differentiate the bare infinitive from the gerundive form in (101). As has been discussed in chapter 2, such a construction is notated using temporal limitation, which by definition indicates that the man was seen while he was jumping. The difference seems to be in the certainty of realisation, as the following examples show:

(103) I saw a man *writing a book*.
(104) I saw *a man write a book*[19].

When someone says (103), this does not necessarily mean that the book will, as a whole, be finished at all. Rather, it means that at the time you are discussing, a man was busy writing a book. Example (104), however, does imply that the speaker was there as the book was being started *and* completed while they were watching. As such, it seems the whole event, rather than the person performing it, is the message of the bare infinitive in (102).

4.2.2 – English nonfinites: syntactic properties

In the above, the semantic side of the argument for the situational gerund, the *to*-infinitive and the bare infinitive being separate constructions was discussed. In what follows, the syntactic status of these constructions will be tested. This will be done in the following ways: first, they will be placed in the subject position of a sentence. If the resulting sentences are grammatical with singular agreement on the main verb, this will show that these forms can represent separate situations as entities in the subject position. The second and third test will determine whether or not these forms can also do so after the main verb. This will be determined first by taking forms in which there is a contested form present, and then removing this form from it. If the result is a grammatical sentence, this shows that the nonfinite was not in the object position to the main verb. As a final test, the contested forms will first be presented in sentences in which they occur with an entity present, and the entity will then be removed. If the resulting construction is still grammatical, this will be taken to show that the construction in question is a nonfinite.

[19] Note, however, that there are verbs for which this sort of pair cannot be made, such as *let, make* and *help*. One can say *I let the plate fall out of my hands*, for instance, but not **I let the plate falling out of my hands*. In these cases an overt agent of the event is still required, however, as **I let fall out of my hands* is not a complete sentence. These verbs therefore still do not appear to invoke a situation, although the comparison with the temporal gradation construction also falls short in these cases.

4.2.2.1 – Syntactic properties of the situational gerund

In the present section, the distinct formal properties of the situational gerund will be discussed. Primary among them is the fact that these forms, although they do not appear with any markers commonly associated with entities (e.g. articles, number marking), they can readily take any position in which an entity is usually found, as the following examples show:

(105) *Being loud* is just *being young and dumb*.
(106) "In the broad scheme of things, *kids being loud* is just *kids being young and dumb*" (Beekissed, 2010).

As (105–6) show, the gerund can occur in the subject position, both with and without an accompanying agent. Example (106) is especially telling, as this element agrees with the main verb in the singular, even though *kids* is a plural noun. This indicates that the form performs a different function from a construction in which the entity *kids* is simply the subject (compare (106) to *Kids being loud are annoying*, in which *kids being loud* functions like the constructions in chapter 2). The singular here seems to agree with the situation as a whole, rather than the kids specifically. This also seems to be the case in (105), in which there is no entity at all being presented. The fact that the entire construction functions as a singular entity is the most obvious formal distinction between these constructions and constructions containing a gerundive, like those described in chapters 2 and 3.

Also, it can be shown that the semantic difference between (89) and (90) is connected to a syntactic difference by removing the gerundival form in both sentences. Consider the following pairs:

(107) She sat *talking*.
(108) She sat.
(109) She likes *talking*.
(110) *She likes.

The word *talking* can easily be left out without creating an ungrammatical sentence if it is there to indicate what the agent was doing while performing the main verb action as well, as (107) and (108) show. By contrast, it cannot be omitted when it does not perform this function, as in (109) and (110) show. The fact that it cannot be removed here indicates that it is an object in this instance, because (110) is ungrammatical precisely because nothing complements the verb *like* here.

To show that the same goes for the situational gerund with its own subject, another test must be performed. Huddleston & Pullum argue that a difference between the two constructions can be found in the fact that the participial element always requires an entity to specify, whereas the situational construction can also contain only a gerund. In other words, since "I resent them being exploited" and "I resent being exploited" (p. 1205) are both correct, this shows that what I resent in the latter case is the situation in which I am being exploited, not any specific person being exploited. Both variants, then, are equivalent, in that they introduce a separate situation into the sentence. This is not the case with a gerundive, however: such a form always specifies the meaning of another element in the sentence. If this is taken out of the sentence, its purpose is lost. This distinction holds for the examples discussed above, as the following shows:

(111) I caught her *mistreating my cat.*
(112) *I caught *mistreating my cat.*
(113) I resent *her mistreating my cat.*
(114) I resent *mistreating my cat.*
(115) *I resent.

As the above examples show, only the example implying sameness of time (111) is ungrammatical without the subject (*Kim*) – and that is precisely because it is *not* a subject in that example, but the object of *catch*. Conversely, in (113) and (114), the lack of an entity after the main verb is permitted, which indicates that the *–ing* forms here do not simply specify an entity. Rather, their meanings themselves seem to suffice as object participants in these constructions. This is not due to the fact that the verb *resent* does not require any object, as the ungrammaticality of (115) shows. This indicates that in both (113) and (114), the situational gerund takes the object position as a whole.

A further point which distinguishes the gerundive from the situational gerund is the following: it can be proven that the situational gerund in both cases is not equivalent to the participle form, because the situational gerund, being a gerund, always requires an *–ing* suffix to be present. This is not, strictly speaking, part of the test, and it cannot be repeated for the other forms, but it is important to note. Consider the following examples:

(116) Men *driven insane* (*is/)are dangerous.
(117) *Men being driven insane* is a serious problem.
(118) I found her *trapped in her room.*
(119) I resent *her being trapped in her room.*

In the examples above, the participial forms cannot be replaced by situational gerunds. In (116), for example, the subject can only be *men*, not any nonfinite situation. This is because the situational gerund is not participial at all: it is a separate form, which requires *–ing*. This also explains why (117) is grammatical: *men being driven insane* can be used as a situational gerund. Contrastively, (118) is grammatical, because here the participle adds information about the state she was in when she was found. Example (119) is also correct. However, it is impossible to remove *being* from (119): this would remove the *–ing* form from the situational gerund. This shows that participles take different positions in sentences than situational gerunds.

An important point to be addressed here is that variants with forms presented in the genitive case can only be logical if the situational reading is connected to the sentence:

(120) "I resent *Kim/Kim's mistreating my cat*"
(Huddleston & Pullum 2002, p. 1204, emphasis added).
(121) "I caught *Kim/*Kim's mistreating my cat*"
(p. 1204, emphasis added)

I would argue that the genitive and the oblique form are equivalent in the sense that they both introduce situations, which explains why the genitive cannot be used in (121) whereas it can in (120). However, as the principle of *one form – one meaning* dictates, the two forms cannot simply be assumed to be identical in meaning. For a full explanation of the situational gerund, then, analysing the difference between the two variants in (120) is important.

4.2.2.2 – SYNTACTIC PROPERTIES OF THE *TO*-INFINITIVE

The discussion of the formal features of the situational gerund has yielded a fruitful way of determining whether or not a potential situational sign has its own formal features. That is, if the *to*-infinitive can take the positions a singular entity can also take, with the same restrictions, then this would be sufficient evidence that the *to*-infinitive is separate from a normal *to* + infinitive form. In 4.2.2.1, the first test was to see if the form could stand on its own in the subject position. To this point, consider (122) and (123) below:

(122) "I can safely say that *to know him* was *to love him*, and *to love him* was *to know him*. Those who knew him loved him, while those who did not know him loved him from afar" (Roddenberry et al. & Landau, 1989).

(123) *To know the truth* is a burden.

Clearly, these sentences are not topicalised (like, for example, *In the cave lived a bear*). None of the *to*-constructions in these sentences apply to any element as a means to an end. In (122), the first *to love him* takes the predicate position, not to indicate that people knew him so that they would love him, but to indicate that the two situations are equated: if you know him, you love him. This is even made explicit by the line that follows. Crucially, this means that the verbal agreement of the copula *was* in (122) is not due to any other element than the *to*-construction itself. As was the case with the situational gerund, the situation as a whole agrees with the main verb as a singular entity. This is impossible for the prepositional *to*-construction, because it is impossible for prepositional phrases in general (e.g. **In the house is to go* versus *To love her is to go*).

In the position following the main verb, the *to*-infinitive can also appear as the complement to that main verb, rather than as a prepositional phrase. This can be shown by the fact that the *to*-infinitive cannot be removed, whereas the *to* + infinitive-construction can. To show this, (97) and (98) are repeated here, along with variants without the forms in question:

(124) John left *to work out.*
(125) John left.
(126) John likes *to work out.*
(127) *John likes.

When the *to*-construction is not given to add information about the main verb, but rather to complement it, it cannot be removed. Sentence (127) is similar to (115), in that in both forms, there is no target given for the liking, which makes the sentence as a whole illogical. This shows that the *to*-infinitive in (126) does in fact fill the object position.

In the object position, it can also be shown that the *to*-infinitive can take its own subject. This can be shown using the following pairs:

(128) John brought the car *to pick her up.*
(129) *John brought *to pick her up.*
(130) John expected *Jim to see her.*
(131) John expected *to see her.*
(132) *John expected.

As examples (128) and (129) show, if the *to*-construction is merely there to specify the aim of the action described by the main verb, the object of that verb cannot be removed. However, both (130) and (131) are grammatical. This will be taken to indicate that the *to*-infinitive takes the object position in both cases. The semantics of a situation are clearly present in both cases: in (130), the message is not that John expected Jim, so that John could see her, but rather that John expected the situation to arise in which Jim saw her. Moreover, the fact that (131) is grammatical shows that the verb *expect* does take the *to*-infinitive situation as its complement, unlike *brought* in (129). This is further proven by (132): it cannot occur without an object complement. These facts together lead to the conclusion that the *to*-infinitive is also present in (130), and not a prepositional *to*-meaning.

4.2.2.3 – Syntactic properties of the bare infinitive

The final construction to be analysed in this section is the bare infinitive. The difference between these forms and the other two nonfinite constructions analysed here is that there is no construction that it is syntactically homonymous with.

As stated above, the bare infinitive can only take the object position to a very restricted number of verbs. This means that it automatically fails the first test used for the constructions above, as (133) and (134) show:

(133) **The men drink* beer is/are a problem.
(134) **The man jump* is impressive.

Neither of the two sentences above are grammatical: it simply cannot take this position, nor can a bare infinitival accompany another entity in the subject position. If it could (133) would be grammatical with *are* instead of *is,* because then *the men* would simply be the subject. As such, the bare infinitive verb is not there to temporally specify an entity, but it does not present a situation as an entity either, as the other constructions discussed here do.

In the object positions in which the bare infinitive can be used, it is always possible to omit it, just like the gerundive:

(135) I saw *a man writing a book.*
(136) I saw *a man write a book.*
(137) I saw a man.

As the three examples above show, whether it is a gerundive or a bare infinitive, it can be removed without leading to an ungrammatical form, as (137) shows. It appears,

then, that the bare infinitive also fails the second test. Similarly, it cannot appear without an overt agent,[20] as the following examples show:

(138) I hear *the doorbell ring.*
(139) *I hear *ring.*

How do we proceed knowing this? It appears that the bare infinitive does not have the flexibility that the other two nonfinites do show. It cannot be used in the subject position, nor can it appear as merely a verb. It seems that although the form is more or less unitary in the object position, then, that it does not constitute a singular entity in the way that the situational gerund and the *to*-infinitive do. This means that the bare infinitive does not function as a separate, singular entity, and, as such, is not in competition with either the situational gerund or the *to*-infinitive, but rather with gerundives in positions where they specify the main verb through temporal gradation. For this reason, this form will not play a role in the remainder of this discussion.[21]

4.3 – Positions of nonfinite clauses

In this section, the use of the situational gerund and the *to*-infinitive will be examined. As stated, they can occur in the subject position of the whole sentence, as the object to a preposition, or as the complement to a main verb. For each of these positions, it will be examined under what circumstances both the situational gerund and the *to*-infinitive can be used, and in which cases only one of the two can be used, so that the differences between these types can be compared and contrasted. Doing so will help us determine the exact nature of these nonfinite forms. Essential to the discussion to follow is the distinction between *simple* and *complex* nonfinite forms. The term *simple* is used to refer to nonfinites which do not take an overt subject, e.g. *I like to swim* or *I regret waiting*. *Complex* nonfinite forms, on the other hand, do have an overt subject, e.g. *I'd like you to swim* or *I regret him seeing me.* As stated, the following discussion will

[20] Note that *help* forms an exception to this generalisation: *I helped find the cat* is an acceptable sentence, in which case the finding action is essentially that of another person: in certain contexts, it is synonymous with *I helped you find the cat.*

[21] Ebeling notes that "it is necessary for [*I saw the man jump*] that the speaker saw not only the man himself but also the situation S characterised by the fact that the man jumped" (p. 310). This indicates that the jumping event performed by the man is a message in its own right, which is just as much part of the sentence meaning as the first nexus. In other words, it is not a situation in its own right, but an equally characterising event within the same situation, according to this explanation. His proposed notation therefore contains another nexus: one linking 'me' with 'see_1', and another linking 'man' and '$jump_1$'.

present the difference in distribution that this work will set out to explain. It is not intended as an analysis as such, but as an inventorisation of phenomena under discussion. The sentences exemplified here will be analysed in section 4.6, based on the generalisations made in 4.4–5.

4.3.1 – Position 1: the subject position

The subject position is, under most circumstances, open to both the situational gerund and the *to*-infinitive. However, there are many conditions to using the *to*-infinitive, excluding it in many cases, although there are a few contexts in which only the *to*-infinitive can be used as well. When both can be used, there is naturally a semantic difference to be detected. This will be discussed in 4.3.1.1. After that, we will examine the use of a nonfinite subject in aspectually specified sentences. In the third subsection, sentences specified by temporal adverbials will also be looked at, noting that there is a difference between the situational gerund and the *to*-infinitive in this context as well. Lastly, an explanation will be given for the fact that the *to*-infinitive is the only proper subject to a sentence with another *to*-infinitive as its predicate.

4.3.1.1 – SPECIFIC VERSUS GENERAL

In a sentence in which both the situational gerund and the *to*-infinitive can be used, it is noticeable that in each case a subtle difference in meaning is felt. Consider, for example, (140) and (141) below:

> (140) "*Living in fear of attack* is a terrible stress and one which GPs could do without" (Egan 2008, p. 133, emphasis added).
> (141) *To live in fear of attack* is a terrible stress and one which GPs could do without.

Comparing the first example to the second, it may be noted that in (140), the situational gerund places the nonfinite clause at the moment of speaking, whereas in the case of *to live*, the interpretation is rather different: this statement seems to refer to a general truth, not limited by any temporal boundary, which as such may be read as "when one lives in fear of attack, it is a terrible stress". This distinction can also be felt in sentences in which certain modal verbs are used:

> (142) *Doing so* would have required 18,446,744,073,551,615 grains.
> (143) "*To do so* would have required 18,446,744,073,709,551,615 grains!" (Featherstone 1975, emphasis added).

Both situations are part of a hypothetical sentence. However, the idea that the requirement is only applicable to the hypothetical situation described is present in

(142), whereas (143) holds this requirement to be true regardless of the context. This also explains why (143) is the original sentence: it pertains to the amount of grain required to pay a man who said: "If you are determined to pay me something, give me one grain of wheat for the first square on the chessboard, two for the second, four grains for the third, eight for the fourth, and so on, doubling the number for each square until all 64 squares of the board are covered" (Featherstone 1975). Naturally, this procedure would result in the same number in every case, so the sentence pertains to a general truth.

There also seems to be a connection between the tense within which the finite situation is presented and the acceptability of nonfinite clauses in subject position. Naturally, the past tense cannot be used to describe general truths, and it does appear that the *to*-infinitive cannot be used in such contexts. To this point, consider (144) and (145) below:

(144) *Washing the dishes* used to be a drag until I bought a dishwasher.
(145) *?To wash the dishes* used to be a drag until I bought a dishwasher.

Here, the fact that the situational gerund is temporally specified actually leads to a grammatically acceptable sentence, whereas this is not the case in (145): here, the more general reading seems to lead to a logical inconsistency: how can it be a drag *to wash the dishes* when I have already bought a dishwasher? This semantic distinction must be discussed in order to understand the semantic distinction between the two constructions completely.

4.3.1.2 – Occurrence in sentences with aspect

Similarly, there seems to be a connection between aspect and the acceptability of the *to*-infinitive in subject position. Consider (146) and (147), in which the main clause contains the present progressive (see section 1.7):

(146) *Working at the post office* is driving me crazy.
(147) *?To work at the post office* is driving me crazy.

The same is true for perfect sentences (see section 1.7) within which the subject is an event that refers to a situation that has occurred. In such contexts, the *to*-infinitive cannot be used, even though (148) is acceptable:

(148) *His not taking his medication* has killed him.
(149) **For him not to take his medication* has killed him.

Again, the generality of the *to*-infinitive is not applicable here, because the event in the nonfinite situation is not supposed to take place in a general sense, but rather before the main verb event. It seems, then, that in all of these cases, the generality of the *to*-infinitive on the one hand, contrasted to the temporal flexibility of the situational gerund on the other, seems to bar it from these positions.

4.3.1.3 – NONFINITES WITH NONFINITES

Moving on, there appears to be only one context in which the *to*-infinitive is required in the subject position, namely when the predicate also consists solely of a *to*-infinitive sentence. An example of this is given below:

(150) *To lie* is to sin.
(151) **Lying* is to sin.

As the pair above shows, when one situation is equated to a *to*-infinitive situation, this also needs to be a *to*-infinitive situation. It seems, then, that they share a common temporal and modal meaning that is not shared in the same way by the situational gerund.

In the present work, it is assumed that situational gerunds in the subject position mean exactly the same. The same goes for the *to*-infinitives in the above. This view is consistent with the notion of *one form – one meaning*. When the meanings of these constructions are discussed, the description must therefore account for each of the phenomena given above. The same goes for the situational gerunds and *to*-infinitives that are given in the rest of this section. The present work will aim to take all of the phenomena described into account in formulating a single meaning for each of the nonfinite constructions.

4.3.2 – Position 2: object to preposition

Nonfinite clauses also frequently find themselves in the object position to prepositions. In order to discuss this position in a systematic manner, we will analyse what each preposition means when it is combined with a nonfinite clause. That is to say, most prepositions have a meaning related to place: *in* means that one object is inside another, *before* means that one is in front of the other from the speaker's point of view, etc. However, such prepositions are also used to refer to time: when we say *in three years*, we mean that a process or an event will take place during those three years, or right at the end of that time span (e.g. *I will die in three years*), whereas *before* refers to the period of time within which something has not happened yet (e.g. *The time before the Great Flood*). In combination with nonfinite clauses, prepositions seem to be

analysed as providing their temporal meaning. This being the case, three different types of prepositions can be distinguished:

1. Prepositions that place the nonfinite situation event before the main verb event;
2. Prepositions that place the nonfinite situation in the same timeframe as the main verb event;
3. Prepositions that place the nonfinite situation event after the main verb event.

The following discussion will be structured along these lines.

4.3.2.1 – Nonfinite event before main verb event

The first category of prepositions places the nonfinite verb event before the finite verb event. Prepositions of this nature include *after*. A good example of a sentence containing such a construction is found in (152) below:

(152) The senator fell off the stage *after giving his speech.*
(153) *The senator fell off the stage *after to give his speech.*

Comparing (152) to (153), one can easily see that the grammaticality of the sentence depends on the selection of the correct nonfinite construction: *after* can take a situational gerund, but it results in an ungrammatical sentence if it is complemented by a *to*-infinitive.

4.3.2.2 – Nonfinite event simultaneous with the main verb event

Similarly, when a preposition places the two events within the same timeframe, the situational gerund is the only nonfinite object it takes. Naturally, there are a number of different prepositions that do so, each of which supply a subtly different meaning. This is shown by the examples below:

(154) I cleaned the floor *by scrubbing it.*
(155) *I cleaned the floor *by to scrub it.*
(156) The senator fell off the stage *while giving his speech.*
(157) *The senator fell off the stage *while to give his speech.*
(158) I hope I'm not sending the wrong message *in doing so.*
(159) *I hope I'm not sending the wrong message *in to do so.*

In (154), *by* presents the two events as simultaneous by presenting the nonfinite event as the means by which the main verb event is brought about. The *to*-infinitive cannot

be used in this context, as (155) shows. Sentence (156) contains a preposition (*while*) that is wholly temporal in its meaning. The *to*-infinitive is also not usable in this context. The preposition *in* in (158) provides a similar meaning: the sending of the message is inherent in the action, so both occur simultaneously. Using the *to*-infinitive here leads to an ungrammatical sentence, as (159) shows.

4.3.2.3 – Nonfinite event occurring after the main verb event

The final category of prepositions to be discussed places the finite event before the nonfinite event. This can be shown by juxtaposing (160) and (161) below:

(160) The actor brushed his teeth *before going on stage.*
(161) *The actor brushed his teeth *before to go on stage.*

As (160) and (161) show, when the event described by the main verb is placed before the nonfinite, a situational gerund must be used with *before*. However, there is one preposition of this kind which does take the *to*-infinitive: *to* itself. One might have expected two *to*s to follow one another in such instances, but this is not borne out in practice. When it is used in such a context, the *to*-infinitive loses its own *to*. An example of such a sentence is found below:

(162) "Patient works out in gym *to win back his strength*"
(Egan 2008, p. 102, emphasis added).
(163) *Patient works out in gym *to winning back his strength.*

In (162) above, the nonfinite event is presented as following the main verb event; this event is performed so that the nonfinite event may consequently be completed as well. In this context, the situational gerund cannot be used, as (163) shows. Note, however, that the situational gerund is only blocked when the *to*-infinitive has a purposive meaning, but not when it denotes (temporal) direction, as the examples below show:

(164) I went from washing cars *to selling them.*
(165) *I went from washing cars *to sell them.*

In (164), the contrast between *from washing cars* and *to selling them* clearly shows that both refer to a temporal 'place' rather than the purpose of either nonfinite event. In such a context, as (165) shows, the *to*-infinitive cannot be used. A solid description of the meaning of these two nonfinite constructions must take this difference into account.

4.3.3 – Position 3: object to main verb

Main verbs that take nonfinite complements are called *catenative* verbs (e.g. *like* in *I like fishing*). The term *catenative* refers to this ability of the verb to connect directly to another verbal meaning. In contrast to prepositions, it is very common to find the situational gerund and the *to*-infinitive being used as the complement to the same catenative verb (e.g. *I remembered locking up* versus *I remembered to lock up*). To give a thorough analysis of the variety of ways in which catenatives and nonfinite meanings interact, the overview of these forms in *The Cambridge Grammar of the English Language* (Huddleston & Pullum 2002, p. 1225-45) will be used as a basis. This work presents various classes of catenative verbs, distinguished on the basis of the kinds of complements they take. For the purposes of the present work, it seems best to discuss catenatives along these lines as well, grouping them together on their compatibility with one or both of the nonfinite constructions first, and zooming in on more detailed distinctions within each of these groups. Because the catenative verbs which can take both the situational gerund and the *to*-infinitive provide us with the best opportunity to compare the meanings of these constructions, this group will be discussed first. After that, we present a number of gerund-only catenatives. Finally, the group of catenatives which are only open to *to*-infinitive nonfinite complementation will be analysed. Naturally, not every construction they present in their extensive work on this paper can be addressed separately, but it is hoped that in using this work as a reference, the picture presented in this chapter of the meaning of the situational gerund and the *to*-infinitive will be as complete as possible.

4.3.3.1 – Group 1: Catenatives taking both situational gerunds and *to*-infinitives

In this group, the contrast between the two nonfinite complements can be made clear most effectively, because the contrast in these cases must be purely semantic in nature. Because the nonfinite functions as the object to the main verb, naturally there is a connection between them. The type of connection, however, differs between the situational gerund and the *to*-infinitive. It is this contrast that this section will focus on. With some catenative verbs, the difference is temporal (see 4.3.3.1.1), but this is not the only way in which such sentences can differ. In other cases, for instance those discussed in 4.3.3.1.2, it seems that the specificity with which the nonfinite event is referred to is different. This difference is also reflected in cases where the main verb is aspectual in nature, as shown in 4.3.3.1.3.

4.3.3.1.1 – DIFFERENT TEMPORALITY WITH DIFFERENT NONFINITES

It may not surprise the reader that when a different nonfinite is used, the sentence can have a different meaning. A case in point is *remember*, as (166) and (167) show:

(166) "I remembered *locking up*" (p. 1243, emphasis added).
(167) "I remembered *to lock up*"
(Huddleston & Pullum 2002, p. 1243, emphasis added).

These examples fall into what Huddleston & Pullum call *memory verbs*. They note: "in [(167)] the locking up is simultaneous with the remembering – but I remembered some kind of prior obligation to lock up and hence there is projection into the future with respect to that implicit earlier time. In [(166)], on the other hand, I simply remembered some actual past event" (p. 1243). As such, (167) refers to an event in the past being recalled for the future, whereas (166) refers to an event that has been performed in the past. If we approach these sentences from the perspective that the nonfinites themselves cause the semantic difference, the description of their respective meanings must be able to account for all the differences between these two sentences. This will be discussed in detail in section 4.6.

4.3.3.1.2 – DIFFERENT SPECIFICITY WITH DIFFERENT NONFINITE

A more subtle difference accounts for the difference between (168) and (169) below:

(168) "I hate *lying*" (Jespersen 1940, p. 193, emphasis added).
(169) "I hate *to lie*" (p. 193, emphasis added).

Catenative verbs like those found in (168) and (169) would fit Huddleston & Pullum's category of "verbs of liking (and not liking)" (p. 1242). However, a difference is clearly felt. About these examples, Jespersen (1940) states that (168) refers to the "vice in general", whereas the example in (169) is argued to refer to the vice "in this particular case" (p. 193). This is in contrast to what has been stated in section 4.3.1.1 about the generality of the *to*-infinitive versus the specificity of the situational gerund. This contrast must be explained by the distinction proposed in order for it to be complete.

4.3.3.1.3 – ASPECTUAL VERBS AND NONFINITE COMPLEMENTS

Another important group of catenative verbs to be discussed contains *aspectual* verbs (Huddleston & Pullum 2002, p. 1241). These verbs, rather than referring to a type of event themselves, specify the complement nonfinite. Specifically, they give information about the time in which the action in the nonfinite complement takes place. The sentences below serve to exemplify this:

(170) "Mary began *hitting John*"
(Wierzbicka 1988, p. 85, emphasis added).
(171) "Mary began *to hit John*" (p. 85, emphasis added).

As (170) and (171) show, some aspectual verbs take both a situational gerund and a *to*-infinitive form as their complement. Moreover, it is essential to note the difference between aspectual verbs which allow for both nonfinites to complement them, and those which only take one**.** To *begin hitting* refers to an ongoing event, whereas *to hit John* refers to the event as a whole. Wierzbicka cites Dixon, who notes on the first example that "to be appropriate, Mary must have rained at least a few blows on John (...)" (Dixon 1984b, p. 591, cited in Wierzbicka 1988, p. 85), whereas (171) "could be said when she had merely raised the stick but had not yet brought it down upon his head (perhaps she will, or perhaps she won't)". The reason for this distribution will take us one step closer to describing a unified meaning for each of these constructions.

4.3.3.2 – GROUP 2: ONLY SITUATIONAL GERUND COMPLEMENTS

The verbs in this group usually refer either to temporality, aspect, or modality in some regard. In that sense, many of these verbs are similar to the prepositions taking situational gerunds discussed above; their meanings often involve the temporal coordination of the main verb event and the nonfinite event. The present overview is based on Huddleston & Pullum's (2002) grammar. It is important to repeat this here, because some of the terminology they readily employ is not compatible with the semiotactic framework. This will be pointed out wherever it occurs.

4.3.3.2.1 – ONLY SIMPLE SITUATIONAL GERUND COMPLEMENTS

Examples of verbs which only take simple situational gerund (i.e. situational gerunds without a subject of their own) complements are *avoid, complete, resist,* and *repent* (Huddleston & Pullum 2002, p. 1228). Some examples containing verbs of this nature are found below:

(172) He repented *having done so.*
(173) He avoided *paying the damage to the other car.*

The meaning of a verb like *repent* includes a retrospective element: the situational gerund event must come before the main verb event in this case. In (173), on the other hand, it is not the timeframe that is different, but rather the modality of the complement: when one avoids a situation, this means that that situation does not occur at the time at which the avoiding is taking place.

4.3.3.2.2 – SIMPLE AND COMPLEX SITUATIONAL GERUND COMPLEMENTS

The verbs which can take simple and complex situational gerund complements (i.e. situational gerunds with an explicit subject in the sentence) also have some characteristics in common: most of them involve some form of mental activity or mental representation of the event. *Deplore, celebrate, recall* and *welcome* are of this kind (Huddleston & Pullum 2002, p. 1232–3). Sentences (174–6) give examples containing such verbs:

(174) I celebrate *you saving our lives.*
(175) I deplore *his insisting I do everything.*
(176) I contemplated *intervening on his behalf.*

The complements to these verbs, then, can refer to an event in the past (174), in the present (175), or in the future (176) from the perspective of the main verb event. They all have in common that they refer to the mental representation of an event. However, this does not mean that they are represented as *only* existing in the head of the speaker: sentences (174) and (175) would not be correct if the events had not occurred or did not occur in the real world. Example (176) does not require this; in fact, it is more likely that the event described never occurred up to this point.

4.3.3.2.3 – ONLY COMPLEX SITUATIONAL GERUND COMPLEMENTS

The final group of catenatives to be discussed in this subsection is the group that only takes complex situational gerund complements. Semantically, these verbs do not differ much from those discussed above, in that they do refer to an attitude toward a certain situation that may or may not have occurred already. Verbs in this group include *forgive, prohibit*, and *prevent* (Huddleston & Pullum 2002, p. 1238). Consider the example sentences in (177–9) below:

(177) Forgive *my saying so.*
(178) We prevented *them escalating the problem.*
(179) The government has *prohibited our protesting the new bill.*

In the strictest sense, the verb *forgive* is always retrospective: an action need only be forgiven if it has actually occurred. However, this verb is often used right before the action to be forgiven (usually involving a statement about something) is performed. This, however, is a small interpretive step to take. The verb *prevent*, used in (178), is similar to *avoid* in that it usually refers to the non-occurrence of some event at the same time as the main verb. The difference between *avoid* and *prevent*, it seems, is that avoiding usually involves something to do with an agent. In the same way that *He*

avoided the ball refers to an action by the agent which caused him not to be hit by the ball, *He avoided being seen* refers to an event in which the third person acted in a way that caused him not to be seen. *Prevent*, on the other hand, refers to an event which lies outside the agent completely. For this reason, potentially grammatical sentences like ?*I prevented me/my being seen* sound strange: this is the kind of meaning that *avoid* would normally express. The same distance exists between someone who prohibits an action and the person who would have performed that action; for this reason, *prohibit* only takes complex complements as well. Temporally, it may be said that *prohibit* refers to the future, because from the moment it is prohibited, the event will (ideally) not occur anymore.

4.3.3.3 – GROUP 3: ONLY *TO*-INFINITIVE COMPLEMENTS

The final group to be discussed is the group in which verbs are found which only combine with the *to*-infinitive. There is some variation in the kinds of complements to be found in this group that is not found in the situational gerund group.

4.3.3.3.1 – ONLY SIMPLE TO*-INFINITIVE COMPLEMENTS*

Starting off with some catenatives which only take simple *to*-infinitive constructions as their complement, it may be noted that many of these verbs refer to future events. Examples of verbs of this kind are *try*, *grow*, *serve* and *decline* (Huddleston & Pullum 2002, p. 1228). Examples of sentences with these catenatives are found below:

(180) This will only serve *to cause panic.*
(181) He declined *to take up the challenge.*
(182) I'm trying *to understand you.*

In each of these sentences, the entirety of the situation is to be found right after the main verb event. As (181) and (182) show, there is also some modal variation to be found in this group: when one declines to do something, the event will naturally not take place. Similarly, when one tries to do something, this does not necessarily mean that the event will take place. This must be taken into account in the final analysis of the *to*-infinitive.

4.3.3.3.2 – "RAISED" VERBS

There are also verbs like *seem* and *appear* (Huddleston & Pullum 2002, p. 1228), referred to as *raised* verbs, which present the complement not as occurring in the future, but at the same time as the main verb:

(183) He seems *to be lying.*
(184) He appears *to have a hidden agenda.*

These verbs are called raised verbs because there are some indications that the implicit subject of the nonfinite complement has been "raised" to the subject position of the whole sentence. The fact a dummy-*it* can be used as the subject of the main verb is taken to be evidence for this position. In such a construction, they argue, the nonfinite verb takes the original subject as its own subject: *It seems (that) he is lying*, *It appears (that) he has a hidden agenda.* This operation is not possible in the case of (181) or (182): **It declines (that) he takes up the challenge*, **It is trying (that) I understand you.* This sort of evidence, however, regards semantics and syntax to be more or less separate from one another: the fact that this 'transformation' is possible proves that the underlying structure of the sentence is different. This approach differs from the present one, in that it does not assume that the grammaticality of the 'raised' verbs, or illogicality of the other sentences, is solely due to semantics. The analysis in the present work does assume that semantics is the only cause, which leads to the conclusion that it is purely the semantics of these verbs that makes the dummy-*it* sentences logical.

4.3.3.3.3 – Simple and complex to*-infinitive complements*

Moving on, there are some interesting cases of catenatives that take either simple or complex complements in this group. Notably, these verbs again refer to the future, as examples like *ask, pledge* and *request* indicate. However, the verb *ask* shows great variation in the kinds of complements it takes. It stands out, because it is not simply a catenative, but it can also be ditransitive, as a sentence like *I asked you a question* shows. The interaction between the ditransitive nature and the use of the *to*-infinitive as a complement leads to many different combinations, as (185–7) below show:

(185) "He asked *Pat to be interviewed*"
(Huddleston & Pullum 2002, p. 1230, emphasis added).
(186) "He asked *for Pat to be interviewed*" (p. 1230, emphasis added).
(187) Pat asked *to be interviewed.*
(188) Pat was asked *to be interviewed.*

The variation exhibited here should be fully explained, so that other ditransitive catenative verbs can be explained along the same lines. These must also be contrasted with verb types in which such variation does not occur, e.g.:

(189) "They are actually *willing him to do it*"
(Isherwood 1964, p. 11, emphasis added).

4.3.3.3.4 – "RAISED-OBJECT" VERBS

Apart from verbs like this, there are also verbs that Huddleston & Pullum call *raised-object* verbs, such as *expect*. In a passive sentence containing a verb like this, the subject of the nonfinite complement is placed in the subject positions of the main clause, as (191) shows:

(190) I expect you *to work harder.*
(191) You are expected *to work harder.*

In the first sentence, it is clear that what the first person expects is the situation in which the second person works harder. That is to say, I do not expect the person, I expect the event. This does not explain the grammaticality of (191), however. As explained before, the purported *transformation* that is implied by the term "raised object" is of no use within the semiotactic framework. The broader question of what semiotactic structure (191) presents, however, must still be answered for the classification presented here to be complete.

4.3.3.3.5 – CATENATIVES WITH PREPOSITION

There are also many verbs in this group which contain a prepositional element (Huddleston & Pullum 2002, p. 1235). Because these exhibit some other characteristics than the catenatives examined above, these require separate discussion as well. A good example of such a catenative is *count (on)*:

(192) I counted on *Ed to bake the cookies.*
(193) I counted on *the oven to work to bake the cookies.*

Again, the semantics of *count on* refer to something which is yet to occur at the moment it is counted on. However, the semantic-syntactic relations between all the words in the sentences presented here are unclear. For instance, is Ed the object of *count (on)* in (192), making *to bake the cookies* a regular prepositional phrase, or is it the situation in which Ed bakes the cookies? Are there ways to come to a conclusion on this, or is the sentence ambiguous? This will be discussed in section 4.

4.3.3.3.6 – PROPOSITIONAL VERBS

As a final point to be discussed here, it is important to note that a category of verbs referred to as *propositional verbs* also falls into this group. Examples of verbs of this type are found in the example sentences below:

(194) "I believe John to have liked Anselm"
(Kiparsky & Kiparsky 1971, p. 363).
(195) *I believe *John having liked Anselm.*
(196) I verified *him to be lying.*
(197) *I verified him *(being) lying.*

As (194) and (195) show, when a statement is made about the (real or imaginary) world, the situational gerund cannot be used, and the *to*-infinitive is the only one that can fill this position, as (194) and (196) show. Why this would be, and how it can be accounted for in the description of the meaning of these two constructions, will be discussed in section 4.6.

In short, the situational gerund and the *to*-infinitive can both take the subject position and the complement position to a preposition or a verb. However, there are constraints to their placement. It appears that the use of the situational gerund in the subject position can contribute a more general reading than the *to*-infinitive where they can both occur. However, only the situational gerund can be used when the sentence as a whole takes aspect. Most prepositions only take the situational gerund as their complement, but *to* itself can take both, each with a different meaning. There are also many catenative verbs which take both these nonfinite forms, replacing one with the other leads to a different meaning. In particular, it seems that here, the situational gerund has the ability to refer to the past, whereas the *to*-infinitive does not. Moreover, Jespersen noted that the *to*-infinitive refers to a particular event, whereas the situational gerund leads to a more general reading as the complement to *hate*. One particular group of catenatives stands out: the one containing *propositional verbs*. In these contexts, only the *to*-infinitive can be used. If we want to explain these distributional differences on the basis of the semantics of these forms, this must be taken into account.

4.4 – English nonfinites and the semiotactic framework

The present chapter constitutes the first attempt to capture the differences between the situational gerund and the *to*-infinitive by performing a systematic study of these forms. Importantly, Ebeling also notes the difference between the situational gerund and constructions which lead to temporal gradation/limitation. Consider, for instance, the differences between the following examples and the notations given:

(198) “I saw the man jumping” (Ebeling 1978, p. 308).
(notation adapted to present style)

‘. . . Σ
me = [see$_1$]
[see$_2$]; man ⊃[22] jump$_1$’

(199) “He likes being rich” (1978, p. 307)
(notation adapted to present style).

‘Σ ↓ / PR
⊃ ^{a}Σ
^{b}he = [like$_1$]
[like$_2$]; ^{a}Σ
^{b}X = rich’

The differences between the two notations above provide an interesting opportunity for further research. As has also been argued in chapter 2, the difference between *a jumping man* and *a man jumping* is a matter of temporality versus specification. This is precisely the reason for introducing temporal limitation (1978, p. 312). This has been applied in the case of (198), but (199) takes a rather different form. In this notation, the gerund contributes its own sigma. Two sigmas, in fact. Starting from the beginning, the notation of (199) indicates that there is a divergent temporal gradation between the situational gerund and the matrix situation. *Quasi-divergence* is used here, because a divergent relation is one semiotactic position in and of itself, whereas the notation makes clear that the situation *being rich* is also the object of the liking. Being in two positions at once like that requires quasi-divergence, which explains the superscript ^{a}s. The first of these related sigmas is connected to the sigma above the entire situation through divergent temporal gradation. As discussed in chapter 1, divergence is used to indicate that two elements do not share features – they are separate meanings. In this case, this means that the situation as a whole is not the same as the situational gerund, just like *the boy’s bicycle* does not imply that the bicycle shares any features with the boy. The two situations in (199) are connected, however. The use of temporal gradation does indicate that the two situations occur simultaneously. Taking the quasi-divergence between the subject of the matrix situation and the subject of the complement situation into account, this notation may therefore be paraphrased as *When he is rich, he likes that he is rich.* This perspective has definite advantages. For one, it presents the

[22] Later in the book, the symbol for temporal limitation is introduced and applied in such cases as well, e.g. “Peter reading (written under a photograph)” (Ebeling 1978, p. 313) becomes ‘Peter ~ read$_1$’ using the present notational style.

situational gerund as a situation rather than a gerundive performing a specifying function, which explains why the situational gerund can occur as a singular entity in the subject position. Ebeling provides a similar but different notation for the *to*-infinitive:

(200) "He likes to be rich" (1978, p. 307).

$$\begin{array}{lll} & {}^{\prime}\Sigma \,/\, \mathrm{PR} & \\ {}^{a}\mathrm{he} & = & [\mathrm{like}_1] \\ & & [\mathrm{like}_2];\ \Sigma \\ & & {}^{a}\mathrm{X} \quad = \mathrm{rich}' \end{array}$$

In the notation of (200), there is still quasi-divergence between the two subjects, and the structure of both situations is identical to that presented in (199). The big difference is in the fact that no divergent temporal gradation exists between the matrix situation and the situational gerund. In other words, this notation could be paraphrased as: *He likes the situation in which he is rich.*

The most obvious question to be asked at this point naturally becomes: are the temporal features of the matrix situation really all that different? This would imply that there is a period imaginable in which "He likes to be rich" is true, but in which the statement "He likes being rich" is not. Ebeling argues that the notation in (199) is appropriate if "NE("Σ_1") is included in the time of NP("Σ_2") and/or NE("Σ_2") is included in the time of NP("Σ_1")" (1978, p. 308). In other words: it is appropriate if the event described in the matrix situation is part of the timeframe of the situational gerund, or the other way around. The notation in (200) does not have this limitation. Although this distinction may intuitively work for these two examples, one may wonder whether or not this model works in every position in which both constructions can be found, or even if it is as felicitous in the context of every verb. Naturally, this was not the aim of Ebeling's description. The distinction presented above may simply be regarded as a proposed distinction, and is not the result of a systematic comparison between the two forms in a broad range of contexts. The present work may therefore be considered the first to do so from a semiotactic perspective.

4.5 – A new semiotactic explanation of the situational gerund

The previous section indicates the need for a new semiotactic explanation, which takes all the contexts discussed into account. A lot of literature has already attempted to capture the distinction between the situational gerund and the *to*-infinitive, and it seems most prudent to incorporate the generalisations made in them in the present model. Naturally, any such generalisation must adhere to the principles that the semiotactic model is based on. Rather than discussing a number of models separately, it

would be most useful to compare and contrast a number of claims concerning specific aspects of the two nonfinite forms under discussion. It may be argued that temporal differences on the one hand and the resulting projection of the nonfinite event on the other may influence the appropriateness of the two nonfinite forms. Based on this suggestion, the literature review below has two parts: one discussing the temporal aspects of the nonfinite events, and the other focusing on the projection of the events.

4.5.1 – The temporality of nonfinite events

In order to get an idea of the full range of temporal relations that the nonfinite constructions can enter into, a look at the existing literature on the topic of the nonfinite seems essential. This will be presented below. First, the situational gerund will be discussed. After that, claims concerning the temporal features of the *to*-infinitive will be put side by side.

4.5.1.1 – THE TEMPORALITY OF THE SITUATIONAL GERUND

Traditionally speaking, situational gerunds have been regarded as marked by the lack of tense, which means that they must be temporally undefined at the very minimum. This is the position essentially taken by Ronald Langacker, stating on the one hand that "a verbal expression – a verb or a finite clause – profiles a *process*, by which I mean a relationship followed sequentially in its evolution through time" (2011, p. 51), but also the following:

> Equally common is the absence of grounding, as with *to* and *–ing*. Indeed, *to* and *–ing* occur in lieu of grounding precisely because they serve to atemporalize the subordinate process. An ungrounded clause is inherently subordinate in the sense of depending on the main clause to specify the status of the process it is based on. (2008, p. 413)

Grounding, in Cognitive Grammar terminology, is defined as follows: "The term *ground* is used in CG to indicate the speech event, its participants (speaker and hearer), their interaction, and the immediate circumstances (notably, the time and place of speaking)" (2008, p. 259). Any full grammatical sentence is grounded. That is to say: it is oriented with respect to the speaker and the hearer, their temporal situation, and also modality: it "situates the profiled relationship with respect to the speaker's current conception of reality" (p. 259). More specifically, Langacker argues "despite their verbal base, infinitives and participles are not themselves verbs. Typically they profile nonprocessual relationships" (2008, p. 119). This does not mean that an infinitive does away with the process entirely, but rather that "an infinitive or participle may still

profile a complex relationship comprising all the component states of the verbal process" (p. 120), but only summarily: together as a whole, not in sequence.

The above model is problematised, however, by the fact that a *midinterval* perspective can be given (in which case "some of the event has occurred at the moment described, and it will go on after the moment referred to" (Egan 2008, p. 111)) as Egan points out:

> Langacker (1991: 91, 2000: 230) maintains that adding *-ing* to a perfective stem creates an imperfective relation that profiles a process as unfolding. No reference is made to its beginning or ending. He maintains, moreover, that all the component states making up this complex relation are viewed as homogeneous and scanned summarily, thus neutralising the distinction between perfective and imperfective processes. (2008, p. 129)

For instance, when one says *I continued feeding the ducks*, the feeding action is not conceived of as homogeneous. Rather, the feeding event is presented as having occurred before the moment pinpointed, occurring at the moment in question, and continuing after that moment. In such a context, then, the projection of the event is varied rather than homogenous because part of the projection has passed and the other is projected as occurring in the future, and temporally defined for the same reason.

A different perspective on the temporal features of the situational gerund is proposed by Anna Wierzbicka, who proposes a *same-time* perspective for the situational gerund. She acknowledges that "other linguists have pointed out that the contrast between nominal and verbal gerundive complements is reflected in their internal structure" (1988, p. 63) on the basis of the use of articles (e.g. *the boxing* instead of *boxing*), modification using adjectives (e.g. *fair boxing* instead of *boxing fairly*), and reference to the direct object using *of* (e.g. *I like the singing of songs*). She herself does not use these formal properties as diagnostic tools in the discussion following. Rather, Wierzbicka focuses on one criterion in particular: "what is particularly important from our point of view is that nominal gerunds do not imply any sameness of time" (p. 63). She notes that there are structures that are "(verbal) gerunds which do behave externally like noun phrases" (p. 66). In other words, the internal structure of a phrase can be verbal, even if the positions it takes are the same as those of nouns and not of verbs. When this occurs, the semantics of the phrase is either like that of the nominal form discussed or like the verbal form. Wierzbicka argues this point on the basis of Menzel's (1975) work, which has shown that in different contexts, different head nouns can be used to change the situational gerund into a noun phrase. She gives the following examples:

> Mary enjoyed [the action of] eating the steak.
> [The process of] growing old is painful.
> John enjoys [the state of] being sick.
> Mary regretted [the fact of] quarrelling with Jane.
> John considered [the possibility of] locking the door.
> (Wierzbicka 1978, p. 67)

In each case, the sentence without the bracketed words is the original sentence. As we can see from the examples above, however, in each of these sentences a different head noun seems appropriate. This observation is an important aspect to Wierzbicka's analysis of situational gerunds, as will be shown below. Of course, in adding the bracketed words to the sentence, its structure would be altered completely. This explains why Wierzbicka states:

> Personally, I wouldn't want to commit myself to the methodological framework within which Menzel carried out his analysis, and I regard his 'head nouns' as no more than convenient fictions. I believe, however, that these fictions point to important semantic and syntactic realities, and that they are indeed convenient. (p. 67)

Wierzbicka makes the following generalisation about situational gerunds: "ING complements range over both temporal (actions, processes, states) and atemporal types (facts, possibilities)" (p. 68). Having made this distinction on the basis of temporality, she states the following:

> [W]henever time is relevant [gerundive complements] imply sameness of time. In other words, they imply sameness of time whenever they combine with temporal semantic types such as actions, processes and states; when, however, they combine with atemporal semantic types such as facts and possibilities they are free of the 'sameness of time' constraint, because under those circumstances, time is irrelevant. (p. 69)

In other words: when a fictitious head noun which is temporal is appropriate (i.e. *action*, *process* and *state*), the semantics of that externally nominal situational gerund must imply sameness of time with the main verb. As such, in the sentence "Mary enjoyed [the action of] eating the steak" (p. 67), the enjoyment and the eating action occur at the same time. In this quote, the brackets again refer to the 'convenient fiction' of the head nouns: by filling in the 'head noun' in this way, she is able to determine

what meaning situational gerunds contribute to the sentence. If the fictitious head noun that fits best in this scenario is something like *action* or *process*, which implies time, the situational gerund as a whole implies sameness of time. Contrastively, with an atemporal fictitious head noun (i.e. *fact* and *possibility*) the situational gerund complement does not imply this temporal identity. "Mary regretted [the fact of] quarrelling with Jane" (p. 67), for instance, does not imply that the regretting occurs at the same time as the quarrelling. Rather, the regret naturally followed it.

There are two essential problems with this model, however: if any situational gerund is supposed to be *same-time*, then the use of the situational gerund in combination with prepositions leads to inaccurate analyses. For instance, when the situational gerund is used with a preposition like *before*, like in *He brushed his teeth before going on stage*, the head noun to be used would certainly be one implying time: *before [the process of] going on stage* sounds more appropriate than *before [the fact of] going on stage*. Wierzbicka's analysis would therefore lead us to analyse it as making reference to time, and therefore as being *same-time*. This would be inaccurate, as it is the function of the preposition to place the situational gerund event in some position with regard to the main verb event.

Moreover, the distinction between the two types of *external syntax* discussed here, especially the idea of two types of externally nominal situational gerunds, each with a different temporal relation to the rest of the sentence, seems to go against the notion of *one form – one meaning*. Patrick Duffley essentially states as much, when he says "Wierzbicka's explanation amounts however to hypothesizing the existence of two different types of *–ing* form, one temporal, the other atemporal, a solution which is hardly satisfactory, as it would violate the semiological principle by entailing that the *–ing* has no constant inherent meaning" (2006, p. 4). I subscribe to this critique of her analysis.

Patrick Duffley (2006) himself also presents a model to explain the situational gerund and the *to*-infinitive. He states: "What must be done in the case of the gerund-participle, then, is to try to imagine what sort of schema could produce both perfective and imperfective instantiations in discourse" (2006, p. 6). *I enjoy cooking*, for instance, yields an imperfective reading (meaning that one does not conceive of the cooking event as having a definite endpoint), whereas in other cases, like *Losing his money drove him insane,* the situational gerund contributes an event that is interpreted to have occurred in its entirety, i.e. perfectively. As a consequence, he distinguishes between the *progressive* and the *gerundive* use of the *–ing* form. Before these terms are defined,

however, it must be noted that Duffley conceives of language use (and language study) as occurring on three levels. On the lowest level, there is the "meaning-effect produced by a particular use of a form" (p. 7). This refers essentially to an actual instance of a form. The data available to the linguist always consists of a collection of such particular instances. In analysing these forms, we may arrive at the "actual use of [the] schematic potential in combination with other words in a particular situation" (p. 7). That is to say, the linguist generalises on from the data, to "identify under what conditions each type of expressive effect is produced" (p. 7). These types of expressive effects are the *uses* of a particular form. The term *use* here is somewhat reminiscent of the term *interpretation*, although its claim is somewhat broader: every particular use of a form may lead to a different interpretation, but there is systematicity to be found on this level as well. In the case of the situational gerund, Duffley argues that there are some contexts in which the situational gerund is perceived as *progressive* (i.e. "an action in progress" (p. 18), and some in which it is perceived as *gerundive* (i.e. "a complete action (or a state)" (p. 18)). If his abstraction from the data is correct, these two uses should, in general terms, cover every specific instance of the situational gerund. Both uses themselves are derived from the "meaning as a schematic potential stored in [the] speaker's mind ready for use" (p. 7). Having arrived at these two uses of the situational gerund, then, Duffley must now abstract from these the underlying, maximally schematic meaning of the form. He notes the following:

> The hypothesis put forward here will be based on the concept of schematicity proposed by Langacker (2000, p. 2, 1987, p. 370-1). This concept allows a unified account of the gerund-participle's uses to be proposed based on a generalized schema which is instantiated in each of these uses. In the case of the English gerund-participle, the content of this schema is very abstract: it corresponds to the simple notion of interiority. (p. 19)

Schematicity in Langacker's terminology refers to the notion that meanings, and the relations between meanings, can be expressed using abstract representations (schemas). For example, the notion of interiority would simply be expressed using a schematic representation showing one element being inside another. This representation will, in every case, be interpretively specified to fit the rest of the sentence in which it is used. In the case of the situational gerund, Duffley notes the following on this: "the instantiation of this schema in the progressive construction is not difficult to describe. In its use in this construction, the gerund-participle evokes as its base the schematic conception of a perfective process and "imposes on that base an immediate temporal

scope from which the endpoints of the process are excluded," thereby "limiting focused observation to a segment of that process" (Langacker 2000, p. 227)" (Duffley 2006, p. 19). As such, the description of the progressive use comes very close to the description given of the progressive aspect in 1.7, in which the narrated period falls within the verbal action, thereby only focusing on it as ongoing, and not its beginning or its ending.

Contrastively, the gerundive use is discussed as follows: "In gerundive use the endpoints of the event are assimilated into the interiority of the event due to their qualitative identity with the rest as part of the substantial whole whose nature is denoted by the lexeme" (p. 21). According to Duffley, this explains why the situational gerund in the sentence *Losing his money drove him insane* presents the whole event as having happened. Every internal part of its meaning is represented homogenously. Contrastively, *I enjoy cooking* takes a temporal position in coordination with the temporality of the main verb. As stated, both of these uses fall under the umbrella of *interiority* according to Duffley.

An important aspect of Duffley's description of the situational gerund has to do with the distinction made above between elements in different temporal positions with regard to the main verb event. Duffley argues that this is not to do with the nature of the situational gerund *per se*, but rather with the role of the object to that main verb:

> The semantic effects produced by the *–ing* as verbal complement can be fully accounted for by correlating the two factors described above – the meaning of the *–ing* and its function in the sentence – with the meaning of the main verb. Since the relation of a direct object to a transitive verb is basically non-temporal (the role of the object being merely to identify one of the participants in the event), the production of any temporal implications is due to the meaning of the transitive verb. (2006, p. 37)

The distinction in section 4.3, then, does not tell us much about the situational gerund as such, but rather about the verbs it combines with. This makes sense from Duffley's perspective, since the *to*-infinitive, in most cases, does not take this object position at all (see section 4.5.1.2). Rather, Duffley argues that "the *to* preceding the infinitive is no different from prepositional *to*, but merely represents one use of the preposition which, like other uses in which its object is a noun rather than a verb, is felt to be analogically connected to the idea of direction" (2006, p. 25).

Duffley's model provides a markedly detailed explanation of both the situational gerund and the *to*-infinitive. However, it does run into some problems. For one, it may be noted that the line between two separate *uses* and separate *meanings* is a rather arbitrary one, especially if the two uses distinguished vary so significantly from one another. The level of abstraction required also to arrive at the gerundive use of the situational gerund from the general notion of interiority is problematic. Specifically, the notion of *total interiority* seems problematic. Duffley argues that the interiority is homogenous because "the interiority of an event is constituted by a series of instants, all of which have the same nature due to the fact of their being located between the beginning and the end of the event", and then goes on to say that "in gerundive use the end-points of the event are assimilated into the interiority of the event due to their qualitative identity with the rest as part of the substantial whole whose nature is denoted by the lexeme" (p. 21), which, in turn, "produces a basically perfective aspectual reading" (p. 21). However, the beginning and end of an event themselves naturally are not between the beginning and end, so it cannot be maintained that all the elements within the 'total interiority' are the same. As such, I believe that this characterisation constitutes a breach with the semiological principle Duffley tries to maintain, because the gerundive use cannot be derived from the schematic meaning. This way, the idea of *one form – one meaning* is not maintained.

Another point of contention between my own analysis and Duffley's is the fact that my analysis never presents the situational gerund as directly perfective. As argued above, this analysis seems to be in violation of the principle of *one form – one meaning*. However, polysemy and homonymy are not necessarily impossible. If there are contexts in which the situational gerund can only refer to a perfective meaning, then naturally the analysis of these forms must reflect that. The evidence for this appears to be rather slim, however. Take the following example Duffley gives:

> (201) "I remember filing that article somewhere in the top drawer of my filing cabinet" (Duffley 1999, p. 303).

Egan (2008, p. 69) quotes Duffley as saying "Here the *–ing*'s event is necessarily evoked as a whole, i.e. perfectively and not imperfectively [...] In a use such as (201) [...] the interiority of the *–ing*'s event is simply taken as a whole, as the totality of positions contained between its beginning and end-points (Duffley 1999: 303-304). As Egan rightly points out, however, it is purely a matter of the context of the sentence (and therefore of interpretation) whether one construes this as perfective or not. Egan contributes a follow-up sentence:

(202) "I remember filing that article somewhere in the top drawer of my filing cabinet. The drawer was absolutely full, and I had to squeeze it in at the back" (2008, p. 69).

In this example, it is clear that the construal of the event itself is not perfective at all: the interpretation of this sentence forces one to construe the filing event as ongoing, and not as a whole. The fact that the speaker had to squeeze it in is part of this filing action, and therefore the perspective taken is not perfective. This indicates that the notion that the situational gerund can be construed as perfective is merely a matter of interpretation. Naturally, when the dominating elements of the situational gerund require it to be placed before the events described in the main verb, this may lead to an interpretation of completion (in the sense that it may be over at the moment of the main verb), but this does not mean that its meaning is necessarily perfective. For this reason, imperfectivity is maintained as part of the *meaning* in all cases, which, in some instances, may lead to a perfective *interpretation*.

Thomas Egan (2008) provides his own perspective on the distinction between these two forms, especially in the complement position. Based on his extensive corpus research, he notes that *durativity* ("the event described by the gerund lasts for some time" (Egan 2008, p. 111)) and *imperfectivity* ("i.e. it is represented as extending through time" (p. 136)) are without exception part of the meaning of the situational gerund complement. The descriptions given may appear to mean nearly the same thing, but they do refer to different things. As discussed in chapter 2, for instance, sometimes verbs are simply presented in abstraction, e.g. *the reading of books*. The event described itself is imperfective: there is no endpoint to it, unlike, *the reading of the book*, for instance. However, the representation given in the former case is not *durative*: a nominal gerund does not have any verbal features. However, there are also other meanings beside interiority and durativity that combine with this construction only in certain contexts. For instance, it is the context within which the gerund is found which helps the hearer to determine whether to view it from the outside or the inside. This is illustrated best by the following comment by Egan: "it is a moot question whether or not the perspective in [She *stopped speaking* abruptly and stared at Clare with a look of fixed terror in her eyes] should be described as *midinterval*. The ongoing activity of speaking is construed from the point of its cessation, not a point prior to this" (2008, p. 112). This point is important: the speaking event naturally is still presented as having some duration, and *speaking* itself does not imply its own conclusion, but in this Backward-Looking construction (i.e. a construction in which

"some situation is profiled as occurring before the time of the main verb" (p. 39)), it is clear that the speaking is over at the moment the sentence is uttered. The fact that this is not the case with many other main verbs shows that the main verb has an effect on the way one projects the gerundival situation.

In abstracting from his data a useful generalisation, he notes the following as the root meaning of the situational gerund: "The *–ing* form profiles a situation as extended in some specified domain" (p. 132). Importantly, Egan also notes that "while Same-time activities are prototypical, there is actually a broad network of senses for *–ing* complements, with the exact sense of the form varying according to the meaning of both the main verb and the complement predicate" (p. 308). This is an essential generalisation on the nature of the situational gerund and forms a source of great inspiration for the perspective provided below, although it is extended even further, in such a way as to state that the same mechanism is at play in the context of prepositions and even the subject position.

The generalisations concerning durativity and imperfectivity, as well as the concept of the gerund being specified by the context in which it is found, are all useful. Starting with durativity and imperfectivity: these notions together indicate a progressive projection. This is definitely borne out by the data discussed above: *Washing the dishes* in *Washing the dishes is driving me crazy* does not refer to a state of affairs in which they have been washed, or in which the event is yet to begin. Similarly, *I remember locking up* does not mean that the speaker remembers the state of affairs that the door has been locked (which would be closer to *I remembered that I had locked the door*), but rather that the speaker remembers the event of locking the door itself. This is also true in prepositional examples, however, and not just catenative verbs: *The senator fell from the stage while giving his speech* would not be able to mean what it did if the situational gerund did not refer to the speech-giving event mid-interval. In all these examples, then, the situational gerund situation is presented as ongoing, and its temporal features are also specified by the rest of the sentence. All in all, then, these points made seem to adequately explain the examples discussed above.

The notion of the context defining the meaning of the situational gerund situation itself is essential: in the object position, temporal specification is not sufficient: the modality of the position also specifies this construction. This explains why the situational gerund can be used in the context of catenatives which imply insecurity concerning the (coming into) existence of the event, or even its non-existence. Sentences (173) and (176) are cases in point: *avoid* means that the situation described does not occur due to

the actions of the subject of the main verb, and *contemplate* leaves open the question of whether the action actually comes about later.

The description of the situational gerund presented above excludes the situational gerund from a number of positions, namely:

1. Contexts which refer to the initiation of an event;
2. Contexts which refer to the conclusion of an event;
3. Contexts in which the temporal and modal characteristics of the nonfinite clause are separate from the temporal and modal features imparted by the meaning dominating it.

The first two of these points relate to the notion of *interiority* proposed by Egan, and part of Duffley's description of the *progressive use* of the situational gerund. As stated before, when one says something like "Mary began hitting John" (Wierzbicka 1988, p. 85) or *I remember locking the door*, one does not project the nonfinite event itself beginning as part of the meaning of the situational gerund. In *I began hitting him*, it is the initiation of an ongoing event that is referred to (hitting repeatedly[23]) rather than the beginning of the event (hitting) in general. Rather, if one were to refer to the beginning of the event itself, the *to*-infinitive would be more appropriate (e.g. *I'd hate to hit you*). The third point refers to the observation that situational gerunds seem to be defined, in part, by other elements in the sentence. This is also shown by *I remember locking the door*, as well as *I anticipate this being very useful*: in both sentences, the situational gerund takes a different temporal position. In other sentences, the appearance of the event at all is also (completely) defined by the other elements in the sentence: *I avoided getting locked up* means that you did not get locked up. There is a difference between these contexts and propositional contexts, however, which are only open to *to*-infinitives. This must also be accounted for.

4.5.1.2 – TEMPORALITY OF THE *TO*-INFINITIVE

Concerning the semantics of the *to*-infinitive, much of the debate seems to centre itself around a single idea, namely that of futurity. Duffley argues that the two 'nonfinites' differ in the following way: one is actually nonfinite, whereas the other is a preposition with a nonfinite verb. Duffley: "the schematic meaning of *to* which will be postulated here is the very general notion of movement leading to a point" (2006, p. 26). This schema can be used temporally, spatially, but also mentally. He notes that "in the

[23] This is also noted by Dixon (1984), who states that for this sentence "to be appropriate, Mary must at least have rained a few blows on John (...)" (p. 4, cited in Wierzbicka 1988, p. 85).

mental domain, the action of comparing two things involves a mental movement from one to the other (cf. *He compared the President to Adolf Hitler*)" (p. 26). I would concur with Duffley on this point. However, there are more difficult examples, such as "The wall seems to be crooked" (p. 27). Duffley explains this in the following way: "here the domain of application of *to*'s meaning is that of the relation between appearances and reality, i.e. logical rather than chronological. The existence of motional-directional metaphors with other expressions in this domain shows that *to* is not at all foreign to the way things are conceived in this area of experience" (p. 27). In general, the idea put forward by Duffley is that "the event expressed by the main verb is understood to constitute a before-position in time with respect to that of the infinitive, which is therefore conceived as an after-position with respect to the main verb's event" (p. 43).

Duffley does not mean to suggest that every instance of the *to*-infinitive is prepositional, however. Rather, he states that "when the *to*-infinitive phrase has an adverbial function of goal or result specification, *to* . . . plays the role of denoting the relation which pertains between the infinitive and the main verb. More precisely, *to* represents the infinitive's event as the term of a movement implied by the main verb's event" (2006, p. 51). About the sentence "John tried to be careful", for instance, he states the following:

> Given these semantic relations, it comes as no surprise that the prospective realizer of "being careful" should be understood to be the same as that of the trying. The notion of movement signified by *to* is an explicitation of an idea of movement already implied in the event denoted by the main verb *try*. . . Consequently, the subject of the main verb (John) is understood to correspond to the mobile entity in the movement expressed by *to* which leads up to the position in time at which the infinitive's event will be actualized. (p. 51)

However, where this identity of the subject of the main verb and the subject of the complement to *to* cannot be established, as in, for instance, "John said to be careful" (Duffley 2006, p. 50), the *to*-infinitive is not used adverbially, but as a direct object, just like the situational gerund. The situational gerund also does not always imply that its implied actor is the same entity as the subject of the main verb, as "I recommended going to the beach" (p. 48) shows. In cases where the *to*-infinitive does take this position, the *to* in the *to*-infinitive, "is not used to express the relation between the infinitive and the main verb. Consequently, the movement evoked by *to* in this type of use is not construed as being already implied by the main verb's event but is conceived

rather as a movement in the abstract, defined only by the fact that the infinitive's event is represented as the term to which this movement leads" (p. 51).

In the model proposed by Duffley, the *to* in the *to*-infinitive is therefore a preposition in most cases. What is linked through this preposition is simply the bare infinitive, which Duffley describes as either fully evoking the meaning of the verb, with all its intermittent states in the case of action-like verbs, or as having "a full-fledged existence at each and every moment of its duration" (2006, p. 28), when the verb is state-like, e.g. *worry*. Between this meaning and the preposition *to*, there are four different configurations: either the verb is action-like or it is state-like, and *to* as a preposition is "indifferent to whether the movement it signifies is actually gone through or not. If the movement is not conceived as carried out, this gives rise to an impression of futurity" (p. 30). Duffley exemplifies this future reference using the following examples:

(203) "He wanted to open the window" (Duffley 2006, p. 30).

(204) "He wanted to be home when she arrived" (p. 30).

The first contains future reference, and an action-like verb, meaning that the action itself is projected in the (desired) future, whereas in (204) the movement is toward the occurrence of that state.

The notion that the *to*-infinitive in most instances simply acts as a preposition followed by an infinitive hinges entirely on the idea that the main verb must always be the *before*, and the *to*-infinitive the *after* of the prepositional relation. However, this cannot be maintained in every case. Remarkably, Duffley himself uses an example which does not neatly conform to this idea: "I managed to talk to Mary about it" (p. 44, italics removed). Duffley presents this as an example of a *to*-infinitive which implies actual realisation of the infinitive event. However, it seems a stretch to conceive of *manage* as occurring before *talk about it*. Rather, one must do the talking to manage it. Specifically, one only *managed* to do it if the *talk* action is completed in its entirety. Similar problems also arise when Duffley gives an explanation for the acceptability of the *to*-infinitive with *cease*:

> According to the analysis of *to* proposed here, the *to*-infinitive after *cease* has the function of a goal/result circumstantial. This implies that *cease* itself is conceived as involving the notion of movement, with the infinitive being represented as the term of that movement. Given the description of *cease*'s meaning as operating on the level of the existence of states or conditions, with the infinitive ceasing is

> conceived as a transition into a new state of affairs in which the infinitive's event no longer exists. (p. 120)

It is notable that the *goal/result* schematisation proposed here is no longer independent of the meaning of both states. The analysis in the quote above implies that *cease* is itself what moves toward the infinitive event, which comes close to a direct-object reading. Of course, Duffley argued above that "*to* represents the infinitive's event as the term of a movement implied by the main verb's event" (p. 51). However, the movement from A (the main verb) to B (the infinitive) is a rather different one than stating that B already exists regardless of A, and that the meaning of A *influences* B. This means that *to* cannot simply be an explicitation of movement, as this would hamper a correct reading of this sentence. If we were to distinguish two states, these would be the following: one in which the infinitive event is still occurring, and one in which it is not. This is the reverse of what had been proposed for "I managed to talk to Mary about it", in which *I* went from *managing* to *talking about it*. That is, Duffley's analysis, if it were consistent with his most schematic description of the *to*-infinitive, would mean that the sentence *I ceased to talk about it* meant that *I* went from *ceasing* to *talking about it*, whereas the quote above seems to suggest that it is the *ceasing* itself that goes to *me talking about it*, yielding a new situation in which I am not talking about it. This kind of description does not correspond to Duffley's *to*-infinitive description, but all the more to the kind of description one would expect if the *to*-infinitive filled the direct-object position, since what was ceased was the talking.

The fact that the schematic meaning of *to* as a preposition in some contexts leads to problems is all the more problematic, since, if it cannot be maintained that *to* simply provides its prepositional meaning in each of these cases, it would appear that the *to*-infinitive does occur in the object position after all. If we are forced to come to that conclusion, then the temporal flexibility of the situational gerund *does* contrast with the *to*-infinitive, and not simply the positions they each take. The distinction between the two forms must then also take this into account, which Duffley's does not, as he believes the *to*-infinitive is not commonly in the object position.

Apart from that, Wierzbicka believes that, on the one hand, "The TO complement is associated with a personal, subjective, firstperson mode: 'I want', 'I think', or 'I know'" (Wierzbicka 1988, p. 164). On the other hand, future reference is also proposed as a meaning connected to this construction: "sentences in the TO pattern, such as *I was sorry to fail* can of course refer to past events, as well as to future events; but by choosing the TO pattern the speaker indicates that he is viewing the past event in the light of a future-oriented or open-ended attitude" (p. 104). As a consequence of these

two meanings together, Wierzbicka argues that the famous line from Hamlet, "To be or not to be – that is the question" can be paraphrased as follows: "Should I decide: 'I want this: I will be', or should I decide: 'I want this: I will not be'?" (p. 27). She compares this to a variant of the phrase containing situational gerunds instead of *to*-infinitives: "?Being or not being – that is the question" (p. 27). The lack of control of the subject over the choice seems to make this sentence questionable at best, just as "To know or not to know" is, because "'knowing' is not something one can control at will" (p. 27). This meaning, she notes, is similar to that of the purpose adjunct *to*, as can be read in the following paraphrase of the sentence "Mary went to the library to read the latest issue of *Language*":

> Mary went to the Library
> because she thought this:
> I want this: I will read the latest issue of *Language*. (p. 28)

There seems to be some appeal to this perspective: as the difference between *I remembered locking up* and *I remembered to lock up* shows, the situational gerund readily refers to the past, whereas from the point of view of the moment of remembering, the *to*-infinitive refers to the future. However, this analysis leads to problems in other contexts. For instance, when one seems to be doing something, does this refer to the future or the present? Similarly, Egan (2008, p. 64) notes that verbs which refer to perception or judgement (*e.g.* "We have observed the sun to set each day..." (p. 151, italics removed)) can also take the *to*-infinitive, but no link to the future can be established in those cases either. Another significant problem emerges when the catenative verb *cease* is examined. This verb can only take the *to*-infinitive, but seems to place the nonfinite event in the past rather than in the future, in that the ceasing event naturally follows the infinitive in these cases. As a final point, it seems odd that a *to*-infinitive referring to the future would be combinable with the perfect aspect in many cases; does the sentence *I was sorry to have failed* have the same open-ended implication as Wierzbicka claims *I was sorry to fail* has? I believe not. For these reasons, it seems that the notion of futurity cannot unequivocally be linked to the *to*-infinitive.

This being the case, one may wonder what the temporal aspects of the *to*-infinitive are, if there are any definite claims to be made about this at all. The claim will here be upheld that, unlike the situational gerund, the *to*-infinitive is not temporally defined. Being the object to any verb always places an entity in some temporal position with regard to the action described by that verb, as Duffley also notes. When one says *I have painted a still life*, for instance, one is not saying that the still life was already there when the painting began. Rather, it was our action that brought the still life into

existence. Similarly, *I ceased the strike* means that it is the ceasing that put an end to the strike. Since entities are not temporally defined, however, this relation is completely based on interpretation, which is evidenced by the fact that there is no difference in form between *I bought a still life* and *I painted a still life*. In much the same way, the *to*-infinitive depends on the relation between the main verb and its complement for its temporal information. Nothing in the form of either sentence indicates that it already existed, or that it was the main verb action that brought it into existence. It may refer to an event yet to occur, as in *I want to eat*, or to something in the past, as in *I ceased to strike*, just like an object entity may or may not exist at the point described. It appears, then, that the *to*-infinitive also remains temporally unspecified: *I ceased to strike* may refer to the same event as *I ceased the strike*. The *to*-infinitive is not atemporal, however. For instance, *I was sorry to have failed* is a perfect aspect *to*-infinitive. This kind of combination would be incompatible with absolute atemporality. In short, the *to*-infinitive is not a nominalised form, it is merely a temporally undefined event.

A further difference between the *to*-infinitive and the situational gerund seems to lie in the fact that the latter presents the situation it discusses as ongoing, whereas this is not a feature of the *to*-infinitive. As noted in section 4.3.3.3.1, sentences like "I began to hit John" (Wierzbicka 1988, p. 85) "could be said when she had merely raised the stick but had not yet brought it down upon his head (perhaps she will, or perhaps she won't)" (Dixon 1984b, p. 591, cited in Wierzbicka 1988, p. 85). "I began hitting John", on the other hand, "to be appropriate, Mary must have rained at least a few blows on John (...)". The fact that the initiation of the event is part of the scope of the *to*-infinitive, then, appears to be an important contrasting feature between the two forms.

With this position in mind, we might say that the *to*-infinitive universally displays the following features:

1. The temporal features of the *to*-infinitive remain undefined (e.g. the nonfinite *I regret talking to him* receives temporal features from the main verb, whereas it does not in *I regret to inform you* (as it is not in the past));
2. The *to*-infinitive always includes a reference to either the initiation or the conclusion of the event (e.g. *I remembered to lock the door* contains the initiation of the event whereas *I remembered locking the door* does not).

As will be shown in 4.5 below, the above generalisations will account for many of the positions that the *to*-infinitive can and cannot take. However, temporality is not the

only thing in which the *to*-infinitive differs from the situational gerund. A closer look at the specifics of the projection of these nonfinites will be presented in the following section.

4.5.2 – The structure of the situational gerund and the to-infinitive

The above distinction accounts for a great many differences between the situational gerund and the *to*-infinitive. However, on its own it cannot explain all of the phenomena listed in 4.2. For one, the distinction in the level of specificity found in section 4.3.1.1 between "To do so would have required 18,446,744,073,709,551,615 grains!" (Featherstone 1975) and *Doing so would have required 18,446,774,073,709,551,615 grains* cannot be explained on the basis of mere temporality alone. On the other hand, the constructions in section 4.3.3.1.3 show that in the object position, the opposite may apply: "I hate lying" (Jespersen 1940, p. 193) is argued to refer to "the vice in general", whereas "I hate *to lie*" refers to the lying "in this particular case" (p. 193). How can this contradiction be resolved? Furthermore, what is it about the *to*-infinitive that makes it possible for this form to be used with *propositional* catenatives (see section 4.3.3.3.6), and what makes the situational gerund unacceptable in such positions? In order to answer these questions, an overview must be presented of the atemporal claims which earlier analysts have made concerning the differences between these two forms. After that, a meaning must be distilled which may account for the totality of the phenomena encountered here.

Wierzbicka's position on the *to*-infinitive is one which relates to the perspective of the speaker: "The TO complement is associated with a personal, subjective, firstperson mode: 'I want', 'I think', or 'I know'." (Wierzbicka 1988, p. 164). Going back to the quote "To be or not to be, that is the question", if this phrase is analysed in the way described above, what does that mean for a sentence like *To lie is to sin*? Should this sentence be paraphrased as *If one thinks this: I want this: I will lie, one is also thinking this: I want this: I will sin*? I believe that this paraphrase is inaccurate: the sentence is a warning to someone who might lie, that this constitutes an act of sin. This meaning is lost in Wierzbicka's paraphrase, because the definition of the *to*-infinitive proposed by Wierzbicka requires that the thought and the desire are part of the sinning as well as the lying. For this reason, Wierzbicka's notions of futurity and subjectivity to my mind seem to overspecify the meaning of the *to*-infinitive. However, part of this analysis does correspond with the analyses of other linguists. For one, Egan, who does not make a definitive claim concerning a temporal meaning of the *to*-infinitive, notes the following:

> The reason why [the *to*-infinitive] is not used to encode Same-time or Backward-looking situations would appear to be that it always implies an element of doubt as to the realisation of the complement situation. There is no room for the admission of doubt as to what *is happening* or what *has happened*. (2008, p. 99)

His ultimate characterisation of the *to*-infinitive in general is as follows: "*to infinitive*: a situation, viewed as a whole, is profiled as the targeted of several theoretically possible situations in some specified domain" (Egan 2008, p. 103). This means that when the *to*-infinitive is used, there are implicit alternatives. From these alternatives, the speaker usually draws attention to the one most likely to occur in reality. This overarching meaning is then specified on the basis of the sentence position this *to*-infinitive takes: in the subject position (e.g. *To work is a virtue*), this is the only meaning that is associated with the infinitival form (i.e. it is the only one targeted out of several theoretically possible situations). As a complement, however, (e.g. *I love to work*) it indicates the most likely scenario from among a number of scenarios in every instance (p. 97): the working, in this case, would be singled out as "likely to be realised on all suitable occasions" (p. 97). In the case of a purpose adjunct (*I work to enjoy myself*), the most desired is targeted, whereas in a resultative context (*It served to get me in trouble*), it singles out the scenario that actually occurred. The correspondence between this claim and that made by Wierzbicka is clear: the notion that a situation is targeted among alternative situations, and that there is an element of doubt involved, corresponds to Wierzbicka's claim about the *to*-infinitive implying subjectivity on one front: the use of the *to*-infinitive is one which implies a level of uncertainty.

As Egan points out himself, in most cases, the alternatives are not made explicit. This necessitates interpretation on the part of the hearer. Since interpretation does not influence the notation, this definition by necessity does not suffice. On the other hand, it does lead one to ask the question: which constructions *could* be false, and which cannot be? For an answer to this question, let us turn to Kiparsky & Kiparsky (1971). They argue that certain constructions are *factive*, using sentences like "It is significant that he has been found guilty" (1971, p. 345) as examples. Their position is that this sentence entails the presupposition that he has been found guilty. Contrastively, the sentence "It is likely that he has been found guilty" (p. 345) is not based on such a presupposition. Furthermore, they note that "only factive predicates allow the full range of gerundial constructions, and adjectival nominalisations in *–ness*, to stand in place of the *that*-clause" (p. 346). In the case discussed, this would lead to *His being found guilty is significant*. By contrast, the non-factive sentence can lose its dummy

subject, and gain a *to*-infinitive: *He is likely to be guilty*. They further note: "gerunds can be objects of factive predicates, but not freely of non-factive predicates" (p. 347). This claim is exemplified by sentences like (194) above: "I believe John to have liked Anselm" (Kiparsky & Kiparsky 1971, p. 363) is grammatical when a *to*-infinitive is used, but not in combination with a situational gerund.[24]

All the claims about the *to*-infinitive discussed here involve some notion of potential untruth. Is there a linguistic way in which this can be accounted for? To answer this question, we might wonder at what point something said has the potential to be untrue, and for what kind of statements truth or untruth may be said to be irrelevant. For instance, is any concept in isolation potentially untrue? Most people will argue this is not the case: a word like *chair* on its own does not constitute a claim about the world. The reason for this seems to be that there is no connection to the real or imaginary world. That is to say, the form of the word naturally has a connection to a meaning, but the connection between this word and the real or imaginary world is not specified. On the other hand, the sentence *He sat on a chair* clearly does say something about the world. As a statement, it can be true or false. This is why this clause can be used in combination with a propositional verb like *believe*, whereas *chair* cannot: *John believed [that] he sat on a chair* is acceptable, but **John believed chair* is not. Taking this context as an indicator of propositionality, *chair* is not propositional, whereas *He sat on a chair* is. The difference between the grammatical sentence *John believed him to have the money* and *John believed (that) he had the money*[25] on the one hand, and the ungrammatical sentence **John believed him having the money* on the other, can also be phrased in these terms. Since the *to*-infinitive can be used in a propositional context, it must be considered propositional. Contrastively, since the situational gerund cannot, it is not propositional.

4.5.3 – The semiotactic structure of the English nonfinites

In the discussion to follow, the generalisations about the situational gerund and the *to*-infinitive will be represented using the semiotactic framework. This section will follow essentially the same structure as the previous one: first the temporal features of the

[24] Kiparsky & Kiparsky themselves analyse these forms making reference to 'deep structure'. In the deep structure of factive elements, a semantic particle 'fact' is included, whereas such a particle is missing in the case of a non-factive form (1971, p. 356). As argued in chapter 1, the linguistic data is here analysed at face value, so such an underlying semantic particle cannot be taken to account for this distinction from the present perspective.

[25] In semiotactic analysis, when *that* is omitted, the full sentence is simply analysed as the object to the main verb.

nonfinites will be discussed, then their propositionality. This means that we will first take a look at the temporal properties of both the situational gerund and the *to*-infinitive, which will require specification of the sigma of the nonfinite of at least one of these forms. From that point on, the notation below the sigma will be scrutinised, to see whether a different notation is able to account for the distinctions in the projections of both situations outlined above. In the final section of this chapter, the distinctions proposed here will be put to the test by notating the example sentences given in section 4.2.

4.5.3.1 – Temporal features of the English nonfinites

I will attempt to outline a notational method which bases itself on the following generalisation: the situational gerund places a situation in a certain time and endows it with modal features dictated by the semantics of the element that directly dominates that situation. As such, it links two places in time: the point of time in which the dominating element takes place and that in which the action described by the situational gerund occurs. The distance between the two positions in time is determined by the dominating element. For example, in *I remember locking the door*, the verb *remember* informs the hearer that the situation that is being remembered takes place in the past, whereas the remembering event itself takes place in the present. On the other hand, when one says *I remembered to lock the door*, the event occurs at the same time as that in the main verb. Other catenatives, which place the event in the future, e.g. *I anticipate this being very useful*, can also be explained in this way: only the situational gerund can be used here, because it is sensitive to this kind of temporal specification.

In all these cases, it appears to be the meaning dominating the situational gerund that provides its temporal and modal features. Since these implications are of a modal and temporal nature and concern the whole of the nonfinite situation, these must appear on the sigma line in the semiotactic notation. Further, the situational gerund, much like the progressive, presents the verbal action as ongoing. This is corroborated by Egan, who states that durativity and imperfectivity are part of the meaning of the situational gerund in every context. As stated in section 1.7, the progressive meaning positions the NP with regard to the EP in such a way that *the NP falls within the EP*. As discussed, NP stands for *narrated period*, i.e. that period of time which the sentence actually refers to, whereas the EP, the *event period,* refers to the duration of the verbal action, which may or may not be part of the time referred to by the sentence. This means that the stretch of time in which the situation takes place within the period of time in which the verb event takes place, meaning that the initiation and the conclusion

of the event both fall outside the scope of the situational gerund. In this way, Egan's notions of *durativity* and *imperfectivity* are both represented in the meaning of the situational gerund: it is durative, because a stretch of time is referred to (i.e. the NP), and it is imperfective in every case, because the conclusion of the event (i.e. the last part of the EP) is never part of the meaning of the situational gerund. The fundamental difference between the progressive meaning and the temporal features of the situational gerund lies in the fact that the situational gerund is also sensitive to the elements dominating the meaning of the clause. This is not a small difference, as it explains why *I regret informing you* refers to a past event that is regretted, whereas *I regret to inform you* does not.

Taking the progressive (i.e. the NP falling inside the EP) together with this generalisation concerning the time position of the situation, the meaning that specifies a situational gerund situation may be described as follows:

> 'ING' = "a situation of which the NP appears within the EP of the verbal action, and which occur insofar as and to the temporal extent that is specified by the element that directly dominates this situation."

Obviously, the above definition of 'ING' is only appropriate in the case of the situational gerund, and not with any other *–ing* form. The symbol 'ING' is chosen over a symbol like 'GER' because it clearly indicates that this meaning is restricted to the English language, and is not applicable to gerunds in other languages. The above definition, brief though it may be, yields a number of fruitful and falsifiable claims concerning the nature of this nonfinite construction, repeated here from 4.4.1.:

1. Contexts which refer to the initiation of an event;
2. Contexts which refer to the conclusion of the event;
3. Contexts in which the *temporal* and *modal* characteristics of the nonfinite clause are separate from the temporal and modal features imparted by the meaning dominating it.

As this list shows, it argues for a different relation between the situational gerund and the main verb, or indeed any other element that might dominate the situational gerund. The point is that the semantic features of the main verb interact with the situational gerund, whereas this does not occur in the case of the *to*-infinitive. As such, the *to*-infinitive remains firmly within the narrated period of the entire event, just as the object in a sentence like *I remember the ball.* The projection of the ball is in the present, because the remembering event is. In the same way, *I remembered to buy the*

ball is placed in the same past scenario as the rest of the sentence: when the remembering occurs, the projection of the event occurring is also *present*: the whole of the projection takes place in that moment. When the situational gerund is used, the retrospective aspects of *remember* are carried over to the situational gerund: it itself is placed in a *past* remembered.

In the above, the *to*-infinitive has been negatively defined, in that it does not position itself in relation to the main verb, and it does not share the aspects of the progressive described above. If we define the *to*-infinitive this way, then it follows that there is considerable overlap in the positions that the two nonfinite constructions can take, which, of course, happens. The above shows that in contexts in which both are possible, the meaning of the situational gerund may serve to negatively define the *to*-infinitive: the two forms can occur in exactly the same position in many cases, yet a change in meaning can be effectuated by replacing one with the other. This difference will be explored in detail in 4.6.

Notably, the specification of the situational gerund by dominating elements is presented here as a semantic aspect of the situational gerund, in much the same way that Egan argues (see 4.5.1.1 above). This is necessary in the present analysis, as it does contrast the *to*-infinitive and the situational gerund: where the *to*-infinitive is interpretively related to the situation as a whole (often, but not always, leading to a reading of futurity), the situational gerund relates itself specifically to the meaning dominating it. This contrasts with the model proposed by Duffley (2006), who states that "since the relation of a direct object to a transitive verb is basically non-temporal (the role of the object being merely to identify one of the participants in the event), the production of any temporal implications is due to the meaning of the transitive verb" (p. 37). In other words, it is inherent in the fact that the situational gerund is the object to the catenative verb that it is temporally specified in his view. This works in Duffley's analysis, because the *to*-infinitive usually does not take this position. It rather functions as a regular preposition in most cases. However, as has been argued in the above, the meaning often relates to catenative verbs in just the same way, rather than via the separate meaning of *to*: *cease to play* does not mean that the ceasing occurs with an aim to play, but rather that the playing itself was ceased. For this reason, *to*-infinitives are argued to function as complements to the main verb, rather than as prepositions to them in such cases. The difference in temporal flexibility must therefore be a part of the nonfinite meanings themselves. As it happens, the *to*-infinitive actually does appear to behave like a regular object: *I want an iguana* does not mean that the iguana is already in my possession, and the same goes for *I want to have an iguana*. In both sentences,

the temporal features of the object are the same. Nobody would argue that *an iguana* in the first example somehow has a different NP than the rest of the sentence. I believe *to have an iguana* in the second example is no different. By contrast, when the situational gerund is placed in the complement position of a verb or a preposition, this does happen: *before having an iguana* means that the NP of the situational gerund is positioned with regard to the element that *before* links to the situational gerund. In fact, I would argue that this is the very reason that the situational gerund can be used as a complement to most prepositions at all. Examples contrasting these forms will be analysed in section 4.6.2.

This does, however, still leave open the question of how to deal with the difference between *cease*, which takes a *to*-infinitive, and *stop*, which takes the situational gerund as its complement. I would argue that the difference between the two can be accounted for on the basis of their temporal features: *cease* requires a complement which refers to an event that is interpreted as occurring with some regularity (Egan classifies it as a *General* construction for this reason, i.e. "Some situation is profiled as likely to occur on a more or less regular basis" (2008, p. 39). To refer to this regularity, the entirety of the event must be projected, which is why the situational gerund is not felicitous in this context. By contrast, *stop* refers to an activity as it is ongoing, whether it is repetitive or not. This may be a rather slight distinction, but I believe the distinction can be made clear by juxtaposing *He ceased to look at the painting* and *He stopped looking at the painting*. In the first instance, it is clear that his habit of looking at the painting has ended, whereas in the latter case, the activity itself is interrupted as it was occurring.

Another aspect of Duffley's analysis that is not taken over here is the notion that there are two distinct uses of the situational gerund, which each bear description. Duffley notes that one refers to an event in progress whereas the other is perfective. It must be noted that Duffley does distinguish these *uses* as different instantiations of the same intrinsic meaning, but here it will not be assumed that this *use* is in any way relevant to the description of the form. As Egan also showed in section 4.5.1.1, there is no direct link between the form of a situational gerund and its potentially perfective reading. Rather, it is the context of such a form which may or may not lead to such an interpretation. Of course, elements that are placed in the past are more prone to be read as perfective, but this is by no means inherent in the clausal gerund form.

Some of the claims made in the literature discussed contrast with the generalisations made here. For one, Wierzbicka's claim that the situational gerund is only appropriate for introducing same-time meanings is only accepted in some contexts. Moreover, the *to*-infinitive in her work is given future orientation and a subjective, first-person mode.

However, the claim is here that the future orientation is not inherent in the *to*-infinitive, but rather that when the initiation of the *to*-infinitive event is referred to, this may yield a future interpretation. This means that futurity is not part of the meaning of the *to*-infinitive itself, which explains why it can be used with main verbs like *cease*. Langacker's model, on the other hand, relies heavily on nominalisation, which implies atemporality. This perspective is not held to here, as the nonfinite forms are taken to be temporal. Moving on, Egan's work supplies important generalisations concerning the meaning of the situational gerund, but the idea proposed, that it "profiles a situation as extended in some specified domain" (2008, p. 132), requires some further specification. The hope is that this is achieved by describing this connection in detail.

All of the claims above will be exemplified and elucidated below. Before any discussion of these positions can take place, however, first the possibility of a different notation of the two nonfinite constructions must be explored. This will be done in the following section. After that, the sentence positions that these infinitivals can take will be compared and contrasted.

4.5.3.2 – Propositionality and structure

In the present section, I will argue for the following positions:

a. When a sentence is negated, there are many possible reasons for why the negated situation does not or did not occur;

b. Whatever the reason for the negation may be, however, what is universally true is that the subject of such a sentence cannot be ascribed to the predicate of the sentence;

c. For this reason, I argue that the propositionality of any sentence (i.e. the possibility of its being true or false) may be found precisely in the connection between the subject and the predicate;

d. As Kiparsky & Kiparsky have shown, non-factive contexts can take the *to*-infinitive but not the situational gerund (see section 4.3.3.3.6);

e. Since non-factive contexts require a nonfinite complement which can be true or false, and the nexus in the semiotactic framework expresses the relation between the subject and the predicate, I argue that the *to*-infinitive does contain a nexus, whereas the situational gerund does not.

As discussed in section 4.5.2, temporality is not the only factor in the positioning of the situational gerund and the *to*-infinitive, because it does not explain why only the *to*-infinitive can be used in the context of what I call *propositional* verbs, or *non-factive* contexts, as Kiparsky & Kiparsky (1971) call them. One may wonder how this distinction could be reflected in the notation of the nonfinites under discussion. In other words: what makes something propositional? Kiparsky & Kiparsky may actually lead us to an answer to this question. In analysing the sentence "Mary didn't kiss John" (1971, p. 352), they note the following ambiguities:

> Someone may have kissed John, but not Mary
> Mary may have kissed someone, but not John
> Mary may have done something, but not kiss John
> Mary may have done something to John, but not kiss him. (p. 352)

Kiparsky & Kiparsky argue that in a syntactic tree structure of the original sentence, "each major constituent may be negated" (p. 352). In other words, it seems that they argue that the scope of the negation changes with every different reading. This does not seem to be in line with the principle of *one form-one meaning*, however. One might wonder if there is no way to generalise over all these different readings. What do all these possible interpretations of the sentence have in common? They all imply that *Mary* was not the agent of the event in which John was kissed. Of course, there are many possible reasons why the subject and the predicate do not belong together. For instance, if one saw Mary kiss Jack, or one saw Mary kick John rather than kiss him, or do something else entirely, or one saw someone else kiss John, what is not true is [*Mary = kiss John*], so using the sentence *Mary kissed John* would probably lead a response like *No, she didn't.* All of Kiparsky & Kiparsky's examples are alike in this respect. The same goes for a sentence like *She didn't kiss John because she loved him.* Here, the connection between *She* and [*kiss John because she loved him*] is negated. This does not mean that she could not have kissed him for another reason, which is why it could be followed by a phrase like *but because she had too much to drink.* In spite of all possible interpretations, then, the fundamental point of this is that the negation in the sentence negates the connection between the subject and the predicate. On the semantic side, we may say that in order for something to be able to be true or untrue, it has to be a *proposition*: something that is presented as possibly true, but not necessarily. Taking these notions together, I argue that propositionality resides in the connection between subject and predicate.

Kiparsky & Kiparsky consider *non-factive* contexts to refer to states of affairs that may be true or untrue. It stands to reason that the elements that can appear in such a

context present a proposition. Since the *to*-infinitive can fill these positions, but the situational gerund cannot, this means that one of the differences between the *to*-infinitive and the situational gerund must be that the *to*-infinitive is propositional, but the situational gerund is not. As Kiparsy & Kiparsky have argued, "gerunds can be objects of factive predicates, but not freely of non-factive predicates" (p. 347) (see section 4.3.3.3.6 above). Further, if we assume the above to hold true – that the propositionality of any sentence is found in the connection between the subject and the predicate – then this would lead to the conclusion that there is a difference between the *to*-infinitive and the situational gerund with regard to the way the subject and the predicate interact with one another.

One might be tempted to think that it is the *nexus* that expresses the propositionality to a sentence or clause. This is the relation that connects the subject to the predicate, and keeps the two elements divergent, though creating a single complex meaning (i.e. a situation). If the nexus implies propositionality, then it follows that the difference causing the *to*-infinitive to be acceptable and the situational gerund to be unacceptable in propositional contexts lies in the respective presence or absence of a subject-predicate relation, which is expressed using the nexus. In other words: *because the situational gerund is not propositional, whereas the to-infinitive is, the situational gerund should be notated without a nexus, but the* to-*infinitive should be notated with a nexus.*

To validate the proposed distinction above, it is important to go back to what the nexus and the sigma contribute to the notation. As Andries van Helden puts it: "A nexus is a pair of semantic particles the conjunction of which in one or more appropriate referents serves as a means to characterise a third set of appropriate referents directly" (2017, p. 259). In other words, in a sentence containing a nexus neither the subject nor the predicate are directly referred to: *Someone stole my bike* does not refer to a person directly, nor to the stealing event, nor to the bike. Rather, the message is that there was some point in time at which these divergent meanings together created a situation in which someone was the agent of a bike-stealing action. As stated in chapter 1, the sigma is placed above the nexus so that meanings like tense and aspect can be tagged onto it. This requires abstraction: rather than specifying any element of the state of affairs, it is rather the existence of the situation as a whole that is specified. By contrast, situations without nexus have also been discussed in 1.4.1, and they simply express situations in which some meaning can be found. This does not imply that any relation between two meanings is the message. Rather, that single meaning is all that sets this situation apart.

One may wonder, however, whether this is all that the sigma truly represents in Ebeling's framework. Van Helden rightly notes that "in Ebeling 1978 and Ebeling 1994, Σ is a fully-fledged semantic unit: it represents an effort on the part of the speaker to evoke the features of a situation in the hearer's mind" (2017, p. 261). Though not made explicit, this is true for Ebeling's notations of the two nonfinite constructions under discussion as well (represented in (199) and (198)). In (199), the sigma is used to express that the situation as a whole is the object. This contrasts with Ebeling's (2006) notion that "the relation is fully symbolised by "=", the line above it with 'Σ' stands for the piece of the world that is already unambiguously indicated by "=". Nevertheless, such a 'Σ'-line is usually not redundant, because it offers room to add an element like 'then' in *Grandpa was young then*" (2006, p. 152).[26] Based on this, Van Helden argues that in Ebeling (2006) "Σ ceases to stand for an autonomous contribution to the meaning of a sentence and seems to be reduced to a notational device, a linking pin for semantic elements occurring in a sentence that do not refer to the appropriate referents that make up the nexus but rather characterise the status of the nexus as a whole" (2017, p. 261). This does seem to be the gist of Ebeling's point here, but later Ebeling does still apply the sigma as if it were a semantic unit: a sigma dominating a single element rather than a nexus relation is referred to as "a situation Σ such that *x* is a component of Σ" (2006, p. 195)[27]. Note that this is not the same as mere abstraction: in a sentence like *Two glasses is fine*, the phrase *two glasses* is taken to refer to such a situation, which explains the singular agreement on the main verb. This does not refer to *being two glasses* or *the existence of two glasses*, but rather to a situation in which two glasses play some role, here kept implicit. Ebeling's definition of a sigma above a nexus relation is the following: "a situation Σ such that a component *x* of Σ is identical to *y*" (p. 195).[28] *The man drank a cup of coffee*, for instance, means that *x*, *the man,* is identical to the agent of a coffee-drinking event for the interpreted event period of that situation.

Can this difference suffice to distinguish the situational gerund and the *to*-infinitive along the lines of propositionality? To investigate this, perhaps it would be useful to give the two proposed notations side by side:

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[26] "De relatie is volledig gesymboliseerd door "=", de regel erboven met 'Σ' staat voor het stukje wereld dat ook al ondubbelzinnig door "=" is aangeduid. Toch is zo'n 'Σ'-regel meestal niet overbodig, want hij biedt ruimte voor een element als 'toen' in *Opa was toen jong*" (Ebeling 2006, p. 152). Note 1.7 above, in which it is argued that the sigma line ought not to be used for temporal adverbials.

[27] "een zodanige situatie Σ dat *x* een bestanddeel van Σ is" (Ebeling 2006, p. 195).

[28] "Een zodanige situatie Σ dat een bestanddeel *x* identiek is met *y*" (Ebeling 2006, p. 195).

(205) To lock the door
‘Σ
X = [$lock_1$]
[$lock_2$]; door’

(206) Locking the door
‘Σ / ING
[$lock_2$]; door’

The *to*-infinitive in (205) provides an example within which an unspecified first nexus member performs the door-locking action. In (206), on the other hand, the situation is such that a door-locking event is simply a part of it. The message in the first is precisely captured by the ascription of ‘[$lock_1$]’ (the agent role) to some entity, whereas in the second, the image is merely one of a situation in which a door is being locked. The ascription of *x* to *y* is therefore absent from (206), which is precisely where I argue the propositionality may be found.

One question does remain, however: how is *complementation* (‘;’) warranted in (206)? First, it must be noted that the difference between the nexus and dominated valence has to do with *assemblage*. Assemblage concerns the notion “that the speaker, while mentally decomposing the projection of the portion of the world and recomposing it so as to create “n” [e.g. a situation], takes (or has taken) the projection of the features of W [i.e. an element in the projection] before or after the projection of the features of V [i.e. another element]” (Ebeling 1978, p. 29). This type of ordering can be exemplified by comparing an active sentence to a passive one: *I wrote the letter* presents *me* (‘W’, following the description by Ebeling) before the letter (‘V’), whereas *The letter was written by me* presents the letter (‘V’) before me (‘W’). Both may refer to the same portion of the world, but the way the situation is described is clearly different. The subject in both these sentences is also the first nexus member – this indicates the primacy of this element. Both times, the other element takes a secondary position. Ebeling notes: “the symbol ‘;’ therefore indicates that what is right of it realises a subordinate valence within a plurivalent property which characterises the dominating valence” (2006, p. 239).[29] In *I wrote the letter,* for instance, the letter is only there to further specify the situation the first person is in.

[29] “Het symbool “;” geeft derhalve aan dat wat er rechts van staat een ondergeschikte valentie realiseert binnen een plurivalente eigenschap waardoor de dominerende valentie gekarakteriseerd wordt” (2006, p. 239).

Looking at (206), however, it may be wondered what is dominating *door* in this instance. In (205), it is clear that the agent role dominates it, but in (206), this meaning is missing. In this case, it is the semantic element 'Σ' that dominates the event '[lock$_2$]': it is a situation in which locking occurs, and what is locked is a door. Its contribution is not propositional as such, not because the relation is dissimilar, but rather because the relation between the role ('lock2') and the entity ('door') is not the message of the form as a whole: it is merely supplementive. However, it must be noted that this does not mean that the relation is different in other respects: before designing the ';' functor, Ebeling would notate both the subject and the (direct and indirect) object of any verb using the nexus symbol. The fundamental difference between complementation and the nexus relation lies in the role it plays in the assemblage of the sentence: the nexus relation is different in that it contains the message of the entire situation, whereas complementation simply adds specifications to the identity between *x* and *y* forged by the nexus (i.e. '*x* = *y*'). In the case of *I eat bread*, or Ebeling's own example "Piet eet brood" (*Pete eats bread*, Ebeling 2006, p. 238), Ebeling would argue "the bread is merely mentioned to further specify Pete's situation" (p. 238).[30] Likewise, in (206) above, *the door* is merely there to supplement *locking*, which is the essential message of the situation.

There is something more to be said about this. Ebeling (1978) presents the distinction between notations like (205) and (206) in other contexts, such as the following Russian examples:

(207) "*veter* *svalil* *berezu*"(p. 292)
wind-MASC-NOM fell-MASC-PST birch-FEM-ACC
'Σ. . .
wind = [fell$_1$]
[fell$_2$]; birch'

(208) "*berezu* *svalilo* *vetrom*" (p. 337).
birch-FEM-ACC fell-NEUT-PST wind-MASC-INSTR
'Σ. . .
[fell$_2$]; birch
[fell$_1$]; wind. . .[31]'

[30] "het brood wordt vermeld ter nadere specificatie van Piets situatie" (Ebeling 2006, p. 238).
[31] It must be noted that Ebeling (1980) also describes Russian examples like this, but that the resulting notations are rather different: rather than notating the entity in the instrumental case

I will refer to the first nexus member as *subject* on a number of occasions, but to the entity taking the agent role simply as *agent* (i.e. *veter* in (207) is both the subject and the agent, but *vetrom* in (208) is only an *agent*). Note that the notations above are not literally taken from Ebeling (1978), but have been adapted to fit the notational style of the present work. As (207) shows, there is gender agreement between the subject of the sentence (*wind*) and the main verb, as is normal in Russian past tense sentences. Moreover, *birch* takes the accusative case, because it is the object of the main verb. As such, the subject role and the object role are clearly indicated by the morphology of the words, and the structure of the notation is therefore comparable to the English sentences we have analysed before. Sentence (208) is rather different, however. We see the same accusative *birch*, but neuter past tense on the verb, even though there is no neuter word in the sentence, and *wind* taking the instrumental case. Due to the lack of agreement with the main verb of any noun in the sentence, it may be said that there is no clear *subject* in this sentence. Rather, it appears that the neuter past tense refers to the action in the main verb itself, and the cases on the nouns in the sentence simply reflect their roles within that verbal meaning. The closest approximation I can come up with in English would be *There were birches being felled by the wind*. Ebeling notes that one uses such a sentence when one "starts from a projection of (the features of) the situation characterized indirectly by the features of "q" [in 'p = q' on the nexus line] and supplements the message by adding "p" as a projection of the direct carrier of these features" (p. 290). In other words, the speaker of a sentence like (208) presents a *single* meaning as the most important meaning in the situation. As noted in section 1.4.1, a situation without a nexus presents "a situation Σ such that *x* is a component of Σ" 2006,

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as the actor of the event, it is rather notated as connected to the verbal action through gradation, as the following example will show:

ego *ubilo* *kirpičom* (Ebeling 1980, p. 370)
he-ACC kill-NEUT-PST brick-MASC-INSTR
"Σ
(<[*y*; *x* kills *y*]> [*w*; *w* instr *z*]); *the 3dp* – male sing
[*z*; *w* instr *z*]; brick / sing" (Ebeling 1980, p. 370)

This notation shows that *being killed* is first specified by the instrumental case, to show that the role of *being killed with a brick* is what is being ascribed to the male third person. This change is made because the Russian instrumental case does not always invoke the *actor* of the verbal action, because it can also be used to introduce the means by which the actor performed the action, or a cause without agency rather than the actor. Note, however, that the nexus is still not introduced into the notation, and that this distinction need not be made in the case of the clausal gerund, because the English accusative is not ambiguous in this way.

p. 195).[32] In (208), this meaning *x* is clearly the verbal meaning *fell*. The other meanings in the sentence are merely there to further specify this essential meaning: the projection of the felling event is merely *supplemented* by the adding of the other meanings. This is where this notation contrasts with that of (207): here "the speaker . . . starts from "s" [in a situation with a nexus line 's = t'] and arrives at a projection of the situation by assigning to "s" the features mapped as "t"" (p. 290). In other words, here it is not any single meaning in the sentence that is the message of the sentence. Rather, it is the *assignation* of the subject to the predicate which is the message. Ebeling (2006) defines such a situation as follows: "a situation Σ such that a component *x* of Σ is identical with *y*" (p. 195).[33] As I have argued in the above, I believe the propositionality of a phrase to reside in the assignation of *x* to *y*, and thus in the relation expressed by the nexus. Where this does not occur, the nonfinite verb is merely supplemented by the projections of other meanings, without making the ascription of one to the other the message of the nonfinite situation. This is the fundamental difference: not that the relation is inherently different, but rather that this relation is not itself the message of the situation. I would argue that the acceptability of *I believe him to have lied* and the impossibility of using the situational gerund here is due to the presence of the nexus in the nonfinite situation, and the absence of it in the situational gerund.

One thing still stands out, however: the constructions discussed above do not necessarily seem to imply a lack of propositionality in the same sense that the situational gerund does. Both Russian sentences above certainly are full sentences, and as such (208) does not seem any less apt to be negated than any other. I would argue that this is entirely due to its direct relation to THE period through tense: by linking it to the real world in such an explicit manner, they can always be negated as a situation. However, tense can never be part of either a situational gerund or a *to*-infinitive. As such, it can only be linked to the real or imaginary world through the tense of the sentence it occurs in. *To examine her* is not a proposition as such, but *I tried to examine her* is: both my trying to do it can be false, and the nonfinite situation actually coming to fruition may or may not actually happen. In short, the *to*-infinitive only acts as a proposition when it occurs in a full sentence.

The definition given here of propositionality leads to an intriguing solution to other problematical cases discussed. For instance, the difference between *I hate lying* and *I hate to lie* has been discussed for some time now. Jespersen (1940) notes that the first

[31] "een zodanige situatie Σ dat *x* een bestanddeel van Σ is" (Ebeling 2006, p. 195)

[33] "een zodanige situatie Σ dat een bestanddeel *x* van Σ identiek is met *y*" (Ebeling 2006, p. 195)

refers to "the vice in general" whereas the second example is applicable "in this particular case" (p. 193). The distinction between the vice in general and a specific instance reflects Wood's observation below:

> where the infinitive, although it does not specify an agent, usually implies one, the gerund represents the activity as it were in vacuo, without reference to any agent or occasion. When we say *To lie is wrong* we are thinking of you, me or anyone else telling lies; that is to say we think of it in connection with a subject, though not with any particular subject, and with various, though unspecified occasions. But when we say *Lying is wrong* we are thinking of the activity or practice in a universal sense, as a vice having an existence independent of the individual who succumbs to it. (Wood 1956, p. 11, cited in Egan 2008, p. 46)

The generality of the situational gerund is due to its not having a subject, and the *to*-infinitive always implying one directly stems from its propositionality. That is to say, if propositionality is the relation between the subject and the predicate, then naturally a propositional infinitive must always imply a subject, even if it is not overtly given.[34] This way, also, the generality of the *to*-infinitive in the subject position can be clearly distinguished from the generality of the situational gerund in the object position: the *to*-infinitive is only more general in the subject position due to its lack of temporal specifications. Conversely, the generality of the situational gerund is caused by the stativity of the verb (e.g. *hate*), which hardly serves to limit the timeframe within which the situational gerund occurs. Moreover, the fact that a subject is implied in the case of the *to*-infinitive also interpretively leads to the idea that it is applicable to the present moment: one interpretively fills in this subject position on the basis of the context of the speech situation, thereby making it more specific to that speech situation.

In other words, the notion of an implied subject and its relation to a specific instance also makes sense in this discussion: it is the fact that an agent is always implied that makes a *to*-infinitive propositional: because there is a nexus, there must be both a first and a second nexus member. This would also explain Wood's generalisation: since there is no first nexus member, no agent (and certainly no *subject*) is necessarily implied in a situational gerund, therefore it can be perceived as an action in vacuo. These two aspects of propositionality are two sides of the same coin: the ascription of *x*

[34] Note, however, that I disagree with Wood in that I do believe that the *to*-infinitive can have an overt subject on its own.

to *y* is what makes a proposition, so naturally a proposition requires both an *x* and a *y*. By contrast, the situational gerund only contains a verbal meaning, which may or may not be accompanied by other elements. As such, the correct notations of *I hate lying* and *I hate to lie* are, respectively:

(209) I hate *lying*.

‘Σ / PR

me = [$hate_1$]

[$hate_2$]; Σ / ING

lie_1’

(210) I hate *to lie*.

‘Σ / PR

me = [$hate_1$]

[$hate_2$]; Σ

X = lie_1’

In sum, in the above I have argued that the propositionality of any situation can be found in the relation between the subject and the predicate. Since non-factive contexts require propositions to fill them, naturally the complements to propositional verbs must contain such a relation between the subject and the predicate. As this connection is expressed through the nexus functor in the semiotactic framework, I argue that such a complement must contain a nexus. As the *to*-infinitive can fill these positions, but the situational gerund cannot, I believe the *to*-infinitive must be notated with a nexus, whereas the situational gerund should be notated without one.

In totality, the section in the above has argued the following points:

- The temporal difference between *I remembered locking up* and *I remembered to lock up* are a direct result of the nonfinites and their relation to the other meanings in the sentence. The situational gerund is sensitive to the temporal specification that the verb *remember* imposes, whereas the *to*-infinitive is not. For this reason, *locking up* refers back to a past event from the moment of remembering, whereas *to lock up* refers to an event without temporal specification. This normally leads to the interpretation that it occurs at the moment referred to by the overarching sigma;

- This temporal sensitivity on the part of the situational gerund also explains why so many prepositions can take the situational gerund as their complement: in these positions, the situation described is actually placed in the temporal position the

preposition refers to, e.g. *The senator fell off the stage after giving the speech* places the speech-giving event before the falling event;

- The situational gerund only refers to the event within it as ongoing, whereas the *to*-infinitive refers to the whole event. This explains why the *to*-infinitive can be used as the complement of catenatives which refer to either the initiation or the conclusion of an event, i.e. *I expect you to work hard*;

- The message of a *to*-infinitive is always that a subject, whether explicit or implicit, performs the event, which lends it its *propositionality*, whereas the message of a situational gerund is the occurrence of that event first and foremost. This latter meaning can be supplemented by an agent as well as an object, but the event itself remains the essence of the message. For this reason, the event itself is directly dominated by the sigma in semiotactic notation, whereas, in the *to*-infinitive, it is the connection between the subject and the predicate (i.e. the nexus) that is dominated by the sigma. The fact that this connection is the message makes it possible for the *to*-infinitive to be used in contexts in which its actual occurrence is unsure, e.g. as a complement to *believe*.

4.6 – Notations of examples

In the present section, the examples given of the various contexts in which the situational gerund and the *to*-infinitive occur will be represented using the semiotactic framework. Since 4.2 only exists to distinguish the situational gerund from temporal gradation constructions, the examples used in that section will not be represented here. Rather, the examples given in 4.3 will here be given a notation, since that section aims to provide an overview of all grammatical positions the situational gerund and the *to*-infinitive can take. For obvious reasons, only the correct examples given in 4.3 will actually be notated, although the ungrammatical ones will be part of the discussion on multiple occasions. When this happens, the ungrammatical example will simply be repeated in the text. In every case, first the sentence will be repeated, after which the notation will follow.

4.6.1 – The subject position

The subject position is where the semiotactic framework may be the most insightful, as without it, pinpointing the meanings that dominate the situational gerund in this position would be difficult. Recall that meanings are on the sigma line when they concern the whole of the situation. These meanings are temporal and modal in nature. They specify the temporal and modal characteristics of any situational gerund in the subject position. By contrast, *to*-infinitives remain temporally unspecified, which in

some instances makes this construction the only grammatically correct option available, whereas it is disallowed in other contexts.

4.6.1.1 – SPECIFIC VERSUS GENERAL

Examples (140–144) are repeated in (211–5) below, and represented using semiotactic notation:

(211) "*Living in fear of attack* is a terrible stress and one which GPs could do without." (Egan 2008, p. 133, emphasis added)

		'Σ / PR
Σ / ING		= stress – terrible . . .
$live_1$	>	$[in_1]$
		$[in_2]$; fear. . .'

(212) *To live in fear of attack* is a terrible stress and one which GPs could do without.

			'Σ / PR	
	Σ		=	stress – terrible …
X	= $live_1$	>	$[in_1]$	
			$[in_2]$; fear'	

(213) *Doing so* would have required 18,446,744,073,551,615 grains.

		'Σ / PF / WILL / PA	
Σ / ING		=	$[require_1]$
do_1 > so			
			$[require_2]$; grain / 18446. . .'

(214) "*To do so* would have required 18,446,744,073,709,551,615 grains!" (Featherstone 1975, emphasis added).

		'Σ / PF / WILL / PA	
Σ		=	$[require_1]$
X	= do_1 > so		
			$[require_2]$; grain / 18446. . .'

(215) *Washing the dishes* used to be a drag until I bought a dishwasher[35].

	‘Σ / PA				
Σ / ING	=	[use‿to$_1$]	>		[until$_1$]
wash$_2$; dish					
		[use‿to$_2$];	Σ		
		X	=	drag	
					[until$_2$]; Σ / PA
					me = [buy$_1$]. . .’

As stated in section 4.5.3.1, it is argued here that ‘ING’ requires that a dominating element specify its temporal position. In (211), the dominating element is the topmost sigma, which in turn is specified as occurring in the present. Comparing (211) to (212), *living*, which must be specified by the present tense indirectly if we hold to this definition of ‘ING’, has the effect that the occurrence of the nonfinite clause is at moment of speaking, whereas this reading is not foregrounded in any way in the case of *To live*: this statement seems to refer to a general truth, not limited by any temporal boundary, which as such may be read as “when one lives in fear of attack, it is a terrible stress”. This is indicated in the notation, both by the fact that the sigma representing the *to*-infinitive is not specified, and by the fact that there is an implicit first nexus member in (212). To make this point more explicit, (213) and (214) have also been provided. In (214), the *to*-infinitive is used. In using this nonfinite, the speaker indicates that the validity of applying the predicate to this subject holds regardless of the modal and aspectual meaning specifying the overarching situation. That is to say: since the *to*-infinitive is modally and temporally unspecified, and the requirement is applied to this situation rather than a more narrowly defined situation, the statement is valid in a general sense. This is where the alternative in (213) differs: in this case, the nonfinite is one which carries exactly those properties that the overarching sigma also carries. As such, the equation of the two is more limited: here it appears that it is only within this specific instance that doing so requires so many grains. The proposed meaning of ‘ING’ accounts for this, because it requires the nonfinite to be contextually bound to the situation of the sentence as a whole.

There are contexts in which this added meaning is foregrounded and even excludes the use of the *to*-infinitive. Consider, for instance, example (215) discussed above. As **To wash the dishes used to be a drag until I bought a dishwasher* shows, the situational

[35] It is possible to regard *used to* as contributing a merely temporal/modal meaning as well. In the present notation this has not been done, hence its notation below the sigma. This has been done because it appears to me that the function of the infinitive is truly like a *to*-infinitive.

gerund cannot be replaced by the *to*-infinitive in this case. This is due to the fact that the *to*-infinitive does not limit itself to the past-tense situation, and for this reason, it is not acceptable here. The sentence as a whole needs the situation of washing the dishes to be limited to the time before the present. The situational gerund is therefore more appropriate in this instance.

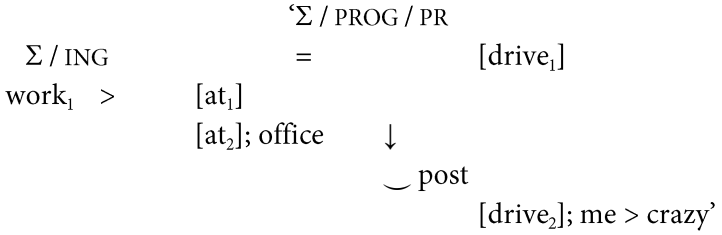
Apart from the temporal distinction made above, it is also worth noting that the presence or absence of the nexus has an important effect in these notations as well. Notably, the sentences containing situational gerunds not only refer to the present moment, but also seem to imply that the situational gerund situation in itself is occurring, whereas the *to*-infinitive sentences do not do so. They are not simply temporally undefined, but also *non-factive*, as Kiparsky & Kiparsky call it.

There is one thing left to discuss, and that is the effect that the *mode* and the *intention* of the sentence has on 'ING'. These elements are quite different from other meanings on the sigma line, in that they reflect interpersonal properties (see chapter 1). As such, the complex projection that the sentence creates is not specified itself. Rather, these meanings indicate the stance the speaker has to the situation described. In other words, it is not an inherent property of any situation itself. Rather, the complex projection as a whole is cast in a certain light. For this reason, then, mode and intention as meanings do not interact with the meaning of a situational gerund in subject position directly. The situational gerund in a sentence like *Does working out improve your health?* is no different from the one in *Working out improves your health*, even though the difference in meaning between the interrogative and the declarative construction is represented on the sigma line. As the analysis above shows, any modal verbs do affect the meaning of the situational gerund: its occurrence is specific to the overarching situation.

4.6.1.2 – Occurrence in sentence with aspect

Moving on to sentences with aspect, one notes that the *to*-infinitive is used far less in these contexts. Examples (146) and (148) are repeated below:

(216) *Working at the post office* is driving me crazy.



(217) *His not taking his medication* has killed him.

			‘Σ / PF / PR	
Σ / ING			=	[kill$_1$]
take$_2$	↓	; medication / NO		
	– he			
				[kill$_2$]; he’

In (216), the situational gerund shows that the event in the subject position is occurring at the same time as the event within which it plays a role. Specifically, it seems that the situational gerund takes on the *event period* of the dominating sigma. As such, *?To work at the post office is driving me crazy* sounds questionable at best, because it is not specified in this way. Similarly, in sentences like (217), the perfect aspect also blocks the *to*-infinitive, as **For him not to take his medication has killed him* makes clear. This difference is attributable to the semantic difference between the two constructions once again: the situational gerund, being specified by tense and aspect, indicates that the event is positioned such that it has been the cause of his death. The situational gerund event is placed before the narrated period, i.e. the present. The event period of the highest sigma seems to position the situational gerund. Notably, in both these sentences the *to*-infinitive, which we analyse as being propositional, would also lead to an illogical analysis: the rest of the sentence requires of the nonfinite that its occurrence in the real world is presupposed. For this reason, a situation with a nexus seems inappropriate.

4.6.1.3 – NONFINITES WITH NONFINITES

Example (150) has been repeated in (218) below:

(218) *To lie* is *to sin.*

		‘Σ / PR		
	Σ	=	Σ	
X	= lie$_1$			
		X	=	sin$_1$’

The reason the above notation is felicitous whereas **Lying is to sin* is not, is that the temporal properties of the first situation must align with those of the second, otherwise a different perspective on the same deed would result in the same event taking more or less long: ‘ING’ only takes an internal view of an event, whereas the *to*-infinitive takes the event as a whole. This combination is illogical, and for this reason either both situations must be presented as *to*-infinitives, or as situational gerunds, as is the case in *Seeing is believing.* Apart from temporal features, factivity can naturally not be equated

to nonfactivity, which is another reason why the situational gerund, which does not take a nexus, cannot be equated to the *to*-infinitive, which does.

4.6.2 - Complement to preposition

Some statements have already been made about the situational gerund in the context of a preposition. Essentially, what has been said in other contexts is applicable here as well: when the situational gerund is used, the dominating element (in this case: a preposition) will temporally and modally specify it. Notably, prepositions seem to have a strong predilection for the situational gerund, whereas the *to*-infinitive is usually disallowed. The definition presented above shows why this is the case: a prepositional phrase specifies the temporal position of the nonfinite complement with respect to the dominating element, and the situational gerund is sensitive to such temporal specification.

4.6.2.1 – Nonfinite event occurring before the main verb event

Example (152) has been repeated in (219) below:

(219) The senator fell off the stage *after giving his speech.*

‘Σ / PA

senator = $fall_1$ > [off_1] > [$after_1$]
[off_2]; stage

[$after_2$]; Σ / ING
$give_2$; speech. . .’

In the above sentence, the falling event occurs after the speech-giving event. In this position, then, the temporal features of the nonfinite are again entirely dependent on the element that dominates it. As has been discussed before, whenever a situational gerund is used, any perfective reading is an interpretive matter: there is no semiotactic difference between *The senator fell off the stage after giving his speech* and *The senator fell off the stage while giving his speech.* As such, the perfective interpretation of this clausal gerund does not require a separate meaning to be explained.

4.6.2.2 – MAIN VERB EVENT OCCURRING SIMULTANEOUSLY WITH THE NONFINITE EVENT

Examples (154), (156) and (158) have been repeated in (220–2) below:

(220) I cleaned the floor *by scrubbing it.*

	‘Σ / PA			
me	=	[clean$_1$]	>	[by$_1$]
		[clean$_2$]; floor		
				[by$_2$]; Σ / ING
				scrub$_2$; it’

(221) The senator fell off the stage *while giving his speech.*

	‘Σ / PA			
senator	=	fall$_1$	> [off$_1$] >	[while$_1$]
			[off$_2$]; stage	
				[while$_2$]; Σ / ING
				give$_2$; speech. . .’

(222) I hope I’m not sending the wrong message *in doing so.*

	‘Σ / PR					
me	=	[hope$_1$]				
		[hope$_2$];	Σ			
			me	=	[send$_1$] >	[in$_1$]
					[send$_2$]; message . . .	
						[in$_2$]; Σ / ING
						do$_1$ > so’

In (220), *by* naturally does not only have a temporal meaning: the nonfinite event provides the means by which the main verb event is achieved. This does necessitate that both events occur simultaneously. After all, the scrubbing action is essentially described as the cleaning action in this sentence. For this reason, it is appropriate that the temporal features of the nonfinite are specified to fall within the same timeframe rather than being temporally unspecified. Moreover, there is no uncertainty implied in the presentation of the scrubbing event. For this reason, a nexus would be inappropriate in the nonfinite situation in this context. In the same vein, the prepositions in (221) and (222) serve to place the nonfinite situation in the same temporal position as the main verb event. The notation of these does not differ significantly from (219): the only difference is found within the meaning of the preposition, which the situational gerund is sensitive to.

4.6.2.3 – MAIN VERB EVENT OCCURRING BEFORE THE NONFINITE EVENT

Sentences (160), (162), and (164) are repeated below:

(223) The actor brushed his teeth *before going on stage.*

'Σ / PA
actor = [brush$_1$] > [before$_1$]
[brush$_2$]; teeth. . .
[before$_2$]; Σ / ING
go$_1$> [on$_1$]
[on$_2$]; stage'

(224) "Patient works out in gym *to win back his strength*"
(Egan 2008, p. 102, emphasis added).

'Σ / PR
patient = work‿out$_1$ > [in$_1$] > [to$_1$]
[in$_2$]; gym
[to$_2$]; Σ
X = [win‿back$_1$]
[win‿back$_2$]; strength'

(225) I went *from washing cars to selling them.*

'Σ / PA
me = go$_1$ > [from$_1$] > [to$_1$]
[from$_2$]; Σ / ING
wash$_2$; car
[to$_2$]; Σ / ING
sell$_2$; they'

The differences between these prepositions and those discussed in the previous section are that they place the situational gerund event in a different timeframe. For instance, in (223), the situational gerund event is projected as occurring after the event in the main clause. This is possible because the situational gerund receives its temporal position from the preposition *before*. In this position, then, the situational gerund is again entirely dependent on the element that dominates it for its temporal dimension. Whenever a situational gerund is used, any perfective reading is an interpretive matter.

Egan's example reproduced in (224) deserves some further explanation, however. This is an interesting example because it is one of the rare cases in which a preposition takes a *to*-infinitive. Because this would require two *to*s to follow one another, one *to* is

dropped (224). The purposive prepositional *to* requires the verbal action within it to be regarded as a whole: the actions described in the matrix clause are taken in order to create the other situation or, as is the case here, to complete the action in nonfinite. As such, the complement situation of *to* must refer to the conclusion of an event, which the 'ING' form cannot do – it captures only the period within which the event is taking place. Moreover, the *to*-infinitive contains a nexus, which captures the uncertainty as to the infinitival event actually taking place. On the other hand, the 'directional' meaning that *to* can contribute in other constructions *must* take a situational gerund. For instance, (225) cannot be rephrased to **I went from washing cars to sell them*. The situational gerund takes on the temporal and modal specifications that are inherent in the element that directly dominates it, which, in this case, allows the two elements to be separated from one another in time. Further, neither of the two situational gerunds in this sentence (*washing cars* and *selling them*) is conceived of as being initiated or concluded within the clause. Rather, the first person is stated to be performing the act of washing cars in the first situation, and selling them in the second. It is only by interpreting the whole sentence that the first situation is perceived as concluded. Moreover, the only proposition in this sentence is that *I* went from *x* to *y*. Neither event here is non-factive: both are represented as actually occurring (or having actually occurred in the past, depending on the dominating element). The *to*-infinitive would also be incompatible with this position for this reason.

4.6.3 – Object to main verb

In the complement position to a catenative verb, the situational gerund is specified temporally and modally by the main verb, whereas the *to*-infinitive remains insensitive to this specification. The consequences of this essential difference, as well as a number of other differences, will be analysed in detail here. First, the group of catenative verbs that can take both the situational gerund and the *to*-infinitive will be discussed. Within this group, choosing one form over the other can have a variety of effects depending on the catenative verb dominating the nonfinite. These effects will each be discussed. After that, the group of catenative verbs taking only situational gerunds will be analysed. The variation within this group is smaller than in the first. Lastly, the group of catenatives which only takes *to*-infinitives will be discussed.

4.6.3.1 – GROUP 1: CATENATIVES TAKING BOTH SITUATIONAL GERUNDS AND TO-INFINITIVES

The discussion of this group will proceed along the same lines as section 4.3: first the cases in which a difference in temporal features is detected will be discussed, after which an explanation will be given for the sentences in which a difference in specificity

is felt. After that, sentences containing aspectual verbs will also be notated, to show that the semiotactic descriptions of the situational gerund and the *to*-infinitive can be maintained in these contexts as well.

4.6.3.1.1 – DIFFERENT TEMPORALITY WITH DIFFERENT NONFINITE COMPLEMENT

Sentences (166) and (167) have been repeated in (226) and (227) below:

(226) "I remembered *locking up*"

(Huddleston & Pullum 2002 p. 1243, emphasis added).

'Σ / PA
me = [remember$_1$]
[remember$_2$]; Σ / ING
lock‿up$_1$'

(227) "I remembered *to lock up*" (p. 1243, emphasis added).

'Σ / PA
me = [remember$_1$]
[remember$_2$]; Σ
X = lock‿up$_1$'

The difference between the temporal features of these nonfinites is crucial in the distinction between (226) and (227). In the situational gerund variant, *locking up* is placed in the position of occurring before the present moment, because something that is recalled at a given point must have occurred at an earlier time. Further, the event is ongoing in that remembered instance, because the moment in which it is unfolding is what is being remembered. As such, the 'ING' meaning, as it has been described above, is an accurate description of the relative distance between the two situations. When the main verb has a retrospective semantic component like this, the verb in the complement may or may not be interpreted as perfective. There is no basis on which to conclude that this is automatically part of the situational gerund's own meaning in English: *I will remember reading the book* may imply that the book has been read from cover to cover, or it may not. The projection it gives rise to is one in which the first person is in the middle of performing the act. The moment at which the action is taking place is what is contributed by 'ING', not its onset or its conclusion.

Conversely, the temporal features in (227) remain unspecified, which means that only the NP of the entire sentence is invoked. The locking up occurs after the act of remembering because, in contrast to the definition of the situational gerund here

presented, the *to*-infinitive form does not depend on its dominating elements for its temporal scope. Moreover, because the temporality of the situation is not specified, the whole of the event is part of the projection. As such, the initiation is part of the nonfinite whereas it is not when a situational gerund is used. This being the case, the interpretation that the rest of the event follows the remembrance is not a big step to take. This is also why a present tense sentence containing a *to*-infinitive sounds strange: ?*I remember to lock up* seems to imply that you now remember that you are going to lock up, because the initiation is placed in the same timeframe as the remembering, i.e. the present. Moreover, it may be noted that *I remember locking up* does not question the truth in the real or imaginary world of *locking up*. Conversely, the *to*-infinitive refers to a moment at which its being locked has not yet occurred at all – this is to flow forth from the remembering. The presence of the nexus in the case of the *to*-infinitive succinctly accounts for this distinction.

There is something more to say about these two sentences. In (227) the remembering action interpretively leads to the (re-)emergence of the event in the speaker's mind, which allows the speaker to act upon the memory. The difference between this and a situational gerund complement is that the clausal complement implies the uninterrupted existence of the situation in the mind of the speaker since its first emergence. Based on this distinction, I would on some level agree with Cuykens, D'Hoedt & Szmrecsanyi (2012) that *to remember* is a polysemous word, the meanings of which can be distinguished as follows:

> remember1 = "recall"
> remember2 = "not to forget to do something"
> remember3 = "keep in mind" (2012, p. 20)

In fact, they state that 'remember2' has been left out of Cuykens, D'Hoedt & Szmrecsanyi's study, because it categorically takes the *to*-infinitive as its complement, and the same was said for 'remember3', which takes *that*-clauses as its complement. I would argue that the difference in meaning felt here is actually entirely due to the accompanying non-finite's semantics. The *to*-infinitive remains insensitive to the temporality inherent in *remember*, therefore it is part of the situation as it occurs. The situational gerund, on the other hand, is sensitive to this temporal specification, which is why the situation is recalled from the past.

4.6.3.1.2 – DIFFERENT SPECIFICITY WITH DIFFERENT COMPLEMENT

Example sentences (168) and (169) are repeated below in (228) and (229):

(228) "I hate *lying*" (Jespersen 1940, p. 193, emphasis added).

	'Σ / PR		
me	=	[hate$_1$]	
		[hate$_2$];	Σ / ING
			lie$_1$'

(229) "I hate *to lie*" (p. 193, emphasis added).

	'Σ / PR			
me	=	[hate$_1$]		
		[hate$_2$];	Σ	
		X	=	lie$_1$'

As stated before, Jespersen distinguishes these sentences from one another in the following way: (228) refers to the lying event as "the vice in general", whereas (229) refers to the event "in this particular case" (1940, p. 193). The distinction between any situational gerund and *to*-infinitive is always twofold according to the model proposed here. On the one hand, there is the temporal dimension: the situational gerund presents its situation as ongoing, and as occurring within the timeframe which the verb *hate* places it in. On the other hand, it has been argued that the two meanings differ from one another on the level of propositionality. This explains the lack of the nexus in the notation of the situational gerund in (228). This representation of the lack of propositionality falls in line with Wood's generalisation that the *to*-infinitive always implies the proposition of a subject performing an action, whereas the situational gerund refers to the action *in vacuo* and as non-propositional: because there is a nexus, there must be both a first and a second nexus member contained in a *to*-infinitive, whereas this is not the case with the situational gerund. Since the situational gerund does not imply a subject, it refers only to the action. In the case of (228) and (229), the most tangible difference in the projection of the situation itself is based on Wood's generalisation that the *to*-infinitive has a subject whereas the situational gerund does not.

The difference in temporality between (228) and (229) can adequately be explained both by reference to the meaning of 'ING' described above, and to the presence or absence of a nexus functor. For one, the fact that the verb *hate* refers to a state rather than an action, and that the situational gerund gets its modal and temporal properties from the main verb in this context, can indicate generality. That is to say: in the

sentence *I hate lying*, the fact that I hate it is indefinitely true. For the meaning of *hate* to work, it would therefore also make sense for the activity itself to be projected as indefinite. In other words, in this sentence *lying* is not projected as being part of some projected future or past in the way that it would as the complement of *anticipate* or *regret*, but rather as occurring simultaneously with the hate, which occurs indefinitely. Contrastively, since the *to*-infinitive does not get its temporal and modal properties from its dominating element, it does not refer to the same stretch of time, but to a situation in which the full event described in the infinitive takes place.

4.6.3.1.3 – ASPECTUAL VERBS AND NONFINITE COMPLEMENTS

For the purposes of the present discussion, (170) and (171) have been repeated in (230) and (231) below:

(230) "Mary began *hitting John*"
(Wierzbicka 1988, p. 85, emphasis added).

'Σ / PA
Mary = [begin$_1$]
[begin$_2$]; Σ / ING
hit$_2$; John'

(231) "Mary began *to hit John*" (p. 85, emphasis added).

'Σ / PA
Mary = [begin$_1$]
[begin$_2$]; Σ
X = [hit$_1$]
[hit$_2$]; John'

Aspectual verbs include *begin, commence* and others. Generally speaking, aspectual verbs specify what part of the nonfinite verb accompanying them is projected. This sort of temporal specification would be expected to co-occur only with the situational gerund, given the definition presented here. However, as Wierzbicka's examples in (230) and (231) show, this is not the case. Wierzbicka cites Dixon (1984b, p. 591), who notes the following concerning the situational gerund variant: "to be appropriate, Mary must have rained at least a few blows on John (...)", whereas (231) "could be said when she had merely raised the stick but had not yet brought it down upon his head (perhaps she will, or perhaps she won't)" (p. 591, cited in Wierzbicka 1988, p. 85). In fact, this distinction does fall in line with the definitions presented in this work. The notations of (230) and (231) illustrate this point: in both notations, the interpretation is that Mary is the agent of the action described. Furthermore, since the semantic element 'ING' is

present in (230) it is presented as ongoing. By contrast, the *to*-infinitive in (231) is not specified in this way at all. As such, the entirety of the situation is part of the projection, including its initiation. In both instances, then, the aspectual verb projects the EP of its complement situation from the beginning, but the situational gerund can only occur as ongoing (i.e. its EP falls within its NP), whereas the *to*-infinitive necessarily starts at the beginning. Moreover, the presence of the nexus in the *to*-infinitive falls in line with Duffley's treatment of the aspectual verbs *start* and *cease*. He uses examples like "I started to throw it. At a car that was parked across the street. But I changed my mind" (Salinger 1962, p. 63, cited in 2006, p. 105-6). On this example, he notes that "one can start to do something but not do it" (p. 106). In the second example he starts to throw a snowball, but changes his mind before actually doing so. In other words, even in the context of an aspectual verb, it appears that the actual occurrence of the event is propositional with a *to*-infinitive.

4.6.3.2 – GROUP 2: ONLY SITUATIONAL GERUND COMPLEMENTS

The discussion of this group consists of three parts: one concerns itself with simple situational gerunds only, i.e. those situational gerunds which do not have an overt agent. The next group consists of catenatives which take both complex situational gerunds (i.e. those that present an overt agent) and simple situational gerunds, and the final group to be discussed in this subsection is dedicated to verbs which can only take a complex situational gerund as their complement.

4.6.3.2.1 – ONLY SIMPLE SITUATIONAL GERUND COMPLEMENTS

The types of events found as complements to verbs in this category are marked by two characteristics:

1. They are events that refer to a specific point in time with relation to the main verb event;
2. They refer to events that are always interpreted as performed by the subject of the main verb.

As such, verbs like *repent* or *avoid* fall within this category: you can only repent what you have done yourself, and when you avoid a nonfinite situation, you act in such a way as makes it impossible for you to be in that situation. The temporal position of these situations is specified by the semantic element 'ING'. In either case, the absolute occurrence or non-occurrence (as in the case of *avoid*) is also established as given, meaning that a nexus would be inappropriate in these nonfinite complements. Sentences (172) and (173) have been repeated in (232) en (233):

(232) He repented *having done so.*

	‘Σ / PA		
he	=	[repent$_1$]	
		[repent$_2$];	Σ / PF / ING
			do$_1$ > so’

(233) He avoided *paying the damage to the other car.*

	‘Σ / PA		
he	=	[avoid$_1$]	
		[avoid$_2$]; Σ / ING	
		pay$_2$; damage –	[to$_1$]
			[to$_2$]; car. . .’

It may be noted that in (232), there are two elements specifying the second sigma. The fact that the perfect meaning is applied first is visible from its form: *have done so* receives the *–ing* suffix for this reason, rather than that *doing* is placed within a perfect construction (which would look something like *have doing(ed) so*). Moreover, semantically, this is the only logical structure. The perfect meaning specifies the sigma first. The NP of the resulting meaning then forms the EP for the ‘ING’ meaning, within which the NP of the newly specified situation can be found. In other words, *having done so* refers to the time after the original event (*doing so*) has already taken place. This is what the perfect aspect meaning contributes. The ‘ING’ meaning then specifies this new timeframe (the time in which *doing so* has already occurred) as ongoing, and places it in the past, as this meaning is being passed down to it by the main verb *repent.* In the case of (233), the modal features of *avoid* make it so that the situation itself does not occur. As such, its truth-value is fixed: it is non-propositional precisely because it will not occur in this instance.

4.6.3.2.2 – Simple and complex situational gerund complements

When both a simple and a complex situational gerund can be used, the verb will usually have a meaning that is related to the attitude of the speaker toward a certain situation, whether this situation is found in the past, in the present, or in the future. When the situational gerund has an overt agent, it indicates that the situation is one in which that person performed the activity. On the other hand, when no overt subject is presented, the interpretation is usually that the subject of the main verb takes this role. Sentences (174–6) have been repeated in (234–6) below:

(234) I celebrate *you saving our lives.*

‘Σ / PR

me = [celebrate$_1$]

[celebrate$_2$]; Σ / ING

[save$_1$]; you

[save$_2$]; life ↓

– we’

(235) I deplore *his insisting I do everything.*

‘Σ / PR

me = [deplore$_1$]

[deplore$_2$]; Σ / ING

insist$_2$ ↓ ; Σ / PR

– he

me = [do$_1$]

[do$_2$]; everything’

(236) I contemplated *intervening on his behalf.*

‘Σ / PA

me = [contemplate$_1$]

[contemplate$_2$]; Σ / ING

intervene$_1$ > [on$_1$]

[on$_2$]; behalf ↓

– he’

In the first example, the situational gerund is used to place the event that is celebrated in the past. What is celebrated is the event in which you saved our lives. In other words, the meaning of *celebrate* necessitates that the situation that functions as its complement occurs in the past. The sentence ?*I celebrated you to save our lives* sounds illogical if what follows *celebrated* is read as a *to*-infinitive, because this form of the *to*-infinitive is not sensitive to temporal specification, nor does it imply that the event most definitely occurred (or, more specifically, that the sentence implies that it has definitely occurred). In (235) *his insisting* refers to an event that is projected as ongoing at the moment. This sentence would be illogical with the *to*-infinitive, because neither the initiation nor the conclusion of the event is part of the projection, and, again, the structure of the sentence leaves no doubt as to whether the nonfinite event is actually occurring. This is the reason for the absence of the nexus in the notation of the complement. As discussed, the use of the genitive subject does not take away from the

fact that this nonfinite is a situational gerund. Lastly, in (236), the fact that no overt agent is ascribed to the situational gerund quite naturally leads to the interpretation that the agent of the contemplated situation is the subject of the contemplation event. A contemplated event, however, is one that may or may not occur in the future. As such, both the modal and the temporal specifications inherent in *contemplate* serve to contextualise the situational gerund.

4.6.3.2.3 – ONLY COMPLEX SITUATIONAL GERUND COMPLEMENTS

There are also some catenatives which can only occur in combination with a situational gerund. Verbs of this type would be *pardon, prevent, excuse* etc. Examples (177–9), containing sentences with such verbs, have been repeated in (237–9) below:

(237) Forgive *my saying so.*

'Σ / IMP
X = [forgive$_1$]
[forgive$_2$]; Σ / ING
say$_1$ ↓ > so
– me'

(238) We prevented *them escalating the problem.*

'Σ / PA
we = [prevent$_1$]
[prevent$_2$]; Σ / ING
[escalate$_1$]; they
[escalate$_2$]; problem'

(239) The government has prohibited *our protesting the new bill.*

'Σ / PF / PR
government = [prohibit$_1$]
[prohibit$_2$]; Σ / ING
protest$_2$ ↓; bill – new
– we'

As discussed above, complex situational gerunds generally also accept a genitive as the subject of the complement pronoun. In (237) it is again impossible to use the *to*-infinitive. Here, the action to be forgiven is presented as having taken place in the past relative to the forgiveness itself, because only past actions can be forgiven. What is more, the fact that the event is in the past must mean that it is factive, so there is no room for a proposition here. In this case, however, the two events may also be

presented in opposite order: the forgiveness could be requested before the deed has been done (as in *forgive my saying so, but you look rather pale*). In that context, it might be regarded figurative language.

Other verbs that show the same behaviour are those that refer to prevention, as (238) above shows. The fact that the 'ING' form is modally specified in this instance is to the point: the projection of the situation is one which is supposed to be read as not occurring *due to the main verb*. Note that this modal specification does not change the non-propositionality of the event: there is no doubt as to whether it will happen or not, because it is presupposed not to happen. It is not *proposed* that it may not have happened. Rather, the verb *prevent* clearly indicates that in fact it has not – a kind of certainty that the nexus would not be able to express.

4.6.3.3 – GROUP 3: ONLY *TO*-INFINITIVE COMPLEMENTS

The final group of verbs to be discussed here contains those catenatives which can only take the *to*-infinitive as their complement. Once again, those that only take simple nonfinites will be discussed first. The group of 'raised' verbs will be set apart, just as in section 4.3, because some analysts have taken them to be different because of variants of the sentence which are grammatical with these forms but not with others. After discussing these two types of catenatives, those that can take both simple and complex nonfinite complements will be notated, and the notations given will be explained along the lines of the model proposed here. Following this, the particular group of 'raised-object' verbs will be analysed, requiring some new notations in order to account for their specific properties. Following this discussion, the catenatives that only appear with a preposition will be discussed and notated. As a final group, the group of *propositional* verbs will be discussed.

4.6.3.3.1 – ONLY SIMPLE TO*-INFINITIVE COMPLEMENTS*

The majority of verbs found in this class of catenatives relate to some point in the abstract future, e.g. *serve, decline* and *try*, exemplified in (180–182) above, and repeated in (240–242) below:

(240) This will only serve *to cause panic.*

'Σ / WILL / PR

this = [serve$_1$] > only

[serve$_2$]; Σ

X = [cause$_1$]

[cause$_2$]; panic'

(241) He declined *to take up the challenge.*

	‘Σ / PA				
he	=	[decline$_1$]			
		[decline$_2$];	Σ		
			X	=	[take‿up$_1$]
					[take‿up$_2$]; challenge’

(242) I’m trying *to understand you.*

	‘Σ / PROG / PR				
me	=	[try$_1$]			
		[try$_2$];	Σ		
			X	=	[understand$_1$]
					[understand$_2$]; you’

When these verbs are used, what is referred to is either the initiation of an event (as is the case with *decline*) or its completion (as *serve* and *try* indicate). Neither of these meanings is expressible through the use of the situational gerund. This impossibility alone accounts for this use. It must be noted, however, that the contrast of the presence or absence of the nexus is of lesser importance here for the selection of the *to*-infinitive over the situational gerund. The same is true of a verb like *fail*: when one fails to do something, one is unable to carry it to its completion. This being the case, there is no possibility of it occurring anyway, although this was not certain at the time at which the activity was begun. The same is true of (241): when one declines to do something, the phrase does not leave open the interpretation that it may still happen. Only the temporal features that the main verb requires, then, determine the selection for the *to*-infinitive in these cases.

In (240) and (242), however, the nexus does play an important role in the selection of the sigma. When one is trying to do something, as in (242), it is not certain that it will succeed. In other words, one remains unsure as to whether or not the situation in the complement position will actually be completely fulfilled. In (240), the same is true: the verb *serve* here refers to something having the purpose of bringing the nonfinite situation about. Whether this will happen, however, is not necessarily implied by this construction, even though it will, in many cases, be interpreted as such. Moreover, in both (240) and (242), the temporal specificity of the situational gerund would lead to inaccuracies, as the entirety of the complement event must be referred to.

4.6.3.3.2 – "RAISED" VERBS

As noted before, there are also some verbs which are considered *raised* verbs, or *raised subject* verbs. Examples of this type were given in (183–4), and repeated in (243–4) below:

(243) He seems *to be lying.*

	'Σ / PR			
he	=	[seem$_1$]		
		[seem$_2$];	Σ / PROG	
		X	= lie$_1$'	

(244) *He appears to have a hidden agenda.*

	'Σ / PR			
he	=	[appear$_1$]		
		[appear$_2$];	Σ	
		X	=	[have$_1$]
				[have$_2$]; agenda. . .'

Because the verbs in this group can also be used in sentences with dummy-*it* subjects like *It seems (that) he is lying*, it is argued that sentences like (243) are formed by raising the subject of the relative clause up to the subject position of the main clause. This notion is bolstered by the fact that, if the meaning of the verb stays the same, the role the subject is performing in the projection is still *lying*, not *seeming*.

One may wonder, however, if the possibility of using a dummy-*it* with these forms is really due to the connection between these nonfinites and the verb, or if it is simply inherent in the verbs themselves. A good way to test this would be to replace the nonfinite complement with something else, e.g. *He seems down*. This sentence, too, can undergo the above transformation: *It seems he is down.* As such, it seems to be an aspect of the meaning of the verbs in this category that dummy-*it* subjects can be used, rather than the combination of a nonfinite and such a verb specifically. This may have to do with the semantics of the verbs: rather than indicating a relation formed between two entities through some action, these verbs rather imply an estimation of the relation between the two elements. For this reason, it does not matter that much if the subject is a dummy *it* or person. In the case of the dummy-*it* subject, the opinion expressed seems to be on the entirety of the situation, whereas if a sentence like (243) or (244) is used, the estimation is on the relation between the subject of the main clause and the situation in the complement position. As both seem to deal with uncertainty, the accompanying nonfinite must be propositional: for any doubt to exist, it would have to

be possible for the situation to be true or untrue. For this reason, I argue that the complement nonfinite situation should contain a nexus, as is shown in the notations above. The notations of (243) and (244) look the way they do for this reason. As this notation makes clear, there is no marked difference in the relation between the elements in this sentence and an equivalent sentence with a different main verb.

4.6.3.3.3 – SIMPLE AND COMPLEX TO-INFINITIVE COMPLEMENTS

The present section will discuss catenative verbs which can occur with either a simple or a complex complement. Recall that a simple complement does not contain its own subject/agent, whereas complex complements do. Interestingly, some of these verbs can also occur with an indirect object and a nonfinite complement. There is a meaningful distinction between the addition and omission of *for* in constructions with these verbs. To this point, Huddleston & Pullum provide example sentences containing *ask*. Examples (185–8) are repeated in (245–9) below, with their proposed notations:

(245) "He asked *Pat to be interviewed*"
(Huddleston & Pullum 2002, p. 1230, emphasis added).

	'Σ / PA	
he	=	[ask$_1$]
		[ask$_3$]; Pat
		[ask$_2$]; Σ
		X = interview$_2$'[36]

In the notation above, the fact that *for* does not occur in the sentence indicates that *Pat* is not featured as the overt subject of the complement *to*-infinitive. When *for* is used, the notation therefore changes into the following:

[36] Note that this notation corresponds to Ebeling's (1978) notation of "John asked her to go to the dance" (p. 247) which is only different from this notation in that there is quasi-divergence between 'she' and the 'X' in the nonfinite situation. Note also that 'X' is not used to indicate the third argument of 'ask', even though it might have been filled here. This is because the use of 'X' is only required when the semiotactic structure requires it. Every asking event naturally requires something or someone being asked the question, but since the structure does not require it, no 'X' is required either. Much like any event requires a place to occur in, this does not mean that there has to be an 'X' to indicate the undefined location in a sentence like *I ate my breakfast*. So, too, does a sentence with a verb which may occur with three valences not require reference every one of them in every case.

(246) "He asked *for Pat to be interviewed*" (p. 1230, emphasis added).

'Σ / PA
he = [ask$_1$]
[ask$_2$]; Σ
Pat = interview$_2$'

Huddleston & Pullum argue that "in [the first example] *Pat* represents the goal of *ask* as well as the patient of *interview*, but in [the second] only the latter" (p. 1230). The difference is therefore found in the role that Pat plays: he is either the indirect object of the question, or the subject of the complement clause. This will be explored further using the examples in (247–9) below. The following two notations are presented to indicate the necessity for trivalent notation (i.e. distributing three roles) by indicating what happens when this construction is passivised. For this reason, (247) is notated as follows:

(247) Pat asked *to be interviewed.*

'Σ / PA
Pat = [ask$_1$]
[ask$_2$]; Σ
X = interview$_2$'

Next, a notation is given in which the main verb is also passivised: *Pat was asked to be interviewed.* In this sentence, the *to*-infinitive complement is assigned the object role, because it is what was asked. Pat, on the other hand, is the person to whom the asking was directed. Following this line of reasoning, the correct notation of this sentence thus becomes:

(248) Pat was asked *to be interviewed.*

'Σ / PA
Pat = [ask$_3$]
[ask$_2$]; Σ
X = interview$_2$'

Furthermore, this category contains verbs such as *urge, remind, tempt* etc. Interesting about these verbs is the fact that, as might have been expected when approaching the topic of catenative verbs from Duffley's perspective, many of these verbs actually refer to future action, e.g. "She urged me to go" (Huddleston & Pullum 2002, p. 1233). Structurally, these do not differ in any meaningful way from other complex *to*-infinitives that have been discussed in the first section of the present chapter. A good

example of this type of verb is found in Isherwood's *A Single Man* (1964): "They are actually willing him to do it" (p. 11) ((189) in section 4.3), which would therefore be notated as shown below:

(249) "They are actually *willing him to do it*"
(Isherwood 1964, p. 11, emphasis added).

	'Σ / PROG / PR				
they	=	[will$_1$]	>	actual	
		[will$_3$];	he		
		[will$_2$];		Σ	
			X	=	[do$_1$]
					[do$_2$]; it'

4.6.3.3.4 – "RAISED-OBJECT" VERBS

Other trivalent catenatives are *expect, wish, claim* etc., which can take complex clause objects, which do not take *for* in the way that *ask* above did. Sentences (190) and (191) provide examples of sentences like this, which are repeated below, along with the notations appropriate to them.

(250) I expect *you to work harder.*

	'Σ / PR		
me	=	[expect$_1$]	
		[expect$_3$]; you	
		[expect$_2$];	Σ
		X	= work$_1$ > hard > COMP'

(251) You are expected *to work harder.*

	'Σ / PR		
you	=	[expect$_3$]	
		[expect$_2$];	Σ
		X	= work$_1$ > hard > COMP'

Unlike sentences that contain *for*, sentences like (250) have passive variants with the 'subject' of the nonfinite complement in the subject position e.g. *I expect you to work harder* → *You are expected to work harder.* The same is true of the sentence notated in (245): *He asked Pat to be interviewed* → *Pat was asked to be interviewed.* In all, then, it seems that the catenative verbs in this class function in the same way as the verbs discussed above in a construction without *for*. *I expect you to work harder* is therefore

notated as is shown in (250) and its passivisation as shown in (251). Again, the temporally undefined character of the *to*-infinitive allows for a reading that includes the initiation of the event, which is appropriate given the semantics of *expect*. Specifically, it is the *type* of futurity that is implicit in these verbs that disallows the use of the situational gerund: if something is expected to happen, then it is expected that it will be initiated at some point, rather than be ongoing at that point. Moreover, since the nonfinite situation is expected, it is not presupposed to be true as a matter of course. As such, the propositionality that is expressed by the nexus is also appropriate in this context.

4.6.3.3.5 – CATENATIVES WITH PREPOSITION

Other catenative constructions contain a prepositional element, e.g. *appeal (to), bank (on), count (on)* etc. When they occur with an infinitival, this must be a complex complement. However, it may still be wondered what the connection between the *to* and the rest of the sentence is. *To* could either function as a full preposition, in which case it would have to be notated independently, or as a *to*-infinitive. The respective notations of these approaches are presented below:

(252) I counted on *Ed to bake the cookies.*

	‘Σ / PA			
me	=	[count‿on$_1$]	>	[to$_1$]
		[count‿on$_2$]; Ed		
				[to$_2$]; Σ
				X = [bake$_1$]
				[bake$_2$]; cookie’

(253) I counted on *Ed to bake the cookies*, alternative notation.

	‘Σ / PA			
me	=	[count‿on$_1$]		
		[count‿on$_2$]; Σ		
		Ed =		[bake$_1$]
				[bake$_2$]; cookie’

It appears (252) could be rejected given the semantic difference between the purposive adjunct construction and the infinitival construction. That is to say, when one utters this sentence, the message is not that one counted on Ed so that the speaker of the sentence could bake cookies, but rather that Ed was supposed to do it. However, it is not impossible to come to such an interpretation of many similar sentences: in the case of *I counted on the oven to work to bake the cookies*, *to bake the cookies* is a clear

adjunct. In this sentence, however, it is also impossible to read *the oven to work* in the same way, with the implication that I can only work using the oven. For this reason, it may well be argued that the *to*-infinitive reading can occur in tandem with the purposive adjunct reading, as is shown below:

(254) I counted on *the oven to work* to *bake the cookies*.

	‘Σ / PA			
me	=	[count‿on$_1$]	>	[to$_1$]
		[count‿on$_2$]; Σ		
		oven	= work	
				[to$_2$]; Σ
			X	= [bake$_1$]
				[bake$_2$]; cookie’

On the basis of the above, it may be argued that, when the construction does not force a purposive reading to the preposition *to*, the notation in (253) is correct. The fact that to count on something to do something refers to either a fact or something to be initiated blocks the usage of the situational gerund.

In the above, it is always uncertain whether or not the situation will ever be accomplished. However, the accomplishment of that situation is clearly intended in every instance: when one utters (252), one expresses that they had counted on all the cookies to have been baked by Ed, i.e. for the baking action to have been completed. I believe the notation proposed here for the *to*-infinitive encapsulates both aspects: it presents its contents as propositional, meaning that they may or may not occur, and yet they are temporally unspecified, meaning that the entire event is referred to. For this reason, I would argue that the notation of the *to*-infinitive proposed here works in these contexts.

4.6.3.3.6 – PROPOSITIONAL VERBS

Verbs like *state, argue, prove, verify* etc. must be explained in a different way. In the present tense, these verbs make a statement about the present, without reference to the past or the future. Examples (194) and (196) above contain examples with such verbs. These are repeated in (255) and (256) below:

(255) "I believe John *to have liked Anselm*"
(Kiparsky & Kiparsky 1971, p. 363)

		‘Σ / PA			
me	=	[believe$_1$]			
		[believe$_2$];	‘Σ / PF		
			John =		[like$_1$]
					[like$_2$]; Anselm’

(256) I verified *him to be lying.*

		‘Σ / PA			
me	=	[verify$_1$]			
		[verify$_2$];	Σ / PROG		
			he	=	lie$_1$’

As stated in the literature review above, the fact that the *to*-infinitive can be used in these contexts is taken to be evidence for the presence of the nexus in the *to*-infinitive, and for its absence in the situational gerund. The presence of the nexus indicates that the message of the situation is the equation of the fist nexus member to the second nexus member, whereas its absence indicates simply that a verbal meaning is part of the situation. As has been argued above, the connection between subject and predicate is taken to be where the propositionality is found in the *to*-infinitive, and therefore the *to*-infinitive, being used in propositional contexts, must contain a nexus. The temporal features do not necessarily play a big role in the selection here, because propositional verbs do not have temporal features to pass down unto a situational gerund. As such, the nonfactivity of the *to*-infinitive forces the selection for this form over the situational gerund.

4.7 – Conclusion

In the above, I have attempted to present a semiotactic model for the situational gerund. The first step in doing so was distinguishing it from participial gerundives like the ones discussed in chapter 3. The clausal gerund can appear in the subject position of a sentence, as the complement to a preposition, and as a complement to many catenative verbs. The same is true of the *to*-infinitive, however, and to get to the definition of one of these constructions, the contrast between the two must be made clear. For this reason, these two constructions have been analysed together. The distinction the present analysis has come to may be summarised as follows:

1. the situational gerund is sensitive to temporal specification from dominating elements, whereas the *to*-infinitive is not. This explains

the difference in specificity in the subject position of the sentence, the semantic difference effected by replacing one for the other, and also why the situational gerund can be used as the complement to so many different prepositions;

2. The situational gerund always projects the situation as ongoing, which explains why it cannot be used in contexts in which the initiation or the conclusion of the event is referred to;

3. The *to*-infinitive is propositional, whereas the situational gerund is not, which explains why it can be used in combination with the preposition *to* (in which case it is uncertain whether the infinitive situation, representing the goal of a given action, will be reached), why it can be used in propositional contexts, and why the *to*-infinitive always seems to imply a subject: the propositionality of any propositional clause may be found in the fact that the message of such a clause is the connection between the subject and the predicate (i.e. the first nexus member and the second nexus member), which is symbolised using the nexus.

I hope that this is a useful contribution to the ongoing debate surrounding these forms. Naturally, the constructions discussed above are not exhaustive, and there may be constructions which are not yet explained by the description of the situational gerund and the *to*-infinitive given above. However, it is believed that a great many useful observations that analysts have made over the years have been successfully integrated into the analyses and notations presented, and as such a robust model has been developed, which is capable of explaining certain seemingly contradictory notions using the same general description.

Chapter 5 – Concluding remarks

Over the course of the preceding chapters, a general account has been developed of the various uses of *–ing* forms in English, under the assumption that the semiotactic framework would be capable of expressing the nuanced distinction between each of these uses. Based on the work above, I would argue that this hypothesis is confirmed: the analyses that have been performed in each chapter consistently led to generalisations which the semiotactic framework could accurately express. Undoubtedly the most discussed of these is the situational gerund, which has been a point of discussion for decades now. With the present work, I hope to have provided a refreshing perspective on this problem which, on the one hand, will provide food for thought for analysts of all stripes, and, on the other, convince the reader of the clarity, preciseness, and expressive power of the semiotactic framework.

On the whole, this work is divided into two parts: one part, which spans from chapter 1 to chapter 3, describes the semiotactic framework and applies it to data which have been explained, at least to my knowledge, to a sufficient degree by other linguists. I have done so in an attempt to show the explanatory value of the semiotactic framework. This model was designed to indicate every semantic relationship that can be expressed by the grammar of any language. Significantly, it makes it possible to notate very precisely which meaning interacts with which directly and, as such, also where structural ambiguities may arise. In giving such a notation, a linguist presents the results of his own analysis of the data in the form of a clear and falsifiable statement. This is what makes the semiotactic framework an indispensable tool in the search for the meaning of grammar. I hope to have proven that the semiotactic framework is up to the task of expressing these statements in the first part of this work. Moreover, the description of these more clearly defined gerundival forms made it possible to isolate the topic of the second part: the situational gerund. Here, the (mostly structuralist) principles on which the semiotactic framework is based have been applied to a controversial topic to propose a novel explanation.

As is the case with any formal system, an analysis based on it will mean nothing to a reader that is unfamiliar with it. The first chapter of this dissertation is therefore dedicated to explaining the fundamentals of the semiotactic framework. It is dedicated to explaining the underlying assumptions about the nature of language, and what falls within and outside the realm of linguistics. The structuralist basis of the semiotactic framework is clearly reflected in a strong adherence to De Saussure's notion of *one form – one meaning*, and the study of language as a search for linguistic invariants: unambiguous connections between forms and meanings. Another fundamental

distinction that is markedly structuralist is the distinction between meaning and interpretation. This distinction has been expressed quite succinctly by Geoffrey Leech, who states that "meaning, for linguistics, is neutral between 'speaker's meaning' and 'hearer's meaning'; and this is surely justifiable, since only through knowing the neutral potentialities of the medium of communication itself can we investigate differences between what a person intends to convey and what he actually conveys" (1971, p. 24). In other words, although there may be interpretive differences as to what a sign refers to given the context, what is important in linguistic analysis is what is always (invariably) conveyed, regardless of context.

It may be clear to any speaker of the English language that the most basic use of the *–ing* form is nominalisation of verbal forms. Most of these are instances of *abstraction*: they refer to the event as an entity within itself (e.g. *the cutting of the wedding cake*). However, many of these forms have lexicalised as well. Usually, when they lexicalise, these gerunds come to refer to the *result* of the action, rather than the action itself (e.g. *a building* is a structure that is the result of a building action). Apart from that, it may be clear that in many cases, the *–ing* suffix is used to place verbal meanings in adjectival positions. As has been argued in the second chapter, most of these forms actually retain their verbal properties, as they specify the entities they occur with by making them the agent of the event they refer to, and the (in)direct object positions of these forms can also be filled (e.g. *a man giving his wife a rose*). However, not every *–ing* form in an adjectival position does so. Rather, some forms seem to refer to a property or a propensity rather than an actual event. These forms can never distribute (in)direct object roles, and they can be quantified (e.g. *The movie was very inspiring (*me)*). Apart from this distinction between adjectival gerundives and what I have here called lexicalised gerundival adjectives, there is also a distinction to be made on the basis of the position within the sentence that these forms can take. 'Regular' adjectival gerundives usually take the attributive position when they occur on their own (e.g. *a walking man*), although they will usually occur in postpositive position when they distribute roles other than the agent role (e.g. *a man writing a book*) or when it is itself specified (e.g. *a man walking on the moon*, in which the place of the walking is specified, versus *a walking man on the moon*, in which *man* is specified as the walker, and as being on the moon as well). However, it is also possible for adjectival gerundives to appear in the postpositive position without other meanings associated with it (as in *a man walking*). It has been argued in the second chapter that these forms specify the entity they occur with through *temporal limitation* rather than atemporal limitation. That is to say: rather than specifying the group of appropriate referents by indicating a subgroup carrying an extra property (i.e. the property the adjective refers to), they

indicate that the appropriate referents are only appropriate *when* they engage in that activity. For instance, the difference between *a walking man* and *a man walking* is that the first variant takes from all men those singular men that walk as appropriate referents, but the latter refers a man only *while* he is walking. In other words, it is not so much that he must be a carrier of a given property, but rather be in a specific state in order to be an appropriate referent. This may be a result of its being a reduced relative clause etymologically, but, as the perspective on language taken here only concerns itself with the present state of the language, this does not imply that this etymology must be reflected in the semiotactic notation of such forms.

A similar distinction was found in chapter 3, which dealt with participial gerundives, as well as prepositional and conjunctival forms. In positions taken by participles positions, forms that have not lexicalised (and hence do not allow for the suffix *–ly*, and can distribute roles other that of a carrier) commonly specify either the subject or the main verb of the sentence temporally. In a sentence like *I work hard having drunk a cup of coffee*, the phrase *having drunk a cup of coffee* tells us something about when I work hard: when the first person has also been the agent of a drinking action, of which a cup of coffee was the object. However, when lexicalised forms are used, they usually refer to properties or propensities, just like lexicalised gerundival adjectives. For example, in *We are progressing frustratingly slowly*, the word *frustratingly* does not refer to a process, but to the fact that the progress is so slow it tends to frustrate. In the same way, *amazingly* does not refer to an action, as is shown in *The wind blew amazingly hard*, the wind is not literally said to amaze anyone (as in *It amazes me how hard the wind is blowing*), but rather that the hardness of the blowing of the wind was such that it tends to amaze. Apart from these forms, some gerundives have grammaticalised as well, leading to them taking on other functions than adjectives or adverbs. For instance, *notwithstanding* in *All their help notwithstanding, we were not able to raise enough money* clearly does not refer to a verbal meaning. There is nothing that the help is not withstanding. Rather, the word carries a meaning closer to *regardless*: it connects an entity to something that happened regardless of that entity. A form that has grammaticalised even further is *considering* in a sentence like *He handled the situation very well considering everybody was against him.* Here, the gerundival also does not perform any verbal function: he was not handling the situation while he was considering something. Rather, he did very well *although* everybody was against him: situation 1 might have been expected not to occur due to situation 2, but it did. This shows that the gerundival performs a conjunctival role rather than a verbal one.

As stated, the most controversial use of gerundival forms (and perhaps even the most controversial topic in all of English linguistics) is the connection between the form and the meaning of the situational gerund. Many people have commented on this form over the decades, and many have contrasted this form to the *to*-infinitive. This topic has been discussed in some detail in the fourth chapter. First, it has been established that from a semiotactic perspective both are, in fact, separate constructions. A new distinction between these two forms is here proposed. This new perspective distinguishes between the two nonfinite forms in two respects: the temporal/aspectual features on the one hand, and the features of the situation itself on the other. On the temporal/aspectual side of the equation, I argue that the situational gerund places the *narrated period*, (i.e. the period that the situation as a whole refers to), within the *event period* (i.e. the entire duration of the event referred to by the verb), so that every part of the verb refers to the verbal meaning as ongoing. Moreover, the situational gerund is also presented as sensitive to specification by the meaning that dominates it. By contrast, the *to*-infinitive is not specified at all. This means that it is not sensitive to the specification of any dominating element (which explains why the nonfinite in *I remembered looking at her* refers to a moment before the main verb event, whereas *I remembered to look at her* does not: both nonfinites are placed in the same moment in the past by the past tense of the sentence). These temporal and aspectual specifications naturally affect the entirety of any situation introduced by the situational gerund, so this temporal specification is notated on the sigma line of any situational gerund. Moreover, since it is not aspectually defined, both the beginning and the end are still part of the meaning (which explains why a form like *Try cooking the rice* does not imply that it is the cooking itself that may or may not be successful, whereas *Try to cook the rice* means that the nonfinite situation includes the beginning, which does allow for this reading). Apart from these features, the two nonfinite structures also differ in the way the situations they refer to are presented. More specifically, I argue that the situational gerund is not propositional, where the *to*-infinitive is. This opposition can accurately be notated through the use of the nexus functor. This allows the latter form to be used as the object to propositional verbs, whereas this is not the case with the situational gerund. Naturally, the role each of these aspects plays in the resulting projection is a matter of interpretation.

As stated in the introduction, the present work aimed toward three separate goals:

1. To give a full inventorisation of gerundival forms;
2. To present a new distinction between the situational gerund and the *to*-infinitive, based on semiotactic principles;

3. To prove that the semiotactic framework provides an adequate analytical method for distinguishing all the gerundival forms under discussion in this work, as well as a method of formalisation that is sufficient to express the differences between them.

I believe that the work presented above has succeeded in achieving all three of these goals. In the overview given above, nominal, adjectival, adverbial, prepositional, conjunctival, as well as participial and even clausal *–ing* forms have all been discussed in such a way that they can elegantly be distinguished from one another. I am using non-semiotactic terminology here, to indicate that, from a theory-neutral perspective, the above discussion is more or less complete – its scope covers all classes of words in which *–ing* forms can be found. The second goal of the present work, I believe, has also been achieved. In the application of the semiotactic principles, many theories were automatically discarded, whereas others did provide valuable insights into this elusive form and its companion, the *to*-infinitive. I believe the discussion in chapter 4 to have led to a distinction that holds true to the principle of *one form – one meaning*, as well as the distinction between *meaning* and *interpretation*. The notations proposed for both forms, moreover, also seem adequate in capturing every aspect of the distinction found in the application of this framework's principles. As such, the third goal also seems to have been reached: the semiotactic framework is adequate for analysing the gerundival forms of the English language.

More work still needs to be done, however. For instance, there is some variation caused by word order and prosody which is still underexplored. Although we have seen examples like "Shielding his eyes, the man looked at the guest" (Ebeling 1978, p. 354), for example, not every possible combination of position and prosody has been explored. The effect of such positioning may still be explored, although it appears to be a topic related to adverbials in their own right, rather than gerundives in particular. This also holds for the constructions discussed in chapter 2, in which no formal distinction is proposed to account for such incorrect sentences as **He is award-winning*. One may wonder whether there is something about this form and forms like it which bars it from the predicative position. This would be a lexicalised form, which is indicated by the fact that it is compounded to an element that interpretively would be the object of the event. A sentence like *His work is groundbreaking*, on the other hand, is totally acceptable, however. The reason for such restrictions may still be explored.

Another lacuna in the present work may be the fact that the bare infinitive, although briefly analysed, has not received the attention that may be due. The competition between this form and the situational gerund and the *to*-infinitive is rather marginal,

which is why it did not receive as much attention as these other forms. I believe a future study may well specify the meaning of this form given by Ebeling even further, or replace it completely. Also, in studying this, it is important to analyse whether the complement to *help* is equivalent to that of *see*. As noted in section 4.2.2.3, a sentence like *I helped find it* is acceptable, but the same sentence with *see* as its main verb is not: **I saw find it*. It has largely remained outside the scope of the present work, however, as it is not aimed at nonfinite clauses in general, but at the situational gerund in particular.

I hope that the preceding chapters have succeeded in convincing the reader that the principles on which the semiotactic framework are built are rigid enough to come to accurate, unambiguous descriptions of the meanings of sentences. It is also hoped that the present work, and the framework it was based on, will have a positive effect on the discussion that as yet still surrounds the situational gerund and the *to*-infinitive.

References

Beekissed (2010) Re: Lack of respect in young people today [online discussion group]. Retrieved 21 April from https://www.backyardchickens.com/threads/lack-of-respect-in-young-people-today.377889/page-11.

Brinton, L.J., E.C. Traugott (2005) *Lexicalization and language change.* New York: Cambridge University Press.

building. (n.d.) *Collins English Dictionary – Complete and Unabridged, 12th Edition 2014*. (1991, 1994, 1998, 2000, 2003, 2006, 2007, 2009, 2011, 2014). Retrieved 15 April 2018 from https://www.thefreedictionary.com/building.

building. (n.d.) *WordNet 3.0, Farlex clipart collection*. (2003-2008). Retrieved 15 April 2018 from https://www.thefreedictionary.com/building.

Cuykens, H., D. D. d'Hoedt, & B. Szmrecsanyi (2012) "Variability in verb complementation in Late Modern English: finite vs. non-finite patterns". Retrieved at: http://wwwling.arts.kuleuven.be/qlvl/prints/Cuyckens_DHoedt_Szmrecsanyi_2014draft_Variability_verb_complementation.pdf. Accessed 4 September 2016.

Dixon, R. M.W. (1984b) The semantic basis of syntactic properties. In Brugman, C. & M. Macaulay (eds.)*Berkeley Linguistics Society, Proceedings* 10, pp. 583-595.

Duffley, P. J. (1999), "The use of the infinitive and the *-ing* after verbs denoting the beginning, middle and end of an event", *Folia Linguistica* 33, pp. 295 – 331.

Duffley, P. J. (2006) *The gerund-participle – a comparison with the infinitive*. New York: Peter Lang.

Ebeling, C.L. (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. (1980) "How many valences?" In Amsenga, B.J., J. Pama and W.G. Weststeijn (eds.) *Возьми на радость – To honour Jeanne van der Eng-Liedmeier, pp. 361-72.* Amsterdam: Slavic Seminar.

Ebeling, C. L. (1994) *Een inleiding tot de syntaxis.* Leiden: The Hakuchi Press.

Ebeling, C. L. (2006) *Semiotaxis – Over theoretische en Nederlandse syntaxis.* Amsterdam: Amsterdam University Press.

Egan, T. (2008) *Non-finite complementation – a usage-based study of infinitive and –ing clauses in English.* Amsterdam: Rodopi.

Featherstone, V. J. (1975) The King's son. In *New Era* nov. 1975. Retrieved 21 April 2018 from https://www.lds.org/new-era/1975/11/the-kings-son?lang=eng.

Geerdink-Verkoren, H. (2008) *A semiotactic approach to modern Japanese.* Doctoral thesis. Leiden: Leiden University. Retrieved 19 April 2018 from https://openaccess.leidenuniv.nl/handle/1887/12866.

Ghandi, M. K. (1982) *An autobiography, or, The story of my experiments with Truth.* London: Penguin Books. (Original work published in 1929)

Haspelmath, M., A.D. Sims (2010) *Understanding Morphology.* London: Hodder Education.

Hasselgård, H. (2010) *Adjunct Adverbials in English.* Cambridge: Cambridge University Press.

Helden W.A. van (2017), Not the Last Word on the Short Form: A Deictic Approach. In Genis R., E. de Haard, L. Radovan (Eds.) *Definitely Perfect: Festschrift for Janneke Kalsbeek.* no. 29 Amsterdam: Pegasus.

Helmore, E. (6 August 2011) How Ken Kesey's LSD-fuelled bus trip created the psychedelic 60s. *The Guardian.* Retrieved 18 April 2018 from https://www.theguardian.com/film/2011/aug/06/lsd-ken-kesey-pranksters-film.

Huddleston, R. & G. K. Pullum (2002) *The Cambridge grammar of the English language.* Cambridge: Cambridge University Press.

Isherwood, C. (1964) *A Single Man.* Vintage Editions.

Jespersen, O. (1940), *A modern English grammar on historical principles.* Copenhagen: Munksgaard.

Jespersen, O. (1969) *Analytic syntax.* New York: Holt.

Kiparsky, P., C. Kiparsky (1975) Fact. In Steinberg, D. D. and L. A. Jakobovits (eds.) *Semantics – An interdisciplinary reader in philosophy, linguistics and philosophy.* London: Cambridge University Press.

Klein, W. (1994) *Time in Language.* New York: Routledge.

Kortlandt, F.H.H. (1980) Temporal gradation and temporal limitation. *Studies in Slavic and general linguistics* 1, pp. 237–246. Retrieved 19 April 2018 from: http://kortlandt.nl/publications/art047e.pdf

Langacker R. (1987) *Foundations of cognitive grammar,* vol. 2. Stanford: Stanford University Press.

Langacker, R. (1991) The auxiliary: Grounding. In *Foundations of Cognitive Grammar*, vol. 2, pp. 40–281.

Langacker, R. (2000) *Grammar and conceptualization.* Berlin: Mouton de Gruyter.

Langacker, R. (2008) *Cognitive Grammar – a basic introduction.* Oxford: Oxford University Press.

Langacker, R. (2011) The English present: Temporal coincidence vs. epistemic immediacy. In Patard, A. and F. Brisard (eds.) *Cognitive approaches to tense, aspect, and episemic modality.* Amsterdam: John Benjamins Publishing Company.

Lovecraft, H.P. (2013) "The moon-bog", in Davies, D.S. (ed.) *The lurking fear & other stories.* Hertfordshire: Wordsworth Editions Limited. (Original work published 1926)

Melville, H. (1984) *Moby Dick*; *or, The Whale.* Chicago: Encyclopædia Britannica, Inc. (Original work published 1851)

Menzel, P. (1975) *Semantics and syntax in complementation.* The Hague: Mouton.

Murder police will visit schools. (27 September 2009) *BBC News Channel.* Retrieved 15 April 2018 from http://news.bbc.co.uk/2/hi/uk_news/england/london/8277539.stm.

painstaking. (2011) *American Heritage® Dictionary of the English Language, Fifth Edition.* Retrieved April 15 2018 from https://www.thefreedictionary.com/painstaking.

Quirk, R., S. Greenbaum, G. Leech, J. Svartvik (1985) *A comprehensive grammar of the English language.* New York: Longman Publishing.

Roddenberry, G., T. Tormé, R. Manning, H. Beimler (writers), & Landau, L. (director) (1989) The schizoid man [television series episode]. In Roddenberry, G. (executive producer), *Star trek – The next generation.* Syndicated broadcasting. Retrieved 21 April from: http://www.netflix.com/

Salinger, J.D (1962) *The catcher in the rye.* New York: Signet.

scorching. (n.d.) *WordNet 3.0, Farlex clipart collection.* (2003-2008). Retrieved 18 April 2018 from https://www.thefreedictionary.com/scorching.

Swarovski, C. (2015) *Dragon's Princess*, n.p. Retrieved 21 April from 2018 from https://www.wattpad.com/146658905-dragon%27s-princess-chapter-26.

Walker, D. (11 July 2015) For too many families work is no longer an escape route from poverty. *The Guardian International Edition.* Retrieved 15 April 2018 from https://www.theguardian.com/commentisfree/2015/jul/11/families-work-poverty-osborne-budget.

Wierzbicka, A. (1988) *The semantics of grammar.* Amsterdam: John Benjamins, B.V.

Wood F.T. (1956) Gerund versus infinitive. In Butlin, R.T., A.V.P. Elliott, A.S. Hornby et al. (eds.) *English Language Teaching*,11, pp. 11-16.

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Curriculum Vitae

Lennart van der Velden was born in Groningen on 5 November 1991. He visited a Montessori primary school in Veenendaal, and moved to Zeist after that, where he received his secondary education at Montessori Lyceum Herman Jordan. After graduation, he enrolled in the English Language and Culture programme at Utrecht University, where linguistics (especially historical linguistics) piqued his interest. Taking a year to study at Bangor University as part of the Harting Programme was a defining experience, as it opened his eyes to the broadness of the scope of linguistics. Intrigued by the expansiveness of the field, he enrolled in the linguistics research master's programme at Leiden University, after graduating cum laude from Utrecht University. This programme allowed him to choose modules from a broad variety of disciplines within linguistics. It was during his studies at Leiden that Lennart grew interested in Russian and, by extension, Russian linguistics, which led him to take a module taught by Dr. Egbert Fortuin, where he was introduced to the semiotactic framework. Writing a paper for this module from the semiotactic perspective led to him being asked to be a student-assistant to Fortuin, who would later become his master's thesis supervisor. It was in this time that Lennart was invited by Prof. Dr. Kortlandt to write a dissertation under his supervision, as an external doctoral candidate. During this period, Lennart taught modules on writing and structuring articles at Erasmus MC (MolMed).