Negative Indefinites in Afrikaans

Published by
LOT
Janskerkhof 13
3512 BL Utrecht
The Netherlands

phone: +31 30 253 6006
fax: +31 30 253 6406
e-mail: lot@uu.nl
http://www.lotschool.nl

Cover illustration: Hidden Valley, by Gary Huddlestone

ISBN: 978-94-6093-033-1
NUR 616

Copyright © 2010: Kate Huddlestone. All rights reserved.

Negative Indefinites in Afrikaans

Negatieve Indefinieten in het Afrikaans
(met een samenvatting in het Nederlands)

Proefschrift

ter verkrijging van de graad van doctor
aan de Universiteit Utrecht
op gezag van de rector magnificus, prof.dr. J.C. Stoof,
ingevolge het besluit van het college voor promoties
in het openbaar te verdedigen
op donderdag 17 juni 2010
des ochtends te 10.30 uur

door

Kathleen Maria Huddlestone

geboren op 9 december 1977
te Windhoek, Namibia

Promotor: Prof. dr. H.E. de Swart

The research presented in this book was supported by the South African National Research Foundation. Any opinion, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Research Foundation.

Contents

Acknowledgements v

List of Figures ix

List of Tables xiii

List of Tableaux xv

Chapter 1 Introduction 1

1.1 Negative indefinites and negative concord 1
1.2 Negation and negative indefinites in Afrikaans 4
1.3 Outline of the dissertation 9

Chapter 2 Negation and Afrikaans 15

2.1 Markedness of negation 15
2.2 An introduction to Afrikaans 21
2.2.1 A brief history of Afrikaans 21
2.2.2 An outline of the structure of Afrikaans 22
2.3 Sentential negation in Afrikaans 27
2.4 Negative indefinites in Afrikaans 33
2.4.1 Negative indefinites and sentential negation 37
2.4.2 Concluding remarks 39
2.5 An overview of previous accounts of negation in Afrikaans 39
2.5.1 Waher (1978) 40
2.5.2 Robbers (1992) 43
2.5.3 Oosthuizen (1998) 44
2.5.4 Molnárfi (2004) 47
2.5.5 Bell (2004) 52
2.5.6 Biberauer (2008, 2009) 54
2.5.7 Concluding remarks 59
2.6 Conclusion 60

Chapter 3 Negative Indefinites 63

3.1 Introduction 63
3.2 Negative concord 66
3.3 Approaches to the analysis of negative indefinites 71
3.3.1 Negative indefinites as semantically non-negative 71
3.3.2 Negative indefinites as ambiguous 78

3.3.3 Negative indefinites as semantically negative 81
3.4 The status of negative indefinites in Afrikaans 85
3.5 Conclusion 88

Chapter 4 Optimality Theory and Negation 91

4.1 Introduction to Optimality Theory 91
4.1.1 Bidirectional optimization 99
4.1.2 Stochastic Optimality Theory 105
4.2 Negation in Optimality Theory 115
4.2.1 Markedness of negation 115
4.2.2 Expression and interpretation of negative indefinites 118
4.3 Conclusion 129

Chapter 5 Empirical evidence: corpus and experimental data 131

5.1 Introduction 131
5.2 Corpus Data 131
5.3 Perception experiment 143
5.3.1 DN vs. NC prosodic contour 145
5.3.2 Questionnaire 150
5.3.3 Participants 154
5.4 Results of the perception experiment 155
5.4.1 Results: acceptability judgements 156
5.4.2 Results: meaning judgements 171
5.4.3 Concluding remarks 186
5.5 Production experiment 188
5.5.1 Participants 189
5.5.2 Design of the experiment 189
5.5.3 Results of the prosodic analyses 191
5.5.4 Concluding remarks 195
5.6 Conclusion 196

Chapter 6 An analysis of multiple negative indefinites in Afrikaans 199

6.1 Introduction 199
6.2 Multiple indefinites in the scope of negation 199
6.2.1 A description of indefinites in the scope of negation 199
6.2.2 Empirical evidence of multiple negative indefinites in Afrikaans 205

6.3 A standard bidirectional OT account of multiple negative indefinites in Afrikaans ... 210
6.4 A stochastic OT account of multiple negative indefinites in Afrikaans ... 213
6.4.1 Generating two possible forms for expressing one meaning: asymmetric constraint overlap of *Neg and MaxNeg ... 213
6.4.2 Assigning two possible interpretations to one form: asymmetric constraint overlap of *Neg and IntNeg ... 216
6.4.3 Empirical support for asymmetric constraint overlap of *Neg and IntNeg ... 218
6.5 Bidirectional grammar of indefinites in the scope of negation in Afrikaans ... 221
6.5.1 Developing a bidirectional stochastic OT account of multiple negative indefinites in Afrikaans ... 221
6.5.2 Interpretation of multiple negative indefinite combinations in Afrikaans in an asymmetric bidirectional stochastic OT account ... 226
6.6 Conclusion ... 231

Chapter 7 More on negative indefinites in Afrikaans: the case of *g'n* and *niks* ... 235

7.1 Introduction ... 235
7.2 Negative substitution: an analysis of *g'n* as a sentential negator ... 238
7.2.1 The use of *g'n* as a sentential negator ... 238
7.2.2 An information-structural account of non-canonical negation in Romance languages ... 242
7.2.3 An information-structural account of the use of *g'n* ... 246
7.2.4 The use of *g'n* in newspaper headlines ... 248
7.2.5 Concluding remarks ... 250
7.3 The nature and distribution of *g'n niks* in the corpus ... 251
7.3.1 Occurrences of negative indefinite combinations with *g'n* in the corpus ... 251
7.3.2 Establishing the difference between *g'n* and *geen* in negative indefinite combinations ... 254
7.3.3 Establishing the difference between *g'n niks* and other multiple negative indefinite combinations ... 256
7.3.4 The interpretation of negative indefinite combinations with *g'n* ... 262
7.3.5 Nature of the occurrences of *g'n niks* in the corpus ... 265

7.3.6 Concluding remarks 268
7.4 Negative reinforcement: an analysis of *g'n* as an intensifier 270
7.4.1 The use of *g'n* in negative indefinite combinations 270
7.4.2 Emphatic negation and Zeijlstra's (2007) EMNEs 271
7.4.3 *G'n* as an intensifier and the notion of emphasis 279
7.4.4 Negative reinforcement via substitution: *niks* 284
7.4.5 Concluding remarks 289
7.5 Conclusion 289

Chapter 8 Conclusion 291

References 303

Samenvatting in het Nederlands 315

Samevatting in Afrikaans 323

Curriculum vitae 331

Acknowledgements

The trick is, I find,
to tone your wants and tastes low down enough,
and make much of negatives
Walt Whitman, Specimen Days

My sincere thanks, firstly, to Henriette who made this dissertation possible through her guidance and support, mostly from a distance. Thank you for being such an enthusiastic and patient supervisor. I have learnt so much from your comments and criticisms, your ideas and insights. Thank you also for creating so many opportunities for me to visit the Netherlands, and for putting so much of your time aside to work with me when I was there.

In this respect, I also have to thank Rudie Botha, who first introduced me to Henriette, and who, together with Hanna, made me so welcome in Wassenaar on my first trip to the Netherlands. And, of course, for first giving me a job as assistant and then junior lecturer in the General Linguistics department at Stellenbosch University.

To my colleagues at Stellenbosch University, I am grateful for all their help and friendship. My 'boss', Christine Anthonissen, who, as head of department, made it possible for me to have a year of research leave, including a three-month sabbatical in Utrecht, and who has been unfailing in her support and encouragement; Ondene van Dulm and Frenette Southwood, for their advice and the examples they set; Johan Oosthuizen, for the blackboard discussions about "absolutely nothing" and for always being ready to give native-speaker judgements on the data (even if the answer was invariably "yes, that is possible…"); Christine Smit, for her administrative support; and Simone Conradie, who is always there to listen and talk and talk and listen, who always knows the right thing to say… and even when not to say it.

I would also like to thank the various departmental and research assistants over the past few years who have always been so willing to run

around on errands and carry out thankless tasks. Thanks to Alexa Anthonie, Lauren Mongie, Taryn Bernard, Ignatius Nothnagel, Gerda Odendaal, Wesley Jantjies, Tildie Smit, Janina Theron, Lauren Onraët, Jeané de Bruin, Anneke Perold, Erin Kruger, and Joanine Nel. Thank you especially to Gerda, Janina and Anneke for their help with the perception experiments and to Alicia Horak for the last minute reference checking.

My thanks go to the South African National Research Foundation (NRF) for their funding support, and to both the Dean of my faculty, Hennie Kotzé, and to Stellenbosch University's Sub-committee A, for their contribution to the NRF grants. Thanks also go to the staff at the Research division of Stellenbosch University for all their assistance with funding applications and administration.

At UiL-OTS, I would like to thank Maaike Schoorlemmer for all her help, and Martin Everaert, for his support, and for serving on my committee. I am also grateful to Mariëtte Bonenkamp and Yvonne van Adrichem for their help with all things administrative. I visited Utrecht regularly over the course of the PhD, and the three months I spent there on sabbatical in 2008 have to be some of the most productive months in my academic career. I am also deeply grateful for all the friends I have made in Utrecht. A special word of thanks goes to Bert le Bruyn, who from the first time I arrived in the attic made me welcome, answered all my questions and helped me wherever he could; Sander van der Harst, who taught me the basics of Statistica; Min Que, who lent me her desk, Gianluca Giorgolo, who owes me a bottle of wine, and Lizet van Ewijk, who was happy to play chauffeur among other things.

I am sincerely grateful to my two paranimphs, Marieke Kolkman, who was the first friend I made at the LOT winter school in 2006 and who has put me up regularly in Amsterdam ever since; and Bettina Gruber, whose couch is also a home away from home, and who shares my love of red wine. I am also indebted to Marieke for doing such a great job with the Dutch summary.

Many people assisted in making this dissertation a reality. I am grateful to Fred Pheiffer at Pharos for giving me access to their corpus, which was an integral data source, and for introducing me to WordSmith Tools; to

Stella Gryllia, at Leiden University, and Kelly Webb, at Bangor University, for their help with the prosodic analyses; and to Martin Kidd, at Stellenbosch University, and Huub van den Bergh, at Utrecht University, for all their help with the statistics. I am also grateful to Hedde Zeijlstra and Hans den Besten, at the University of Amsterdam, for some interesting discussions in the initial phases of my PhD. I would especially like to thank Hans for serving on my committee and providing me with useful feedback on the final manuscript. Helen de Hoop, at Raboud University, Nijmegen also provided necessary feedback on the manuscript and I am indebted to her for serving on my committee, along with Jack Hoeksema, at Rijksuniversiteit Groningen. And then a sincere word of thanks goes to Theresa Biberauer, at Cambridge University, for many fruitful discussions, for commenting on previous drafts of individual chapters, for serving on my committee, and for providing insightful feedback on the final manuscript.

Finally, thanks to my parents, Chris and Peta van Gass, for their love and support and for being enthusiastic even when they weren't totally sure what it was I was doing; and to my sister, Olivia, for being the best little sister.

And to Grant…

List of Figures

Figure 2.1: Abstract structure for Afrikaans negative sentences (Oosthuizen 1998:81) 45
Figure 2.2: Abstract structure for Afrikaans negative sentences (Molnárfi 2004: 207) 50
Figure 2.3: Derivation of an Afrikaans negative sentence (Bell 2004: 97) 53

Figure 4.1: (Weak) bidirectional optimization 101
Figure 4.2: Probability of C1 >> C2 as function of C1 – C2 (in %) (Mattausch 2005:83) 106
Figure 4.3: Overlapping constraints (Mattausch 2005: 84) 107
Figure 4.4: Bidirectional learning curves – bias constraints (Mattausch 2007: 115) 112
Figure 4.5: Bidirectional learning curves – first generation (Mattausch 2007: 119) 113
Figure 4.6: Evolution of OE – generations 1-20 (Mattausch 2007: 126) 114

Figure 5.1: Total number of indefinites/NPIs and NIs occurring in the corpus 133
Figure 5.2: Total no. of multiple NI combinations in the corpus (excl. *g'n* and *geen*) 135
Figure 5.3: Total no. of NI & indefinite/NPI combinations in the corpus (excl. *g'n* and *geen*) 135
Figure 5.4: Total number of NI/indefinite combinations with *g'n*/*geen* in the corpus 137
Figure 5.5: Prosodic contour for DN interpretation of multiple NI combination (H* L* L-H%) 146
Figure 5.6: Prosodic contour for NC interpretation of multiple NI combination (H* L-L%) 147
Figure 5.7: Prosodic contour (1) for DN interpretation of an NI combination with *g'n* (H* L* L-H%) 148
Figure 5.8: Prosodic contour (2) for DN interpretation of an NI combination with *g'n* (H* L-H%) 148

Figure 5.9: Prosodic contour for NC interpretation of a NI combination with *g'n* 149
Figure 5.10: Sample questions from perception judgement questionnaire 153
Figure 5.11: Acceptability means – Version 1 vs. Version 2 of the perception experiment 157
Figure 5.12: Acceptability means – NC vs. DN prosodic contour 158
Figure 5.13: Acceptability means – multiple NI combinations vs. NI + indefinite combinations 163
Figure 5.14: Acceptability means – multiple NI combinations vs. NI combinations with *g'n* 165
Figure 5.15: Acceptability means – NI combinations with *g'n* vs. *g'n* + indefinite combinations 166
Figure 5.16: Acceptability means – NI combinations with *g'n* vs. NI combinations with *geen* 168
Figure 5.17: Acceptability means – NI combinations with *geen* vs. *geen* + indefinite combinations 169
Figure 5.18: Acceptability means – NI combinations 170
Figure 5.19: Percentage correct – meaning judgements of NC vs. DN utterances* 172
Figure 5.20: Percentage correct – meaning judgements of MNI combinations (1st experiment) 177
Figure 5.21: Percentage correct – meaning judgements of MNI combinations (2nd experiment) 179
Figure 5.22: Percentage correct – meaning judgements of NI combinations with *g'n* (1st experiment) 182
Figure 5.23: Percentage correct – meaning judgements of NI combinations with *g'n* (2nd experiment) 183
Figure 5.24: Percentage correct – meaning judgements of NI combinations with *geen* (1st experiment) 184
Figure 5.25: Percentage correct – meaning judgements of NI combinations with *geen* (2nd experiment) 185
Figure 5.26: Prosodic contour for representative NC utterance (participant 4) 191
Figure 5.27: Prosodic contour for representative DN utterance 193

Figure 6.1: Total no. of NI combinations in the corpus 206
Figure 6.2: Total no. of NI + indefinite combinations in the corpus 207

Figure 7.1: Total number of combinations with *g'n* and *geen* found in the corpus..... 252
Figure 7.2: Prosodic contour for DN interpretation of *g'n niks*..... 263
Figure 7.3: Prosodic contour for NC interpretation of *g'n nêrens*..... 263
Figure 7.4: Four types of polarity sensitive items (Israel 1996: 628)..... 282

List of Tables

Table 2.1: Pronouns in Afrikaans 25
Table 2.2: Tense morphology in Afrikaans 25

Table 4.1: Frequencies for OE (Mattausch 2007: 111) 110

Table 5.1: Frequencies for expression of indefinites under negation 139
Table 5.2: Frequencies for interpretations of multiple negative indefinite combinations 140
Table 5.3: Acceptability judgements of multiple NI combinations 160
Table 5.4: Acceptability judgements of NI combinations with *g'n* 164
Table 5.5: Acceptability judgements of NI combinations with *geen* 167
Table 5.6: Frequencies for MNI combinations with NC prosody 174
Table 5.7: Interpretation of utterances produced with NC, or neutral, prosody 175
Table 5.8: Frequencies for MNI combinations with DN prosody 176
Table 5.9: Interpretation of utterances produced with DN prosody 178
Table 5.10: Interpretation of utterances produced with DN prosody (second experiment) 180
Table 5.11: Frequencies for NC sentences produced with neutral (NC) prosody 192
Table 5.12: Frequencies for DN sentences produced with DN prosody 192
Table 5.13: Individual frequencies for DN sentences produced with a DN prosodic contour 194

Table 6.1: Frequencies for expression of indefinites under negation 207

Table 6.2: Frequencies for interpretations of multiple NI combinations 208
Table 6.3: Frequencies for utterances produced with neutral, or NC, prosody 219
Table 6.4: Frequencies for utterances produced with DN prosody (second experiment) 220

Table 7.1: Perception study acceptability judgements of NI combinations with *g'n* 255
Table 7.2: Perception study acceptability judgements of NI combinations with *geen* 256
Table 7.3: Perception study acceptability judgements of *g'n* + indefinite combinations 258
Table 7.4: Perception study acceptability judgements of NI + indefinite combinations 259

Table 8.1: Frequencies for the expression of indefinites under negation 295
Table 8.2: Frequencies for interpretations of multiple negative indefinite combinations 295
Table 8.3: Frequencies for utterances produced with neutral prosody 297

List of Tableaux

Tableau 4.1: English (production) 95
Tableau 4.2: Italian (production) 95
Tableau 4.3: NP interpretation (4.6)(a) 98
Tableau 4.4: NP interpretation (4.6)(b) 98
Tableau 4.5: Weak bidirectional optimization 103
Tableau 4.6: Generation of negative sentences 118
Tableau 4.7: Interpretation of negative sentences 118
Tableau 4.8: Production of indefinites in the scope of negation (Dutch, English, etc.) 122
Tableau 4.9: Production of indefinites in the scope of negation (Spanish, Italian, etc.) 122
Tableau 4.10: Double negation interpretations (Dutch, English, etc.) 125
Tableau 4.11: Negative concord interpretations (Italian, Spanish, etc.) 125
Tableau 4.12: {IntNeg, MaxNeg} >> *Neg (intended meaning not recovered) 128
Tableau 4.13: *Neg >> {IntNeg, MaxNeg} (form not motivated) 128

Tableau 6.1: Indefinites under negation (production and interpretation) 202
Tableau 6.2: *Neg >> {IntNeg, MaxNeg} 211
Tableau 6.3: Bidirectional stochastic grammar of indefinites in the scope of negation 223
Tableau 6.4: Disambiguation of multiple NI combinations in context/with prosody 230

Chapter 1
Introduction

1.1 Negative indefinites and negative concord

This dissertation is concerned with the syntactic and semantic status of negative indefinites in Afrikaans. The term "negative indefinite" is used, following Penka (2007), in a descriptive manner to refer to both negative quantifiers, such as *nobody* or *nothing* in English, and to the so-called n-words, a term first coined by Laka (1990) for the indefinite pronouns that participate in negation in negative concord (NC) languages. The term "negative concord" refers to the fact that such languages make use of multiple instances of negation and/or negative indefinites to express a single negation, as illustrated in (1.1).

(1.1) (a) *Il ne pense pas cela.* (French)
he SN thinks SN that
"He does not think that."

(b) *Non ho visto nessuno.* (Italian)
SN has seen nobody.
"I haven't seen anybody."

(c) *Nadie comió nada.* (Spanish)
Nobody ate nothing.
"Nobody ate anything."

Giannakidou (2006: 328) defines the set of expressions known as n-words as follows (it is important to note that negative morphology is not a prerequisite for n-word status) –

(1.2) An expression α is an n-word iff:
(i) α can/must be used in structures containing sentential negation or another α-expression yielding a reading equivalent to one logical negation; and
(ii) α can provide a negative fragment answer.

The Italian *nessuno* and the Spanish *nadie* and *nada*, in the sentences in (1.1)(b) and (c), are examples of n-words, as they are used in structures containing sentential negation and another n-word, respectively, which yield a single negation reading. Furthermore they can be used to provide a negative fragment answer, as the following Spanish example illustrates.

(1.3) Q: *Qué viste?* A: *Nada.* (Spanish)
"What did you see?" "Nothing."

In fact the ability to provide a negative fragment answer is a unifying characteristic of negative indefinites, whether n-words, as above, or negative quantifiers, as in (1.4).

(1.4) Q: *Who did you meet?* A: *Nobody.* (English)

In contrast to n-words, however, negative quantifiers in double negation (DN) languages cannot co-occur with sentential negation, or with other negative quantifiers, with a single negation reading, as illustrated in (1.5) and (1.6). In fact it is this characteristic – that every negative element in a sentence is interpreted as contributing its own negation – that has resulted in the term "double negation" being applied to such languages.

(1.5) (a) *I haven't seen nobody.* (English)
≠ "I haven't seen anybody."

(b) *Nobody ate nothing.*
≠ "Nobody ate anything."

(1.6) (a) *Hij heeft niets niet gedaan.* (Dutch)
he have nothing SN done
"There is nothing he didn't do."
≠ "He didn't do anything."

(b) *Niemand heeft niets gezien.*
nobody have nothing seen
"Nobody saw nothing."
≠ "Nobody saw anything."

In Afrikaans, negative indefinites are the nominal and adverbial negative elements *niemand* ("nobody"), *geeneen* ("not one"), *nooit* ("never"), *nêrens* ("nowhere"), *niks* ("nothing"), as well as the negative determiners *geen*, *g'n* ("no"). In standard Afrikaans these elements always co-occur with a marker of negation, sentence-final *nie*, as in (1.7), making them appear similar to n-words in NC languages.

(1.7) *Ons het niemand daar gesien nie.*
we have nobody there see-PST SN
"We didn't see anybody there."

However, sentences such as (1.8) that contain more than one negative indefinite, express double negation, rather than yielding a single logical negation, making these elements appear similar to negative quantifiers in DN languages.

(1.8) *Niemand sien niks nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

That negative indefinites in Afrikaans cannot co-occur with other negative indefinites expressing a single logical negation, while at the same time always co-occurring with a marker of sentential negation, is a contradiction that any theory of negation in Afrikaans will have to account for. These facts raise questions, firstly, about the nature of sentential markers of negation in Afrikaans, and, secondly, about the nature of negative indefinites in Afrikaans.

Negative indefinites have received considerable attention in the negation literature, specifically in research focusing on languages that display NC, because of the interesting puzzle they pose from an interpretation perspective, as we will see in Chapter 3. However, these elements have not received a great deal of attention in the literature on Afrikaans and Afrikaans negation. This is despite the fact that they display interesting properties that seem to distinguish them from both n-words in NC languages and negative quantifiers in DN languages. The behaviour and status of these negative elements in Afrikaans therefore forms the central focus of this dissertation. It is my aim to provide a detailed analysis of the nature of negative indefinites in Afrikaans, on the basis of empirical data and theoretical observations. In the following section I provide a

brief characterisation of negation and negative indefinites in Afrikaans, showing how the distinctions discussed so far can be applied to Afrikaans.

1.2 Negation and negative indefinites in Afrikaans

Negation is a universal category of natural language (Dahl 1979: 80), and despite the fact that all human languages make a distinction between affirmative and negative statements, negation is still marked in relation to affirmation. Specifically, negation is morphologically more complex in relation to affirmation, as negative sentences generally involve elements that are not present in affirmative sentences. Furthermore, negation occurs less frequently in discourse than affirmation (Miestamo 2006). The fact that negation is both marked and universal makes it one of the core topics in the semantic and syntactic literature.

Early studies of negation in Afrikaans were primarily diachronic in nature, cf. Bosman (1923), Nienaber (1965), Valkhoff (1966), Scholtz (1980), Raidt (1983, 1989), Den Besten (1986), Bernini and Ramat (1996) and most recently Roberge (2000), focusing on the possible origins of Afrikaans negation. The first, and most detailed, analysis of negation in Afrikaans within a broad generative approach was Waher (1978, 1983). More recent contributions to this field include Robbers (1992), Oosthuizen (1998), Molnárfi (2002, 2004), Bell (2004), and Biberauer (2007, 2009). Other, more descriptive works that deal with negation in Afrikaans are Ponelis (1979, 1993), de Stadler (1989), Donaldson (1993), Saal (1994) and Feinauer (1994). Finally, van der Wouden (1994), whose analysis of negation in Afrikaans forms only a small part of his overall study of polarity items, multiple negation and collocation, deals specifically with the semantic contexts in which sentence-final *nie* occurs in Afrikaans. In this dissertation I intend to provide both a description of negative indefinites in Afrikaans and a theoretically grounded analysis of the syntactic and semantic status of these elements.

Within current literature, Afrikaans is characterised as an NC language, rather than a DN language, unlike Dutch, which is its closest (standard) West Germanic relative (cf. van der Wouden and Zwarts 1993, van der Wouden 1994, Giannakidou 2000, 2006, Molnárfi 2004, Zeijlstra 2004, de Swart 2006, 2010, Biberauer 2008, 2009, Tubau 2008). Of course

there are other West Germanic languages/dialects that display NC, for example, Aarschots, West Flemish and Bavarian, (cf. Pauwels 1958, Haegemann & Zanuttini 1996, Haegemann & Lohndal 2008, Breitbarth & Haegemann 2008, Bayer 1990 and Weiß 2002). The reason for characterising Afrikaans as an NC language is that negative structures in Afrikaans require two negative elements, either the seemingly identical negative elements *nie*…*nie*, as illustrated in (1.9), or a negative indefinite and the negative element *nie*, as illustrated in (1.10).

(1.9) *Haar suster het nie haar verjaarsdag vergeet nie.*
her sister has SN her birthday forgotten SN
"Her sister didn't forget her birthday."

(1.10) *Hy het nooit sy broer vergewe nie.*
he has never his brother forgiven SN
"He never forgave his brother."

Van der Wouden (1994), following, and expanding on, den Besten (1986), characterises this pattern of NC as "negative doubling", defining it as the situation in which "a distinguished negative element shows up in all sentences that contain a negative expression". This type of NC is contrasted with "negative spread", in which "the negative feature is 'spread' or distributed over any number of indefinite expressions within its scope" (van der Wouden 1994: 95).

Negative spread is characteristic of most NC languages, as in NC languages in general, multiple negative indefinites can co-occur, expressing a single negation. This is illustrated by the Spanish example in (1.1)(c) in section 1.1, and the Czech example in (1.11) below.

(1.11) *Nikdo nedá nikomu nic.* (Czech)
nobody SN-gives nobody nothing
"Nobody gives anything to anyone." (Zeijlstra 2004: 62)

However, unlike other NC languages, standard Afrikaans does not display negative spread. In standard Afrikaans any additional existentially quantified variables (i.e. in addition to the first negative indefinite) that occur in the scope of negation are realised by non-negative indefinites or negative polarity items (NPIs), as illustrated in (1.12). If multiple negative

indefinites do co-occur, the utterance is given a DN interpretation in standard Afrikaans, as illustrated in (1.13).

(1.12) *Ons het* *niemand* *ooit* *daar* *gesien* *nie.*
we have nobody ever there see-PST SN
"We never saw anybody there."

(1.13) *Niemand* *sien* *niks* *nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

This is similar to the situation in standard Dutch and English, languages classified as DN languages, as illustrated by (1.14) and (1.15).

(1.14) *Niemand* *heeft* *iets* *gezien.* (Standard Dutch)
no-one has something seen
"No-one saw anything."

(1.15) *Nothing ever goes wrong.* (Standard English)

Furthermore, when negative indefinites do co-occur with each other, or with sentential negation, in English and Dutch[1], the sentence is given a DN interpretation, as we saw in (1.5) and (1.6) in section 1.1.

In colloquial Afrikaans, though, the picture is different. In colloquial Afrikaans, in addition to sentences like those in (1.12) and (1.13), it is also possible to produce utterances containing multiple negative indefinites with a single negation, or NC interpretation, as (1.16) illustrates.

(1.16) *Ons skuld* *niemand* *niks* *nie.*
we owe nobody nothing SN
"We don't owe anybody anything."

It is this potential ambiguity between NC and DN interpretations of multiple negative indefinite combinations on the one hand, and the

[1] Although cf. Hoeksema (1997b) for evidence that dialectal Dutch also displays negative spread.

variation in the expression of multiple indefinites in the scope of negation on the other hand, that will form the central focus of the dissertation. Antilla & Fong (2000, 2004) maintain that the examination of patterns of ambiguity and variation, which are taken to be converses of each other, and the systematic preferences in expression and interpretation that can be observed in natural language, are important to study as "the correct approach to variation, ambiguity and preferences, once found, would automatically provide new solutions to more traditional problems as well" (Antilla & Fong 2004: 1254).

However, the availability of more than one form to express the same meaning is problematic when one considers that economy considerations are an important aspect of natural language (Grimshaw 1997, Samek-Lodovici 2006, 2007, McCarthy 2007). Williams (1997: 578) formulates the observation that there is a tendency towards the pairing of one form with one meaning as a "hatred of synonymy", arguing that "if two forms exist (in syntax or morphology) they must have different meanings". The idea that one meaning should be paired with one form can be captured by the concept of 'markedness', namely that marked forms are associated with marked meanings and unmarked forms are paired with unmarked meanings. Comrie (1996) argues that if one wishes to "provide an explanatory account of why language is the way it is, then notions of markedness play a crucial role". Although see Haspelmath (2006) for a critical view of the concept of 'markedness'.

There are various ways to define markedness, as discussed in de Hoop et al (2004: 1077-1080), including amongst others, morphological marking, order of acquisition, language universals, frequency and unmarked interpretation. Firstly, in terms of morphological marking, an unmarked form is one that does not have overt morphological marking, while a marked form does. Secondly, in terms of language acquisition, an unmarked form can be defined as one which is acquired before a marked form. Furthermore, the more prevalent a form/property is cross-linguistically, the less marked it is. A form can also be considered to be unmarked if it occurs more often than a marked form. Finally, the meaning that a form receives in a neutral context can be defined as the unmarked interpretation. In Chapter 4 it will be shown how markedness, that is the pairing of unmarked forms with unmarked meanings and marked forms with marked meanings, arises as a result of bidirectional optimization (Blutner 2000).

As noted at the start of this section, (single) negation is marked in relation to affirmation, with respect to both form and meaning. Firstly, negative forms are morphologically marked in comparison to affirmative forms, as negative sentences generally involve elements that are not present in affirmative sentences, as illustrated in (1.17).

(1.17) (a) *Grant knows the answer.*

(b) *Grant doesn't know the answer.*

Secondly, negation, despite occurring in all natural languages, occurs less frequently in discourse than affirmation (Tottie 1991, Miestamo 2006). So, while on the one hand negation can be said to be an unmarked property of natural language, as the more prevalent a form is cross-linguistically, the less marked it is, on the other hand it is marked with respect to affirmation, as a form can be considered to be marked if it occurs less often than an unmarked form.

Double negation, in turn, is marked in relation to single negation for similar reasons. Firstly, double negation, whether the syntactic double negation observed in NC languages, or the semantic double negation observed in DN languages, involves more morphological complexity than single negation, as there is multiple marking of negation. Secondly, double negation in DN languages is marked in terms of (pragmatic) meaning. This is illustrated by the direct denial in (1.18), which, although it has the same truth conditions as its positive equivalent *You should go to the party*, conveys an additional communicative effect (cf. Horn 1978, van der Wouden 1994).

(1.18) *You shouldn't not go to the party.* (Horn 1978: 162)

The markedness of double negation makes Afrikaans an important language to examine, as, firstly, Afrikaans exhibits syntactic DN, with the sentential negation marker *nie* occurring obligatorily with a sentence-final sentential negation marker *nie*, the so-called "double-*nie*" construction. Secondly, in Afrikaans, it is possible to find a single negation expressed by more than one negative indefinite, as well as such a construction receiving a DN reading, i.e. exhibiting semantic double negation. It is for this reason that the dissertation focuses on negative indefinites in

Afrikaans. In the following section I outline the structure of the dissertation, highlighting which specific aspects of negative indefinites and negation are examined.

1.3 Outline of the dissertation

The dissertation is set out as follows: In Chapter 2 I will examine the markedness of negation, and aspects of Afrikaans, specifically negation and negative indefinites in Afrikaans. In order to account for the occurrence and interpretation of multiple negative indefinites in Afrikaans we need to have an idea of the structure of Afrikaans and of negation in Afrikaans, as well as an understanding of the various approaches to negative indefinites in Afrikaans. For this reason Chapter 2 also examines previous accounts of negation in Afrikaans, and provides a starting point for the analyses proposed in this dissertation.

In order to provide an analysis of negative indefinites in Afrikaans, we first need to examine the nature of negative indefinites in language in general. For this reason Chapter 3 provides an outline of the various approaches to the analysis of negative indefinites. Firstly, a brief discussion of negative concord is given. This is followed by a discussion of the three major approaches to negative indefinites, namely, the approach that treats negative indefinites as non-negative, either as NPIs or non-negative indefinites, the approach that treats negative indefinites as ambiguous between a non-negative and a negative interpretation, and the approach that treats negative indefinites as inherently negative quantifiers.

The analysis of negative indefinites in Afrikaans proposed in this dissertation will be formulated in the framework of Optimality Theory (OT). As de Swart (2010) notes, an OT analysis allows one to investigate both the syntax of negative indefinites and their semantics, and how the form and function of negative indefinites hang together in the syntax-semantics interface. According to de Swart, an OT analysis is also "mostly neutral with respect to the syntactic theory in which syntactic constraints are formulated, and relies on fairly general assumptions about phrase structure and word order" (de Swart 2010: 52). In this respect it is hoped that the analysis presented in this dissertation will be compatible with different grammatical frameworks. In order to situate the analysis, Chapter 4 provides a discussion of OT, specifically OT syntax, OT

semantics and bi-directional OT. This chapter also provides an exposition of de Swart's (2010) OT typology of negation.

The analysis of negative indefinites in Afrikaans presented in this dissertation is based on both empirical data and theoretical observations. The data used to inform the analysis and support the theoretical observations is presented in Chapter 5. In order to determine the prevalence of multiple negative indefinite combinations in Afrikaans and their preferred interpretation, a study of a corpus of written Afrikaans was undertaken. The data from the corpus study provide the statistical asymmetries with regard to the expression and interpretation of negative indefinites in Afrikaans that inform the central analysis of the dissertation, presented in Chapter 6. Specifically, it is observed that multiple negative indefinite combinations occur in 4% of negative sentences containing multiple adjacent existentially quantified variables, while 96% contain a combination of a negative indefinite and an ordinary indefinite or NPI. Furthermore, of the sentences containing multiple negative indefinites, 96% have an NC interpretation, while only 4% have a DN interpretation. This means that there were only 5 instances of multiple negative indefinite combinations with a DN interpretation observed in the corpus, so few that one can hardly prove that this reading exists.

So, although the corpus data is very informative, and very useful in supporting various theoretical observations, it is not wholly sufficient when it comes to providing evidence for what is essentially a spoken language phenomenon, namely, the occurrence of multiple negative indefinite combinations with NC interpretations in colloquial Afrikaans. For this reason it was felt that spoken language data was necessary to inform the analysis. As there is currently no corpus of spoken Afrikaans it was determined that native speaker judgements of multiple negative indefinite combinations would have to be elicited. These judgements would have to be two-fold in nature, as they would have to provide data on the acceptability of negative indefinite combinations in Afrikaans, as well as on the preferred meaning of such combinations. An initial pilot study was undertaken therefore to elicit native speaker judgements on a range of negative sentences in Afrikaans. This study was intended to explore the possibilities offered by sentential negation in Afrikaans and to inform the construction of the main data collection experiment.

The main data collection took the form of two versions of a perception experiment. These experiments elicited acceptability judgements, as well as meaning judgements, from native speakers of Afrikaans on a range of spoken utterances containing multiple negative indefinites, produced with different prosodic contours. It was hoped that by using spoken utterances the problems associated with a visual/written medium of presentation would be overcome. The results of the perception experiments are used to support the observations from the corpus study in the analysis presented in Chapter 6. These results showed that while multiple negative indefinite combinations are generally acceptable to native speakers when presented as auditory stimuli, they are not as acceptable as the standard Afrikaans form for expressing multiple indefinites in the scope of negation, namely with the combination of a negative indefinite and an ordinary indefinite or NPI.

With regard to the meaning of negative indefinite combinations it was found that a very specific prosodic contour is essential for the accurate interpretation of DN multiple negative indefinite combinations in Afrikaans, and that when this prosodic contour is missing, or unclear, the default interpretation for multiple negative indefinites is an NC interpretation. Interestingly, it will be seen that even when multiple negative indefinite combinations are produced with a neutral prosodic contour they are still assigned DN interpretations by some speakers. The results of the perception experiments in fact show that the interpretation of spoken multiple negative indefinite combinations reflects a statistical asymmetry similar to that observed in the corpus data, specifically the assignment of NC and DN interpretations to multiple negative indefinites occurs in a ratio of 5:1.

In order to determine whether naïve speakers of Afrikaans do in fact produce such a disambiguating prosodic contour for DN meanings of negative indefinite combinations in everyday contextualised speech, a sentence production experiment was undertaken. The results of this experiment show that speakers generally fail to provide disambiguating prosody for sentences containing multiple negative indefinite combinations presented in a DN context.

Chapter 6 presents the central analysis of the dissertation, an Optimality Theoretic account of negative indefinites in Afrikaans, based on the data presented in Chapter 5 and situated in the OT framework outlined in

Chapter 4. As we saw in section 1.2, there is variation in the expression of indefinites in the scope of negation in colloquial Afrikaans, as well as in the interpretation of multiple negative indefinite combinations. It is possible to express a single negation both with the combination of a negative indefinite and one or more ordinary indefinites or NPIs and with the combination of multiple negative indefinites. It is also possible to assign either a DN or an NC interpretation to a multiple negative indefinite combination. In order to account for this variation, the analysis in Chapter 6 will make use of stochastic asymmetric bidirectional OT to explain the occurrence of two possible forms to express a single meaning, namely a negative indefinite + indefinite combination, as illustrated in (1.12) above, and a multiple negative indefinite combination with an NC interpretation, as illustrated in (1.16) above. Under this account a speaker produces either a negative indefinite + indefinite or a multiple negative indefinite combination on the basis of a stochastic (overlapping) constraint ranking, determined by the statistical asymmetries observed for the expression of indefinites in the scope of negation in the corpus data, noted above. Basically, this means that 96% of the time a speaker will produce a negative indefinite + indefinite form, while 4% of the time, she will produce a multiple negative indefinite combination.

The analysis in Chapter 6 will also account for the occurrence of two possible interpretations, that is, either a DN or an NC interpretation, of multiple negative indefinite combinations in colloquial Afrikaans. Under this analysis the interpretation of multiple negative indefinite combinations is determined by two constraints, relating to the effect of context and of prosody on interpretation, as well as a stochastic constraint ranking determined by the statistical asymmetries observed in the perception experiment data, noted above. This means that in general the interpretation of multiple negative indefinites is determined by the context or by clear prosody, but when there is no context or clear prosody the overlapping constraint ranking comes into play and the distribution of NC to DN interpretations will occur in a ratio of 5:1.

However, one multiple negative indefinite combination that will not be addressed in Chapter 6 is that of *g'n niks*. The reasoning for this is two-fold. Firstly, from the corpus data presented in Chapter 5, we will see that the combination *g'n niks* is the highest occurring negative indefinite

combination and that all the instances of *g'n niks* in the corpus received an NC interpretation. The high frequency of *g'n niks* in comparison to other negative indefinite combinations supports making a distinction between *g'n niks* and other negative indefinite combinations. Secondly, as we will see in Chapter 2, and from the data presented in Chapter 5, *g'n niks* functions differently in colloquial Afrikaans to other negative indefinite combinations, in that it can express sentential negation, in place of the sentence-medial *nie*.

Chapter 7 will present an examination of the negative indefinite *g'n* as it occurs in colloquial Afrikaans, showing that there are in fact three types of *g'n*. The first *g'n* is a negative determiner, similar to its full phonological form *geen*, as illustrated in (1.19).

(1.19) *Ons het g'n motors op die pad gesien nie.*
we have no cars on the road see-PST SN
"We didn't see any cars on the road."

The second *g'n* functions as a sentential negative marker with a restricted ability to occur on its own in place of sentence-medial *nie*. In other words it can occur in non-argument positions. An information structural analysis, following Schwenter (2005, 2006), will be proposed to account for the fact that the use of *g'n* as a sentential negative marker is only felicitous when it is used to deny an activated, salient, discourse-old proposition. This can be illustrated by the examples in (1.20) and (1.21).

(1.20) [speaker enters a classroom with a broken window]
#Meneer, ek het g'n die ruit gebreek nie!
"Sir, I did NOT break the window!"

(1.21) [same situation as (1.20)]
Meneer: *Neelsie, ek weet jy't die ruit gebreek!*
Neelsie I know you-have the window break-PST
"Neelsie, I know you broke the window!"

Neelsie: *Meneer, ek het g'n die ruit gebreek nie!*
sir I have no the window break-PST SN
"Sir, I did NOT break the window!"

The third *g'n* functions as an intensifier, in combination with other negative indefinites, such as *niks*. It will be argued, making use of Israel's (1996, 1997, 2001) notion of 'emphasis', that this *g'n* is an emphatic scalar operator which increases the grade of the negation expressed by the negative indefinite with which it co-occurs. This can be illustrated by the example in (1.22).

(1.22) *Hy kry g'n niks gedoen nie.*
he get no nothing do-PST SN
"He doesn't get anything at all done."

Chapter 7 will also present an analysis of *niks*, arguing that it can function as degree adverb which strengthens the negation expressed by an utterance, and so accounting for its ability to occur on its own, and in combination with *g'n*, in place of sentence-medial *nie*. This can be illustrated by the examples in (1.23).

(1.23) (a) *Dis niks gratis nie.*
it-is nothing free SN
"It's totally not free." / "It ISN'T free."

(b) *Dis g'n niks gratis nie.*
it-is no nothing free SN
"It isn't free at all."

Finally, Chapter 8 provides the main conclusions and a summary of the dissertation. This chapter also briefly looks at further avenues of research relating to negation and negative indefinites in Afrikaans.

Chapter 2
Negation and Afrikaans

As noted in Chapter 1, the aim of this dissertation is to provide a detailed analysis of the nature of negative indefinites in Afrikaans. In order to achieve this aim, an understanding of the structure of Afrikaans and of negation in Afrikaans, as well as of the various approaches to the analysis of negative indefinites in Afrikaans, is necessary. Firstly, though, it is necessary to provide an idea of what makes negation one of the core topics in the semantic and syntactic literature. For this reason we return to the concept of 'markedness' introduced in Chapter 1, by examining, in section 2.1, the markedness of negation and the ways in which multiple negative elements are expressed and interpreted in various languages. This will be followed, in section 2.2, by a brief outline of the structure of Afrikaans, while section 2.3 provides a discussion of sentential negation in Afrikaans and section 2.4 provides a discussion of negative indefinites in Afrikaans. Finally, section 2.5 examines previous accounts of negation in Afrikaans, providing a starting point for the analyses proposed in this dissertation.

2.1 Markedness of negation

All human languages make a distinction between affirmative and negative statements, however, negation remains marked, semantically as well as formally, in relation to affirmation (Horn 1989: 156). According to Miestamo (2006) there is both a functional asymmetry (in cognitive, semantic and pragmatic terms) between affirmation and negation, and a formal asymmetry (in morphosyntactic terms). For example, psycholinguistic experiments have shown that negatives are harder to process than affirmatives (Clark 1974), while the formal markedness of negation is reflected by the fact that "[t]he negative always receives overt expression while the positive usually has zero expression" (Greenberg 1966: 50). This can be illustrated by the sentences in (1.17).

(2.1) (a) *Grant knows the answer.*

(b) *Grant <u>doesn't</u> know the answer.*

Furthermore, negation occurs far less frequently in discourse than affirmation (Miestamo 2006). If we assume, following Haspelmath (2006), that asymmetries in form are the result of frequency asymmetries in meaning, then the relative infrequency of negative meanings when compared to affirmative meanings explains why negative expressions are marked (longer, more complex) than their corresponding affirmative expressions[2]. This asymmetry is in line with Horn's division of pragmatic labour, which states that:

> given two coextensive expressions, the briefer and/or more lexicalised form will tend to become associated with some unmarked, stereotypical meaning, use or situation, and the marked, more complex or prolix, less lexicalised expression tends to implicate a marked message, one which the unmarked form could not or would not have conveyed.
>
> (Horn 1989: 197)

Just as (single) negation is marked in relation to affirmation, so too is the occurrence of double negation (whether syntactic or semantic) in relation to the occurrence of single negation. I refer to cases where a single logical negation at the propositional level is expressed by more than one negative element (so-called negative concord) as syntactic double negation, while cases where a double negation meaning is expressed by more than one negative element are referred to as semantic double negation. For the purpose of this exposition two kinds of syntactic double negation will be described. Firstly, there is syntactic double negation that results from the use of two sentential negative markers, so-called discontinuous negation (de Swart 2010). Old English and French are two languages that typify this type of negation, with both a preverbal and a post-verbal sentential negation marker combining to express a single semantic negation, as illustrated by the examples in (2.2) from de Swart (2010: 9).

---

[2] Haspelmath (2006: 25) in fact criticises the use of the term "markedness" arguing that some of the concepts it denotes could be "better expressed by more straightforward, less ambiguous terms". However, in the case of negation, using the concept of 'markedness' allows us to account for a number of asymmetries between affirmation and negation.

(2.2) (a) *Ne bið he na geriht.* (Old English)
SN is he SN righted
"He is not/never set right (=forgiven)"

(b) *Elle ne vient pas.* (written French)
she SN comes SN
"She doesn't come."

Afrikaans can be classified as a discontinuous negation language, as negative sentences obligatorily contain two sentential negation markers, the sentence-medial and the sentence-final *nie*, as illustrated in (2.3).

(2.3) *Ek weet dat hy nie kom nie.*
I know that he SN come SN
"I know that he is not coming."

The occurrence of multiple negative elements to express a single negation is generally attributed to the patterns of diachronic change in negation, referred to as the "Jespersen cycle", a term first coined by Dahl (1979: 88), and formulated as follows:

> The history of negative expressions in various languages makes us witness the following curious fluctuation: the original negative adverb is first weakened, then found insufficient and therefore strengthened, generally through some additional word, and this in turn may be felt as the negative proper and may then in course of time be subject to the same development as the original word.
> (Jespersen 1917: 4)

Breitbarth and Haegeman (2008) give the following breakdown of the stages of the Jespersen Cycle (which has three or five stages, depending on one's point of view):

(2.4)

I	stage 1	single (preverbal/clitic) negation marker
	stage 2	single (preverbal/clitic) negation marker plus optional phrasal emphasiser/reinforcing element
II	stage 3	discontinuous or embracing negation
	stage 4	discontinuous or embracing negation with the original marker having become optional and

		the original emphasiser/reinforcing element having become the neutral negator
III	stage 5	single (phrasal) negation marker grammaticalised from the original emphasiser/reinforcing element
(I'	stage 1'	negation marker moved to preverbal position)

This cycle can be illustrated by the development of negation in English (Horn 1989, Mazzon 2004)[3]. As we see in (2.5), in Old English negation was expressed by a preverbal negation marker *ne*. This developed into a pattern of discontinuous negation in Middle English, where negation was expressed by the preverbal negation *ne* and the post-verbal *not*, which originates from *nawiht/nogh/nahtet*, meaning "nothing". In Early Modern English this post-verbal negation marker is the sole expression of negation. Finally, the *do*-support construction in Modern English represents a return to the preverbal position of negation[4] and opens up the possibility of "a new round of phonologically inspired weakening and semantically inspired restrengthening" (Horn 1989: 457). This final step in the development of negation in English provides support for Jespersen's view that the diachronic process is cyclical in nature.

(2.5)

Old English	*Ic*	*ne*	*secge*	
	I	SN	say	
Middle English	*Ic*	*ne*	*seye*	*not*
	I	SN	say	SN
Early Modern English	*I*	*say*	*not*	
	I	say	SN	
Modern English	*I*	*don't*	*say*	
	I	do-SN	say	

[3] Cf. Hoeksema (1997a) and Zeijlstra (2004) for a discussion of the Jespersen cycle in Dutch, Horn (1989) and Godard (2004) for French, and Jäger (2008) for German, amongst others.

[4] It should be noted that it was a change in the verbal system that brought about the change in position of the negative marker, rather than movement of the negative marker itself. Although it can still be argued that *n't* in English represents a weakening of the negative marker which is consistent with a return to Stage I (Breitbarth 2009: 82).

Following Breitbarth and Haegeman's (2008) five-stage breakdown of the Jespersen Cycle, given in (2.4), we can take Afrikaans to be at stage 3 of the cycle, as it displays discontinuous negation, cf. example (2.3). Biberauer (2009: 112) gives the Jespersen Cycle development for Afrikaans as follows:

(2.6) *nie*$_1$ → *nie*$_1$ … (*nie*$_2$) → *nie*$_1$ … *nie*$_2$
Dutch Early Afrikaans standard/colloquial Afrikaans

Of course Afrikaans does not appear to be undergoing any further development with regard to the next step in the cycle, that is from stage 3 to stage 4 (Biberauer 2009: 92). Biberauer argues that this is because the reinforcing element (sentence-final *nie*) is crucially different from the reinforcing elements involved in the Jespersen Cycle developments present in other languages like (Old) English and French. In fact Biberauer (2009: 124-5) argues that sentence-final *nie* has "grammaticalised beyond the cycle".

However, the focus of this dissertation is not on the expression of sentential negation by sentential markers of negation, but rather the expression of indefinites under negation. For further literature that deals specifically with discontinuous negation in Afrikaans the reader is referred to Den Besten (1986), Robbers (1992), Ponelis (1993), Donaldson (1993), Bernini and Ramat (1996), Oosthuizen (1998), Molnárfi (2004), Bell (2004), and Biberauer (2007, 2009).

There is also a second type of syntactic double negation, where a single logical negation is expressed by a sentential marker of negation together with one or more negative indefinites, or by multiple negative indefinite combinations. The examples in (2.7) below from de Swart (2010: 129) illustrate some of the possibilities for the expression of a single logical negation by multiple negative elements.

(2.7) (a) *No vi ninguno.* (Spanish)
SN saw.1SG none
"I didn't see any."

(b) *Nessuno ha detto niente.* (Italian)
Nobody has said nothing
"Nobody said anything."

(c) *Personne n'a rien dit à personne.* (French)
nobody SN-has nothing said to nobody
"Nobody said anything to anyone."

In the example in (2.7)(a) we see the expression of a single logical negation by a sentential negative marker, *no*, together with a negative indefinite, *ninguno*. In (2.7)(b) a single logical negation is expressed by two negative indefinites, *nessuno* and *niente* respectively. Finally in (2.7)(c) we see the expression of a single logical negation by a sentential negative marker *ne*, together with the negative indefinites *personne* and *rien*. It is this type of syntactic double negation that is most relevant for the present dissertation, which deals with the expression of indefinites under negation in Afrikaans.

In addition to syntactic double negation, where a single logical negation is expressed by more than one negative element, we also find semantic double negation, where the use of more than one negative element results in a double negation meaning. Afrikaans displays both syntactic and semantic double negation. The example in (2.3) above shows that in Afrikaans, negative sentences obligatorily contain two sentential negation markers. Furthermore all negative sentences containing a negative indefinite also obligatorily contain a sentential negation marker, sentence-final *nie*, as illustrated in (2.8).

(2.8) *Ons het nooit saam gegaan nie.*
we has never together go-PST SN
"We never went together."

With regard to semantic double negation, in standard Afrikaans multiple negative indefinite combinations are assigned a DN interpretation, as we saw in Chapter 1. However in colloquial Afrikaans it is also possible to produce utterances containing multiple negative indefinite combinations with a single, or NC interpretation, as illustrated in (2.9).

(2.9) *Ek het nooit niks gekry nie.*
I have never nothing get-PST SN
"I never got nothing." (DN) (standard Afrikaans)
"I never got anything." (NC) (colloquial Afrikaans)

This variation in the interpretation of multiple negative indefinite combinations in Afrikaans, i.e. the fact that on the one hand the use of more than one negative element may result in a DN interpretation (semantic double negation), while on the other hand it is possible for multiple negative elements to express a single logical negation (syntactic double negation), is of central concern in this dissertation. However, before an analysis of multiple negative indefinites and their possible meanings can be undertaken, an understanding of the structure of Afrikaans, and of negation in Afrikaans is needed.

2.2 An introduction to Afrikaans

2.2.1 A brief history of Afrikaans

Afrikaans originated in the Dutch colony at the Cape, founded in the seventeenth century by the VOC (*Vereenigde Oostindische Compagnie*, "Dutch East India Company"). According to Deumert (2004: 1) it is the only language with a pidgin/creole ancestry that has been fully standardize(d). The Dutch colony at the Cape, an originally heterogeneous society made up of European settlers, including Dutch, High and Low German and French speakers, indigenous Khoe, and African and Asian slaves, gave rise, first to a variety of Dutch, known as Cape Dutch vernacular, and subsequently, to Afrikaans, as a result of intensive and often intimate contact between the various languages and cultures. Deumert (2004: 42) argues that by the late eighteenth century the Cape had become a relatively homogenous colonial culture due to the gradual convergence of languages and of cultures. The standardization of Afrikaans, which took place in the nineteenth and early twentieth century, was, according to Deumert, a cultural innovation which disassociated Afrikaans from its Cape Dutch vernacular, or inter-ethnic, origins, due to its identification as a marker of white Afrikaner ethnicity.

According to Roberge (2002: 99) there are four central factors in the formation of Afrikaans, characterized as follows:

(i) the emergence of an extra-territorial variety of Dutch in Course of the seventeenth and eighteenth centuries, namely acrolectal Cape Dutch;

(ii) the existence of a fully developed system in contact with developing systems such that the degree of basilectalisation of colonial speech was far less drastic than in creole communities where there was significant attrition of speakers of the lexifier language;
(iii) the development of a stable Cape Dutch pidgin for inter-ethnic communication within the Afro-Asian substratum;
(iv) linguistic convergence between the various segments of colonial society, with attendant hybridisation.

Today Afrikaans is spoken as a mother tongue by approximately six million people in South Africa (Webb 2002: 69), and as an additional language by another seven million. It is also used as an inter-ethnic lingua franca in Namibia. Although there are claimed to be several different (regional) varieties of Afrikaans, the main socio-stylistic varieties are standard and colloquial Afrikaans and these form the focus of the current dissertation.

2.2.2 An outline of the structure of Afrikaans

Afrikaans, which displays a similar word–order asymmetry between subject–initial main clauses (SVO) and subject–initial embedded clauses (SOV) to Dutch, as illustrated in (2.10), is generally assumed to be an underlying SOV language with finite verb movement, or Verb Second (V2), in main clauses (Koster 1975, Waher 1982)[5].

(2.10) (a) *Jan koop 'n boek.*
Jan buy a book
"Jan buys a book."

(b) *Ek weet dat Jan 'n boek koop.*
I know that Jan a book buy
"I know that Jan buys a book."

[5] Although see Oosthuizen (1996) and Oosthuizen & Waher (1996) for arguments, following Zwart (1996) and Kayne (1994), that Afrikaans is an underlying VO language.

In main clauses that contain auxiliary verbs, the auxiliaries appear in the second position and the finite verb or past participle in the sentence-final position, as illustrated in (2.11).

(2.11) (a) *Jan het 'n boek gekoop.*
Jan have a book buy-PST
"Jan bought a book."

(b) *Jan sal 'n boek koop.*
Jan will a book buy
"Jan will buy a book."

In embedded clauses both finite verb or past particle and auxiliaries appear sentence-finally. In the case of the temporal auxiliary *het*, this auxiliary occurs in the sentence-final position, directly preceded by the past participle, while in the case of modal auxiliaries, the infinitive appears in the sentence-final position, preceded by the modal auxiliary, as shown in (2.12).

(2.12) (a) *Ek weet dat Jan 'n boek gekoop het.*
I know that Jan a book buy-PST have
"I know that Jan bought a book."

(b) *Ek weet dat Jan 'n boek sal koop.*
I know that Jan a book will buy
"I know that Jan will buy a book."

(c) *Ek weet dat Jan 'n boek sou gekoop het.*
I know that Jan a book will buy-PST have
"I know that Jan would have bought a book."

Afrikaans also displays limited V2 in embedded clauses, specifically in embedded declaratives that lack a complementizer, as illustrated in (2.13).

(2.13) *Ek weet Jan het 'n boek gekoop.*
I know Jan have a book buy-PST
"I know that Jan bought a book."

In Afrikaans, as in Dutch, when objects appear to the left of an adverb, it is assumed that they have undergone scrambling, as illustrated in (2.14).

(2.14) (a) *Jan het waarskynlik die boek gekoop.*
Jan has probably the book buy-PST
"Jan probably bought the book."

(b) *Jan het die boek waarskynlik gekoop.*

In this respect Afrikaans appears to resemble Dutch. Crutially, however, there are differences between (optional) object scrambling in Afrikaans and object scrambling in Dutch which have yet to be fully explored or explained.

Afrikaans has an optional direct and indirect object marker *vir*. Proper noun objects are almost always preceded by *vir*, pronouns are very often preceded by *vir*, while substantives may be preceded by *vir* if they are [+human], or at least [+animate]. This is illustrated in (2.15).

(2.15) (a) *Ek sien vir Sarie.*
I see OM Sarie
"I see Sarie."

(b) *Ek sien (vir) haar / die meisie.*
I see (OM) her / the girl
"I see her / the girl."

(c) *Ek sien (*vir) die piesang.*
I see (*OM) the banana
"I see the banana."

If pronominal objects are not accompanied by the object marker *vir*, they must undergo scrambling, as illustrated in (2.16).

(2.16) (a) *Ek het hom waarskynlik gesien.*
I have him probably see-PST
"I probably saw him."

(b) *Ek het waarskynlik *(vir) hom gesien.*
I have probably *(OM) him see-PST
"I probably saw him."

Unlike Dutch, Afrikaans displays very little inflection, with no gender or case distinctions in the nominal system and a limited pronominal system, as illustrated in Table 2.1. In Afrikaans the form of the definite article is *die* "the" and that of the indefinite article is *'n* "a(n)".

	singular		plural
	subject	object	
1st person	*ek*	*my*	*ons*
2nd person	*jy*	*jou*	*julle*
3rd person	*hy/sy/dit*	*hom/haar/dit*	*hulle*

Table 2.1: Pronouns in Afrikaans

Furthermore, Afrikaans displays no overt verbal morphology on lexical verbs, with the exception of the past-tense prefix and a present/past distinction on modals and the copula, as illustrated in Table 2.2, adapted from Robbers (1997: 25).

type	Present Tense	Past Tense	Infinitive	
regular	*werk*	*het gewerk*	*werk*	"work"
modal	*wil* *kan* *sal* *moet* *mag* *durf*	*wou* *kon* *sou* *moes* *(mog)* *durf / het gedurf*		"want" "can" "will" "must" "may" "dare"
auxiliary	*het* *word*	 *is / was*		"have" "have been"
copula	*is*	*was* *was gewees*	*wees*	"be"
other	*het*	*had* *het gehad*	*hê*	"have" (main verb)

Table 2.2: Tense morphology in Afrikaans

Main verbs in the present tense have the same form as the infinitive, regardless of the person and number features of the subject, with the exception of *hê* "to have" and *wees* "to be". The present tense form of *hê* is *het*, and the past tense form either *had* or *het gehad* (with *gehad* being the past participle). The present tense form of *wees* is *is*, and the past tense form either *was* or *was gewees* (with *gewees* being the past participle). Although the past tense is generally expressed by the combination of the temporal auxiliary *het* with the past participle, as illustrated in (2.17)(a), past tense is frequently expressed by means of a temporal adverb and an unmarked verb, as illustrated in (2.17)(b). In past tense constructions containing modal auxiliaries, the use of the temporal auxiliary *het* and the past participle is optional. If *het* and the past participle are not used, the main verb remains in its infinitival form, and the modal auxiliary takes its past tense form, as illustrated in (2.17)(c). However, if *het* and the past participle are used in past tense constructions containing modal auxiliaries, then these modals may occur in either of the two tense forms (present or past), as illustrated in (2.17)(d)&(e)[6].

(2.17) (a) *Jan het die boek gekoop.*
Jan has the book buy-PST
"Jan bought the book."

(b) *Gister koop Jan die boek.*
yesterday buy Jan the book
"Yesterday, Jan bought the book."

---

[6] Two exceptions to this are the modals *mag* "may" and *durf* "dare", the latter being a negative polarity item. The past tense form of *mag*, namely *mog*, is virtually extinct. In constructions expressing past tense, the phonological form of *durf* is either *durf*, as in (i), or *gedurf* in combination with *het*, although this is less common, as in (ii). In sentences containing these two modals, the past tense form is generally formed by using the modal, the auxiliary *het*, and the past participle, as can be seen in (iii) and (iv).

(i) *Ek het dit nie durf sê nie.*
"I dared not say it."

(ii) *Ek het dit nie gedurf sê nie.*
"I dared not say it."

(iii) *Jan mag die boek gekoop het.*
"Jan was allowed to buy the book."/"There is a possibility that Jan bought the book."

(iv) *Ek durf dit nie gesê het nie.*
"I dared not say it."

(c) *Jan kon die boek koop.*
Jan could the book buy
"Jan was able to buy the book."

(d) *Jan kon die boek gekoop het.*
Jan could the book buy-PST have
"Jan could have bought the book."

(e) *Jan kan die boek gekoop het.*
Jan could the book buy-PST have
"It's possible Jan could have bought the book."

It is clear from the above description that, although similar to its closest West Germanic relative, Dutch, Afrikaans displays unique features, including (apparent) embedded V2, potentially less restricted (optional) object scrambling, lack of morphological agreement with regard to number, person and grammatical gender features, minimal morphological case marking on pronouns, and lack of aspectual marking on verbs. For further literature on various aspects of the structure of Afrikaans interested readers are pointed towards Waher (1982), Donaldson (1993), Ponelis (1993), Oosthuizen & Waher (1994), Roberge (1994), Robbers (1997), (Oosthuizen 2000), (Biberauer 2002, 2003) and Conradie (2005).

2.3 Sentential negation in Afrikaans

As noted in section 2.1, all natural languages have ways to express propositional negation. In most cases, the marker of sentential negation occurs either in a preverbal or a post-verbal position. Afrikaans is interesting for theories of negation in natural language because it displays discontinuous negation. In a small number of languages preverbal and post-verbal markers of negation are combined, and negation is therefore expressed by two 'bits' of form, which appear in two different positions in the sentence (de Swart 2010: 97). What makes Afrikaans somewhat unusual is that it expresses discontinuous negation with two (apparently) identical elements – the so-called double *nie*[7]. Also, unlike most languages

[7] In this chapter, SN is used to gloss both these markers of sentential negation. This is done in order to distinguish the markers of sentential negation from negative indefinites, and, at least initially, to remain theory-neutral with regard to the semantic

that exhibit discontinuous negation, Afrikaans does not make use of a preverbal and a post-verbal marker of negation, rather, independent properties of the verbal system determine negation placement in Afrikaans. In V2 structures (main clauses) both negation markers necessarily occur post-verbally, as sentence (2.18) illustrates.

(2.18) *Ons maak nie 'n gemors nie.*
we make SN a mess SN
"We're not making a mess."

Sentential negation in Afrikaans is generally realised with a post-verbal, sentence-medial *nie* and a sentence-final *nie*. The sentence-medial *nie* is preceded by sentential adverbs and either preceded or followed by other adverbs, as can be seen in (2.19).

(2.19) (a) *Ons het waarskynlik nie 'n gemors gemaak nie.*
we have probably SN a mess make-PST SN
"We probably didn't make a mess."

(b) *Ons het dikwels nie 'n gemors gemaak nie.*
we have often SN a mess make-PST SN
"We often didn't make a mess."

(c) *Ons het nie dikwels 'n gemors gemaak nie.*
we have SN often a mess make-PST SN
"We didn't often make a mess."

With regard to objects, sentence-medial *nie* either precedes or follows objects, depending on whether they have been scrambled or not. Sentences (2.20)(a)&(b) illustrate sentential negation in constructions with non-scrambled word order, while sentences (2.20)(c)&(d) illustrate sentential negation in constructions with scrambled word order. Ponelis (1993: 463) notes that the neutral position of the first, sentence-medial *nie* is farther to the left than in modern Dutch. He argues that in Afrikaans, when elements other than light elements such as pronouns

---

and syntactic status of the two *nie*s. In section 2.5.6 we will see that Biberauer (2009) distinguishes the two *nie*s on the basis of their behaviour with respect to whether they can be omitted, modified, reinforced and/or stressed.

and sentential adverbs precede the first *nie*, as in (2.20)(d), it results in an emphatic reading.

(2.20) (a) *Ons het nie die fliek gister aand gesien nie.*
we have SN the movie y/day evening see-PST SN
"We didn't see the movie yesterday evening."

(b) *Ons het nie vir hom gesien nie.*
we have SN OM him see-PST SN
"We didn't see him."

(c) *Ons het hom nie gesien nie.*
we have him SN see-PST SN
"We didn't see him."

(d) *Ons het die gebou nie gesien nie.*
we have the building SN see-PST SN
"We didn't see the building."

In sentences that consist only of a (non-negative) subject and a finite verb, only one *nie* is realised, as in (2.21)(a). This is also the case for sentences that contain a pronominal object, as in (2.21)(b), as in these cases the object has been scrambled. In all other sentences, i.e. sentences in which the verb phrase contains a (non-pronominal) complement, infinitive or participle, or that contain negation in the subject noun phrase, a sentence-final *nie* is present[8].

(2.21) (a) *Die kind huil nie.*
the child cry SN
"The child doesn't cry."

(b) *Ons sien hom nie.*
we see him SN
"We don't see him."

[8] There is a limited exception to the obligatory nature of the sentence-final *nie*, however, as it is possible to omit this element under poetic license and in certain restricted registers (e.g. headlines, signage). Furthermore, Ponelis (1993: 455) notes that in vernacular northwestern Afrikaans, among Khoi-Afrikaans bilinguals, the sentence-final *nie* is optional.

In complex sentences, when a main clause is negated, the second *nie* occurs in sentence final position, at the end of the embedded clause, and not at the end of the main clause, as illustrated in (2.22).

(2.22) *Ek het nie geweet dat hy kom nie.*
I have SN know-PST that he come SN
"I didn't know that he's coming."

In negated embedded clauses without V2, the sentence-medial *nie* precedes the verb, as can be seen in (2.23), where the sentences in (2.21) are placed in embedded clauses.

(2.23) (a) *Ek weet dat die kind nie huil nie.*
I know that the child SN cry SN
"I know that the child doesn't cry."

(b) *Ek weet dat ons hom nie sien nie.*
I know that we him SN see SN
"I know that we don't see him."

In negated V2 embedded clauses the first *nie* follows the verb (as in main clauses), as illustrated by (2.24).

(2.24) *Ek weet die kind skop nie die bal nie.*
I know the child kick SN the ball SN
"I know that the child doesn't kick the ball."

When both main clause and embedded clause are negated, a sentence-medial *nie* occurs in both main and embedded clauses, however, as with complex sentences when only the main clause is negated, a second *nie* is absent from the end of the main clause, and only appears sentence-finally, as illustrated in (2.25).

(2.25) *Ek het nie geweet dat hy nie kom nie.*
I have SN know-PST that he SN come SN
"I didn't know that he isn't coming."

Interestingly, the example in (2.25) actually contains one *nie* fewer than we would expect. Specifically, one would expect two sentence-final *nie*s,

as there are two negations expressed in the sentence. In section 2.5.1 and section 2.5.6, we will see two possible ways of accounting for this. Firstly, with a so-called *Nie*-filter (Waher 1983, den Besten 1986), and, more recently, with a syntactic hapology mechanism (Biberauer 2008).

In addition to sentential negation, the second *nie* is also found in certain constructions with constituent negation, as illustrated in (2.26).

(2.26) (a) *Die man, nie die vrou nie, het vir my gebel.*
the man SN the woman SN have for me phone-PST
"The man phoned me, not the woman."
(Oosthuizen 1998: 89)

(b) *Moeder Natuur het vir nie minder nie as*
Mother Nature have for SN less SN than
drie beskermende lae gesorg.
three protective layers care-PST
"Mother Nature provided no less than three protective layers." (Donaldson 1993: 410)

However, in most constructions expressing constituent negation, the second *nie* still occurs at the end of the sentence instead of immediately after the negated constituent, as illustrated in (2.27).

(2.27) (a) *Dit sal nie langer as vyf minute duur nie.*
it will SN longer than five minutes last SN
"It won't last longer than five minutes."

(b) *Ek het die voorreg gehad om nie minder as*
I have the honour have-PST to SN less than
ses keer Springbokklere te verwerf nie.
six times Springbok-colours INF acquire SN
"I had the honour to be awarded Springbok colours no less than six times."

Unlike Dutch, Afrikaans does not have true negative imperatives[9]. Negative imperatives in Afrikaans are formed with the modal *moet* (must, should), which may cliticise onto the following *nie*, as illustrated in

[9] Cf. Zeijlstra (2004).

(2.28)(a), unless separated by intervening material, as illustrated in (2.28)(b).

(2.28) (a) *Moenie dit doen nie.*
must-SN it do SN
"Don't do it."

(b) *Moet dit nie doen nie.*

There are various theories as to the origin of sentential negation in Afrikaans, the so-called double *nie*. Following Pauwels (1958), it has been hypothesized by various researchers (Scholtz 1980, Raidt 1983, 1989, 1991) that Dutch dialect influence can account for the Afrikaans negation pattern. However, it has been argued that not only is the structure of negation in Afrikaans different from negation used in dialectal Dutch (den Besten 1986), but also, that those Dutch dialects that display "double negation patterns" are southern dialects of Dutch and as such played only a limited role in the development of Afrikaans (Deumert 2004: 197). Roberge (2000, 2002) argues that negation in Afrikaans is an innovation that came about as a result of the fourth factor in his characterization of the formation of Afrikaans, given in section 2.2.1, namely convergent hybridization. According to Roberge, the reanalysis of a discourse-dependent structure in metropolitan Dutch, namely the emphatic tag negation in *nee(n)/nie(t)*, "no", in the end field of sentences such as (2.29) led to this construction[10].

(2.29) *Het kan niet waar zijn, nee!*
it can not true be no
"It can't be true, no!" (Roberge 2000:147)

Roberge argues further that the agents of this change were the indigenous Khoe, and African and Asian slaves at the Cape, given the intensive language contact in the Cape at the time. He maintains that it is possible to assume that the innovation was accepted by rural, lower-class

[10] Van der Auwera & De Vogelaer (2008: 9) also mention this construction as a possible explanation for the origin of sentence-final *nie(t)* in the southern Dutch dialect of Aarschot.

Europeans living in closest proximity to the Khoe and slaves, with stylistic and social variation (Roberge 2002: 98).

As can be seen from this discussion, sentential negation in Afrikaans provides ample scope for further examination. However, as emphasised in section 2.1, the focus of this dissertation is not on the expression of sentential negation by sentential markers of negation, but rather the expression of indefinites under negation. In the following section, I provide a characterisation of negative indefinites in Afrikaans, illustrating the intriguing features of these elements and the challenges they raise for a formal analysis.

2.4 Negative indefinites in Afrikaans

Negative indefinites in Afrikaans are the nominal and adverbial negative elements *niemand* ("nobody"), *geeneen* ("not one"), *nooit* ("never"), *nêrens* ("nowhere"), *niks* ("nothing"), as well as the negative determiners *geen*, *g'n* ("no"). In Afrikaans, a negative indefinite must always be accompanied by a sentence-final *nie*, as illustrated in (2.30)(a)-(c). Sentences that end in a negative indefinite are the exception as the sentence-final *nie* is optional in these cases, as shown in (2.30)(d).

(2.30) (a) *Ons het gisteraand niemand gesien nie.*
we have yesterday-evening nobody see-PST SN
"We didn't see anybody yesterday evening."

(b) *Die kind het niks geëet nie.*
the child have nothing eat-PST SN
"The child didn't eat anything."

(c) *Niemand gaan kom nie.*
nobody go come SN
"Nobody is going to come."

(d) *Hy weet niks (nie).*
he know nothing (SN)
"He doesn't know anything."

Negative indefinites in Afrikaans can be used as fragmentary answers, as illustrated in (2.31). In such cases, as with sentences that end in a negative indefinite, the sentence-final *nie* is optional.

(2.31) Q: *Wat het jy gesien?* A: *Niks (nie).*
what have you see-PST nothing (SN)
"What did you see?" "Nothing."

Negative sentences in Afrikaans generally only ever contain one negative indefinite, together with the sentence-final *nie*. All other quantifier bound variables in the scope of negation are realised by indefinites, either regular indefinites or negative polarity items (NPIs)[11], as illustrated in the sentences in (2.32).

(2.32) (a) *Hy het niks vir (enig)iemand gegee nie.*
he have nothing for (any)somebody give-PST SN
"He didn't give anything to anybody."

(b) *Die man weet nooit (enig)iets nie.*
the man know never (any)something SN
"The man never knows anything."

This pattern leads van der Wouden (1994: 95), following den Besten (1986), to characterise Afrikaans as a "negative doubling language".[12] Negative doubling refers to the fact that the negative indefinite (or the negation marker, i.e. sentence-medial *nie*) is doubled by a second negation marker, in the case of Afrikaans, the sentence-final *nie*. Negative doubling, which involves only one logical negation, should be distinguished from DN, which involves two logical negations in the semantics. Furthermore, negative doubling is in contrast to negative spread, which is characteristic of most NC languages, where the negative

[11] The indefinites *iemand* and *iets* can be translated in English as either "somebody" or "anybody", while the addition of *enig(e)* to these indefinites turns them into NPIs, which are generally translated as "anybody at all" and "anything at all".

[12] Interestingly, den Besten's (1986) original conception of negative doubling did not include Afrikaans, as the sentence-final *nie* does not occupy a position in the middle field, a prerequisite for the negative doubling element, according to den Besten (1986: 204). Van der Wouden's (1994) reinterpretation of this notion (cf. Chapter 1, section 1.2), however, makes it applicable to Afrikaans.

feature of negative indefinites is distributed over any number of indefinite expressions, resulting in multiple negative indefinite constructions, as illustrated in Chapter 1[13].

Standard Afrikaans, unlike other NC languages, does not display negative spread (cf. den Besten 1986, van der Wouden and Zwarts 1993, van der Wouden 1994). In standard Afrikaans, sentences that contain more than one negative indefinite, together with the sentence-final *nie*, as in (2.33), are unacceptable on a single negation interpretation. Such constructions are interpreted as DN constructions, with each negative element contributing its own negative semantics to the interpretation of the construction.

(2.33) (a) *Niemand sien niks nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something ."

(b) *Hy sien nêrens geen probleme nie.*
he see nowhere no problems SN
"Nowhere does he see no problems", i.e. "He sees problems everywhere."

(c) *Hy gee nooit niks nie.*
he give never nothing SN
"He never gives nothing", i.e. "He always gives something."

However, it is possible in colloquial Afrikaans for constructions containing multiple negative indefinites to have a single negation interpretation. De Stadler (1989: 281) provides the sentences in (2.34) below, and notes that in these cases, which according to him are restricted to informal, spoken varieties of Afrikaans, the multiple negative indefinites are not used to express a positive value (i.e. double negation), but rather to emphasise the negative value of the sentence.

[13] I return to the distinction between negative doubling and negative concord in Chapter 3.

(2.34) (a) *Jy vertel my ook nooit niks nie.*
you tell me also never nothing SN
"You also never tell me anything."

(b) *Niemand het niks gedoen nie.*
nobody have nothing done SN
"Nobody did anything."

Negative indefinites in Afrikaans differ substantially from the sentence-medial marker of sentential negation *nie*. Sentence-medial *nie* is used to negate a clause or a constituent, as illustrated by the first-order representation of the sentence in (2.35). In contrast, negative indefinites, such as *niks* ("nothing"), as well as conveying negation, are argument, or variable, binding, as illustrated by the first-order representation of the sentence in (2.36).

(2.35) *Jan wil nie luister nie.*
Jan want SN listen SN
¬listen'(j)

(2.36) *Jan doen niks nie.*
Jan do nothing SN
¬∃x [thing'(x) & do'(j, x)]

However, in colloquial Afrikaans it is possible to make use of *g'n* ("no") (albeit in a restricted way) and *niks*, and even the combination *g'n niks*, in non-argument binding positions, in place of the sentence-medial *nie*, as illustrated in (2.37).

(2.37) (a) *Ek is g'n jou vriend nie!*
I is no your friend SN
"I am NOT your friend!"

(b) *Ons doen niks sulke dinge nie.*
we do nothing such things SN
"We don't do any of those sorts of things"

(c) *Hy wil g'n niks luister nie.*
he want no nothing listen SN
"He won't listen at all." (Biberauer 2009)

Any analysis of negative indefinites in Afrikaans will need to account for the (restricted) ability of *g'n* to occur on its own in place of sentence-medial *nie* and its occurrence in negative indefinite combinations, specifically the combination *g'n niks*, in addition to its standard usage as a negative determiner. Such an analysis will also have to explain how *niks*, on its own and in combination with *g'n*, can occur in non-argument binding positions in place of the sentence medial *nie*.

2.4.1 Negative indefinites and sentential negation

In standard Afrikaans, prescriptive judgments indicate that sentences containing the combination of negative indefinites and two markers of sentential negation (the sentence-medial and the sentence-final *nie*), as in (2.38), are unacceptable on a single negation interpretation. This is similar to French, where the combination of the sentential negation marker *pas* with a negative indefinite results in a double negation reading (de Swart 2010: 156).

(2.38) (a) *Niemand is nie hier nie.*
no-one is SN here SN
"No-one isn't here.", i.e. "Everyone is here."

(b) *Sy het nie niks gelees nie.*
she have SN nothing read SN
"She didn't read nothing.", i.e. "She read something."

(c) *Sy het niks nie gelees nie.*
she have nothing SN read SN
"There is nothing she didn't read."

According to Biberauer (2009), however, it is possible, in colloquial Afrikaans, to find sentences, such as those in (2.39), where the combination of a negative indefinite together with two markers of sentential negation results in a single negation interpretation.

(2.39) (a) *Ek sou nog nooit nie so iets doen nie.*
I would still never SN such something do SN
"I would never do that kind of thing."

(b) *Hy het niks nie geld nie.*
he have nothing SN money SN
"He has absolutely no money."
(Biberauer 2009: 102, 103)

Biberauer notes, however, that negative indefinite subjects are not compatible with an additional *nie*, as illustrated in (2.40).

(2.40) **Niemand nie ken die antwoord nie.*
nobody SN know the answer SN
≠ "Nobody knows the answer." (Biberauer 2009: 103)

Crucially, Biberauer identifies the 'extra' *nie* following the negative indefinite in the examples in (2.39) as an additional sentence-final *nie*, rather than sentence-medial *nie*, as this extra *nie* cannot be modified, replaced by a stronger form, or stressed, whereas it can be, and more often than not is, omitted (cf. section 2.5.6). Further motivation for this analysis comes from the fact that even in colloquial Afrikaans if (sentence-medial) *nie* occurs before the negative indefinite, as in (2.38)(b), the sentence can only receive a DN interpretation, not an NC interpretation. This is similar to the pattern observed in West Flemish (Haegeman and Lohndal 2008), where, if the sentential negative marker occurs to the left of the negative indefinite, the negative indefinite takes narrow scope and only a DN interpretation is possible, as illustrated in (2.41).

(2.41) (a) *…da Valère niemand nie (en)-kent.* (NC)
that Valère nobody not (SN)-know
"… that Valère doesn't know anybody."

(b) *… da Valère nie niemand (en)-kent.* (DN)
that Valère not nobody (SN)-know
"... that Valère doesn't know nobody."
(Haegeman and Lohndal 2008: 12)

While this phenomenon is intriguing to say the least, it is one related to the status and function of the sentential negative markers, the two *nie*s, rather than to negative indefinites in Afrikaans, and remains beyond the scope of the present study.

2.4.2 Concluding remarks

As will be seen later in the dissertation, naturally occurring data and native speaker judgements show clearly that it is possible to produce and interpret multiple negative indefinite constructions with a single negation interpretation in Afrikaans, along the lines of de Stadler's (1989: 281) examples in (2.34). And what is interesting is that multiple negative indefinite constructions are almost always given a NC interpretation when they occur in written data sources. What will become clear from both the data, and from speaker intuitions, however, is that the context and the prosodic properties of the negative indefinites play an important role in the interpretation of multiple negative indefinite combinations. What the sentences in (2.32), (2.33) and (2.34) above show is that there is variation in the expression of indefinites in the scope of negation in Afrikaans, as well as in the interpretation of multiple negative indefinite combinations. It is this variation that is so interesting and provides the motivation for focusing attention on the production and interpretation of (multiple) negative indefinites in Afrikaans. As noted in Chapter 1, the availability of more than one form to express the same meaning is problematic, likewise the availability of two meanings for one form, and so the ability to account for both ambiguity in meaning and variation in form is an important aspect of the development of a grammar of a language.

2.5 An overview of previous accounts of negation in Afrikaans

In order to place this dissertation in context, it is important to examine previous accounts of negation in Afrikaans. As noted in Chapter 1, the focus in most early research on negation in Afrikaans was on the possible origins of the Afrikaans negation system. And while there have been some theoretical studies undertaken on negation in Afrikaans, these are essentially from a syntactic perspective and focus primarily on the so-called "double *nie*", attempting to explain the occurrence of multiple

sentential markers of negation. In this section I begin with a brief discussion of Waher's (1978) work, followed by an examination of accounts proposed by Robbers (1992), Oosthuizen (1998), Molnárfi (2004) and Bell (2004). Finally I examine Biberauer (2007, 2009), the most recent account of negation in Afrikaans. I conclude the section by indicating what features of these analyses I take as a starting point for my own analyses, presented in Chapters six and seven.

2.5.1 Waher (1978)

Waher's (1978) study was the first analysis of negation in Afrikaans within a broad generative framework. In her study she proposed that the first negation word, sentence-medial *nie*, which she termed ont_1 (where "ont" stands for "ontkenning", i.e. negation), provides the sentence with its negative interpretation, and can be compared in all cases with the single negation of Dutch or English, while ont_2, sentence-final *nie*, functions as the rightmost boundary of the scope of negation. She proposed the following hypothesis to account for negation in Afrikaans:

(2.42) The ont_1 and ont_2 hypothesis
A constituent falls within the scope of the negation if it is dominated in the surface structure by ont_1 and occurs right of ont_1 and left of ont_2. (Waher 1978:65)

This hypothesis can be seen as an attempt to correlate semantic scope and syntactic scope, that is, semantic scope is marked in the syntax by sentence-final *nie*. However, this analysis seems on the one hand to be redundant, and on the other to be incorrect. An analysis of sentence-final *nie* as a scope marker is unnecessary for simple sentences, as the scope boundary coincides with sentence boundary, and so a scope marker is redundant. Such an analysis also appears counter-intuitive for sentences where elements inside the semantic scope of negation occur outside the "syntactic scope" of negation. For example, in sentence (2.43), the clausal complement falls within the scope of negation but is preceded by the sentence-final *nie*.

(2.43) *Het ons nie daaroor saamgestem nie dat 'n lang*
have we SN there-over agree-PST SN that a long
boek oor bloot een aspek van 'n baie kort gedig
book over just one aspect of a very short poem
geskryf kan word?
write-PST can be
"Haven't we agreed that a lengthy book can be written about a single aspect of a very short poem?" (Ponelis 1993: 457)

Biberauer (2007: 16) points out "that [sentence-final *nie*] is not, contra the quite widespread view that it constitutes a scope-marking element, consistently the element signalling scope-marking facts". If we consider the sentences in (2.44), we see that it is sentence-medial *nie* that appears to determine the scope of negation, rather than sentence-final *nie*, which is consistently clause-final.

(2.44) (a) *Hy sê nie dat hy kom nie.*
he say SN that he come SN
"He isn't saying that he is coming."

(b) *Hy sê dat hy nie kom nie.*
he say that he SN come SN
"He says that he isn't coming."

An analysis of *nie* as a scope marker only appears to be useful to disambiguate sentences containing *omdat* ("because") and to distinguish between constituent and sentential negation in a small number of cases. The sentences in (2.45) illustrate how the position of sentence-final *nie* can be used to determine the meaning of a sentence containing *omdat*. However, it can be argued that prosody plays as important a role in the disambiguation of such sentences, as there is a clear difference in the intonation between the sentences in (2.45), which in languages like English would be the only means to disambiguate these sentences.

(2.45) (a) *Hy het nie gekom nie omdat dit gereën het.*
he have SN come-PST SN because it rain-PST have
"Because it rained, he didn't come."

(b) *Hy het nie gekom omdat dit gereën het nie.*
he have SN come-PST because it rain-PST have SN
"He didn't come, but not because it rained."

The sentences in (2.46) illustrate how *nie* can distinguish between constituent and sentential negation.

(2.46) (a) *Hulle sal oor niks baklei nie (en ons ook nie).*
they will over nothing fight SN (and us also SN)
"They won't fight over anything (and us neither)."

(b) *Hulle sal oor niks baklei (*en ons ook nie).*
they will over nothing fight (and us also SN)
"They will fight over nothing." (i.e. "They will fight over the smallest thing.")

Sentence (2.46)(a) clearly exhibits sentential negation, as it can combine with a *neither*-tag, one of Klima's (1964) tests for sentential negation, while in sentence (2.46)(b), the absence of sentence-final *nie* is an indicator of constituent negation, which is confirmed by the fact that this sentence is incompatible with a *neither*-tag.

In a subsequent article, Waher (1983)[14] makes explicit the assumption that sentence-final *nie*, is present in all sentences containing sentence-medial *nie*, or a negative indefinite. However, as described in section 2.3 only one *nie* (sentence-medial *nie*) is realised in sentences that consist only of a (non-negative) subject and a finite verb, as in (2.47)(a). Furthermore, when both main clause and embedded clause are negated only one *nie* appears sentence-finally, as illustrated in (2.47)(b). This is contrary to what one would expect, specifically, one would expect two sentence-final *nie*s as there are two negations expressed in the sentence.

(2.47) (a) *Hy werk nie (*nie).*
he work SN (SN)
"He doesn't work."

[14] Waher (1983) represents a reworking of Waher's (1978) analysis of negation in Afrikaans within Extended Standard Theory (Chomsky 1981, 1982).

(b) *Hy het nie*$_i$ *gesê dat jy niks*$_k$ *gedoen het nie*$_k$ *(*nie*$_i$*).*
he have SN said-PST that you nothing do-PST have SN (SN)
"He didn't say that you haven't done anything."

In order to account for why structures, such as those in (2.47) in which two *nie*s should follow directly on one another, are ungrammatical Waher proposes the *nie*-filter, given in (2.48).

(2.48) ***Nie*-filter**
*[*nie*…*nie*] if … is null (Waher 1983: 702)

While Waher's (1978) study remains one of the most detailed examinations of negation in Afrikaans, its setting within the framework of Generative Semantics[15] makes it somewhat outdated. Nevertheless it provides an important starting point for the subsequent analyses of negation in Afrikaans undertaken within the generative framework and its characterisation of sentence-final *nie* as a scope marker, whether accurate or not, has been very influential in both the descriptive and the theoretical literature on negation in Afrikaans.

2.5.2 Robbers (1992)

One of the more recent studies of negation in Afrikaans within a generative framework, Robbers (1992), provides a comparison of the properties of negation in Afrikaans and Italian on the basis of Zanuttini (1991). Zanuttini's analysis proposes that sentential negation markers, for example *non* in Italian or *pas* in French, appear within a functional projection NegP, which can be realized in two structurally distinct positions, above TP (NegP-1) and below TP (NegP-2). In each NegP there are also two distinct positions in which a negative marker can appear, the specifier position and the head position.

Robbers notes that in Afrikaans negative indefinites virtually always co-occur with a negative marker *nie*, which she terms *nie*-2. She observes that these negative indefinites behave like their Dutch counterparts, namely that they follow sentential adverbials, although they can be

[15] Cf. Newmeyer (1980) for a description of the history of Generative Semantics.

scrambled, they can appear in subject-position and they can be topicalised. She also notes that, unlike Italian *non*, *nie*-2 cannot express sentential negation on its own and must be accompanied by a second negative element (*nie*-1) when there is no negative indefinite in the sentence. Robbers maintains that *nie*-1 behaves like *niet* in Dutch as it always follows sentential adverbs and precedes VP adverbials. Robbers proposes that in Afrikaans the second negative marker *nie*-2, similarly to Italian *non*, is the head of NegP-1, which occurs above TP, and, crucially, in Afrikaans has its head to the right of TP. This analysis yields the structure in (2.49).

(2.49) [CP .. C[NegP .. [TP … XP T] *nie*]] (Robbers 1992: 225)

Following Haegeman (1991), Robbers considers it plausible, because of the above-mentioned similarity between Dutch *niet* and Afrikaans *nie*-1, that *nie*-1 belongs to NegP-2, which occurs below TP. Robbers' tentative analysis of negative indefinites in Afrikaans is that they occur in spec NegP, as they do in Italian, stating that "n-words in Afrikaans prefer to be in spec NegP-2…but…they can also appear in other positions" (Robbers 1992: 233). Robbers' analysis is unusual in that she equates sentence-final *nie* (*nie*-2) with the Italian sentential negative marker *non*, despite the fact that most theories of negation in Afrikaans are in agreement that sentence-final *nie* is not the locus of negation, and has in fact "no intrinsic semantic content" (Waher 1983: 702). Furthermore, while Robbers bases her analysis on perceived similarities between negation in Italian and Afrikaans, it is unclear that these similarities exist, or if they do, that they are sufficient to base an analysis of this nature on.

2.5.3 Oosthuizen (1998)

Oosthuizen (1998) represents the first attempt to account for negation in Afrikaans within the framework of the Minimalist Program (Chomsky 1995). In contrast to Robbers (1992), Oosthuizen posits only one NegP below TP (and above AgrOP). Oosthuizen assumes that negative indefinites and sentence-medial *nie* contain an F-feature [+neg] that has to be checked against the corresponding F-feature of a functional head Neg. This functional head Neg has a strong N-feature which means that a substantive phrase with the F-feature [+neg] must be moved to [Spec, NegP] before Spell-Out, in order to check the feature in a Spec-head

configuration. His analysis of Afrikaans results in the underlying structure for the embedded negative sentence, given in (2.50), represented in Figure 2.1 below.

(2.50) …*dat sy nooit die deur sluit nie.*
that she never the door shut SN
"…that she never shuts the door." (Oosthuizen 1998: 72)

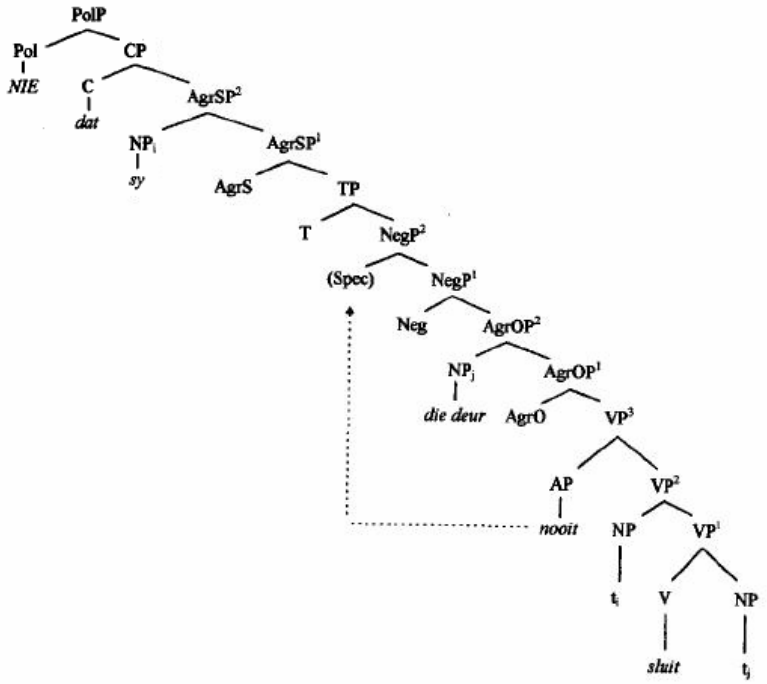

Figure 2.1: Abstract structure for Afrikaans negative sentences (Oosthuizen 1998:81)

In the structure in Figure 2.1, the subject *sy* ("she") and the direct object *die deur* ("the door") have been moved overtly to the Specifier positions of AgrS and AgrO, respectively, while the negative indefinite *nooit* is represented as an adverbial that is adjoined to the VP, which moves to [Spec, Neg] and so yields the surface word order of the sentence in (2.50). However, as Oosthuizen points out, the AP may also occur to the right of the object as in (2.51), which does pose a problem for Oosthuizen's analysis.

(2.51) …*dat sy die deur nooit sluit nie.*
that she the door never shut SN
"…that she never shuts the door."

Oosthuizen, having given an analysis of the derivation of sentences containing either sentence-medial *nie* or a negative indefinite, turns his attention to sentence-final *nie*. He shows convincingly that sentence-final *nie* is a functional element, rather than a substantive item like negative indefinites and sentence-medial *nie*. Oosthuizen bases his argument on the fact that sentence-final *nie* can be omitted without causing a change in meaning or ungrammaticality, as in (2.52)(a), and that it is not possible to modify this element with adverbs such as *glad* ("at all"), as in (2.52)(b). While the identification of sentence-final *nie* as a functional element is well-motivated, the grammatical function of this element remains undefined, with the speculation made that it "intuitively serves as some sort of scope marker, an item which delimits the structural domain of 'negative polarity'" (Oosthuizen 1998: 87).

(2.52) (a) *Ek sien niemand (nie).*
he work nobody (SN)
"I don't see anybody."

(b) *Hulle was nie betrokke (*glad) nie*
they were SN involved (*at all) SN
"They weren't involved."

In order to account for the position of sentence-final *nie*, Oosthuizen proposes a functional projection PolP as the topmost functional projection in sentence structure, which takes as its complement CP/AgrSP. The sentence-final *nie* is analysed as the phonetic realisation of this functional head Pol(arity). It is important here to note that Oosthuizen, following Kayne (1994), assumes that all projections in Afrikaans are head-initial (word order in Afrikaans is therefore initially SVO, or in more general terms, Spec-head-complement) as this is seen to be the only underlying word order provided for within minimalist syntax. In his analysis, Oosthuizen proposes that verbs have an F-feature [pol] with a particular value in 'negative polarity' sentences, that is sentences which contain a negation word like *niemand*, *nooit*, *geen, nooit, nie,* etc. According to Oosthuizen, the functional head Pol has a strong N-

feature which must be checked in a spec-head configuration before Spell-Out. Pol therefore attracts a phrase in the overt syntax which contains, via percolation, the [pol]-feature associated with the verb, in other words the CP is attracted to [Spec, PolP] in the overt syntax. In this way the surface word order is attained and the *nie* ends up in its sentence final position.

What appears to be lacking from Oosthuizen's analysis, however, is independent motivation for a functional category PolP. Furthermore, Oosthuizen points out that questions regarding the exact content of the notion 'negative polarity' and its connection to sentential negation still need to be addressed. In addition, as Bell (2004) notes, and as Oosthuizen himself acknowledges, such an analysis is unable to account for sentences, such as (2.53), which have an 'extraposed' PP in sentence final position, or *because*-clauses, such as (2.45)(a) in section 2.5.1.

(2.53) *Ek kon nie 'n oplossing kry nie vir die problem.*
I could SN a solution get SN for the problem
"I couldn't find a solution for the problem."
(Oosthuizen 1998: 88)

Nevertheless, an analysis worked out with the category PolP is appealing within a minimalist approach in that it provides a plausible explanation for the sentence-final position of the second *nie* within a framework that does not allow for right branching tree structures. As Oosthuizen remarks, "the proposed analysis provides an adequate description of the relevant facts within the framework of minimalist assumptions and mechanisms." As such it provides a starting point for the analysis proposed in Biberauer (2008), which will be examined in section 2.5.6.

2.5.4 Molnárfi (2004)

One proposal, within a minimalist framework, which deals specifically with constructions containing multiple negative indefinites, as well as with sentential negation, focussing as such on NC in Afrikaans, is that of Molnárfi (2004). Molnárfi proposes that a distinctive feature of sentential negation in Afrikaans is the establishment of a negation bracket consisting of two morphologically identical negative particles. This analysis differs therefore from Oosthuizen's (1998) analysis which views the two *nie*s as fundamentally different. In his analysis, Molnárfi argues

that the first negator, *nie*$_1$, is the head Neg of NegP (which is adjoined to VP and marks the left edge of the VP) and it opens the scope of negation. As such it is a functional element. The second negator, *nie*$_2$ marks the right periphery of the sentence and is a phonologically reduced copy of the first negator. Elements such as *niks, nêrens* and *niemand* are seen to be inherently negative quantifiers that are raised to [Spec, NP] in order to check their inherent Neg-features in accordance with Haegeman's (1995) Neg-criterion.

The central claim of Molnárfi's analysis is that negative concord can be seen as an instance of "top-down feature percolation", whereby silent copies of the first negator are assumed to "infiltrate all terminal nodes within the scope of negation" (Molnárfi 2004: 196). This means that in Afrikaans the sentence-final *nie* is the result of the morphological spell out of a negation copy, governed by a spell-out rule of Neg-Percolation which stipulates that only the lowest copy is spelled out. As it is a phonologically reduced copy of the first negator, *nie*$_1$, the second negator, *nie*$_2$, easily cliticizes onto various types of heads, and can be associated with different terminal nodes, depending on which node is most deeply embedded. Negative concord in Afrikaans is then a result of the "morphological realisation of one or more of the NEG-copies" (Molnárfi 2004:201). According to Molnárfi, the negation bracket in (written) Afrikaans non-redundantly marks the opening and coda-position of "the domain of Neg-percolation" and can be characterised as a parsing strategy, which removes some of the processing load needed to calculate the scope domain of negation. In spoken Afrikaans additional copies may be spelled out at PF, again, as a parsing strategy in that they facilitate the on-line processing and semantic interpretation of "negation domains", as illustrated by the sentences in (2.54).

(2.54) (a) *Ek het nie gedink nie dat hy dit sou doen nie.*
I have SN think-PST SN that he it would do SN
"I didn't think that he would've done it."
(Molnárfi 2004: 210)

(b) *Anderste sal* jy *dit nooit nie regkry nie.*
otherwise will you it never SN right-get SN
"Otherwise you'll never do it."
(Ponelis 1993: 454)

This parsing strategy is found in its most radical form, according to Molnárfi, in negative spread[16]. Molnárfi argues that negative spread and negative concord should be treated as two separate phenomena in Afrikaans. Molnárfi's proposal is that indefinites in Afrikaans may either remain unmarked for negation within the scope of negation as we see in (2.55)(a), or they may undergo negative spread, as illustrated by (2.55)(b), although this phenomenon is restricted to certain spoken varieties of Afrikaans.

(2.55) (a) *...dat ek nooit iets van iemand gevra*
...that I never anything from anyone ask-PST
het nie.
have SN
"…that I have never asked anybody for anything."

(b) *...dat ek nooit niks van niemand gevra*
...that I never nothing from no-one ask-PST
het nie.
have SN
"…that I have never asked for anything from anybody."
(Molnárfi 2004:216)

Molnárfi views negative indefinites in Afrikaans as inherently negative quantifiers and assumes that they are operators with an inherent Neg-feature that has to be licensed in a feature checking relation with a negative head. The structure that he proposes for Afrikaans negative sentences, such as (2.56), is reproduced in Figure 2.2 below.

(2.56) *Ek het niemand gesien nie.*
I have nobody see-PST SN
"I didn't see anybody."

[16] Cf. Chapter 1, section 1.2, and Chapter 3 for a discussion of the concepts of 'negative spread' and 'negative concord'.

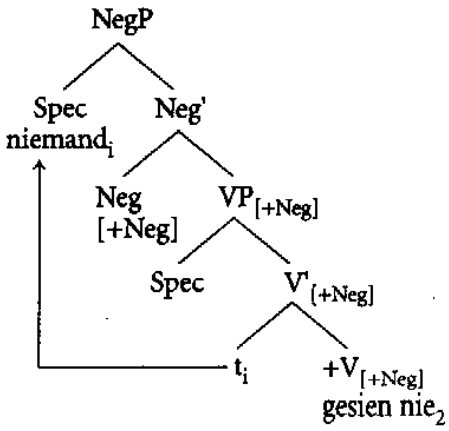

Figure 2.2: Abstract structure for Afrikaans negative sentences (Molnárfi 2004: 207)

Under this analysis, in a sentence such as (2.55)(b), the first negative indefinite, or inherently negative quantifier (*nooit*), moves to [Spec, NegP] in order to check its Neg-feature against the head of NegP. The other negative indefinites (*niks*, *niemand*), according to Molnárfi, are just copies of this Neg-feature and are consequently only spelled out after syntax, making negative spread a PF-phenomenon in Afrikaans. According to this proposal, therefore, there are two types of negative indefinites in Afrikaans, "genuine" negative quantifiers, such as *niemand* in Figure 2.2 and *nooit* in (2.55), and forms that look like negative quantifiers but are in fact non-negative indefinites that occur together with a spelled out copy of a negative feature, such as *niks* and *niemand* in (2.55)(b). Molnárfi motivates this analysis on the basis of his theory of the negation bracket in Afrikaans, namely that the first *nie*, or the first (genuine) negative quantifier, opens the domain of negation, and the sentence-final *nie* closes this domain and marks the right-periphery of the sentence. As noted above, Molnárfi argues that in Afrikaans the negative domain is infiltrated by silent copies of the first negator as a result of top-down feature percolation. In this account, therefore, in multiple negative indefinite constructions, the second (and subsequent) negative indefinite is in fact a spelled out copy of the negation head. According to Molnárfi, this spelling out of additional copies of negation facilitates parsing in spoken discourse.

Of course, the interpretation of multiple negative indefinites as an instance of single negation is still problematic from the point of view of the principle of compositionality, as Molnárfi's proposal does not cover the interpretation of the multiple spelled-out copies of the negative feature. It is not clear in this account how LF would be able to distinguish the Standard Afrikaans (DN) interpretation of *Niemand het niks gedoen nie* (="No-one did nothing") from the colloquial (NC) interpretation of this sentence (="No-one did anything"). Another problem with this proposal is that if we accept that multiple negative indefinite constructions are the result of a parsing strategy, then there should be extensive negative spread in spoken Afrikaans, which is in fact not the case, as the data in Chapter 5 will show. Moreover it is not clear what exactly is meant by a 'parsing strategy', as the exact nature of this concept remains vague in Molnárfi's analysis. The availability of a NC interpretation for multiple negative indefinite constructions seems more likely to cause confusion rather than aid comprehension, as Molnárfi claims. Utterances such as *Hy gee niemand niks nie* ("He gives nobody anything") are ambiguous in spoken Afrikaans because of the availability of both a NC and a DN interpretation. The same utterance is not ambiguous in Standard Afrikaans as the negative concord interpretation is not available, making it more easily understood. So it would appear that far from aiding parsing, the possibility that multiple negative indefinite constructions have a negative concord interpretation in non-standard Afrikaans makes comprehension more difficult because of co-existence with the standard variety.

Finally, the fact that in this proposal the phenomenon of negative spread is restricted to PF, with negative features only being spelled out after syntax is problematic. According to Molnárfi, indefinites in the scope of negation, such as *iets, iemand*, etc., sometimes remain unmarked for negation while sometimes undergo negative spread. However, his proposal does not account for why these indefinites are sometimes spelled out as non-negative, rather than being subject to negative spread, nor is it clear how the feature percolation described in Molnárfi's account can be prevented from taking place in other contexts where it would be unnecessary or even unacceptable.

2.5.5 Bell (2004)

Bell (2004) is another attempt to account for negation in Afrikaans within a Minimalist framework. His paper contains criticisms of both Oosthuizen (1998) and Molnárfi (2002), a forerunner to Molnárfi (2004). He, in turn, provides a detailed analysis for negation in Afrikaans contrary to both these proposals. Bell proposes that both sentence-medial *nie* (*nie*$_1$) and sentence-final *nie* (*nie*$_2$) are functional heads that head the negative phrases $NegP_1$ and $NegP_2$ respectively. This is contrary to Oosthuizen (1998) who only considers sentence-final *nie* to be a functional item. In simple negative sentences *nie*$_1$ is the overt realisation of Neg^o, and possesses an interpretable [+neg] feature (and so does not require any negative element in its specifier position). In sentences containing a negative indefinite, such as *niemand*, *nêrens*, or *nooit*, (and by extension not containing sentence-medial *nie*) Neg^o is null and has an uninterpretable [uNeg] feature and an OCC feature that must be eliminated before Spell-Out. A negative indefinite has an interpretable [+neg] feature that eliminates the [uNeg] on Neg^o via *Agree*. According to Bell, internal merge is triggered by the need to eliminate the OCC feature on Neg^o and the negative indefinite moves to [Spec, $NegP_1$]. Bell further proposes that *nie*$_2$ has an uninterpretable [uNeg] feature, while *v* has an interpretable [+neg] feature, which eliminates the uninterpretable feature on *nie* via *Agree*. *v*P further merges with [Spec, $NegP_2$] in order to eliminate the OCC feature on *nie*$_2$. The derivation of a sentence, such as (2.57), is reproduced in Figure 2.3 below.

(2.57) *Sy sluit nooit die deur nie*
she lock never the door SN
"She never locks the door"

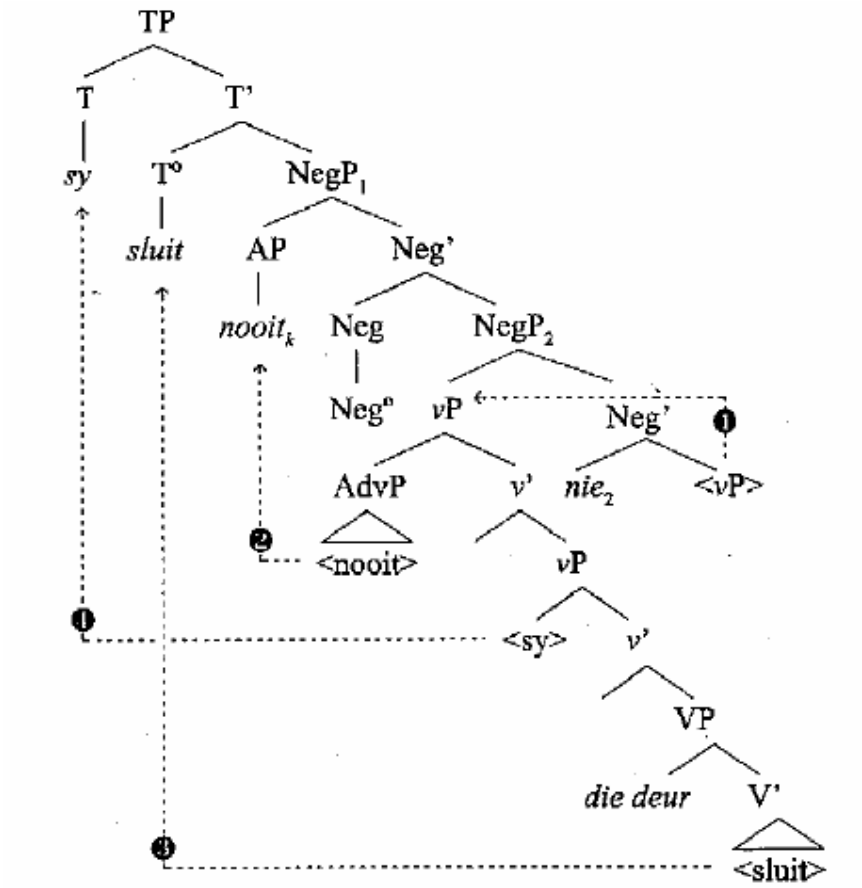

Figure 2.3: Derivation of an Afrikaans negative sentence (Bell 2004: 97)

According to this derivation, (1) *v*P merges with $NegP_2$, (2) then the negative indefinite *nooit* merges with $NegP_1$, (3) then the verb merges with T and (4) finally the subject merges with TP, resulting in the surface word order represented by (2.57).

In order to overcome one of the shortcomings of Oosthuizen's (1998) analysis, namely its inability to account for post-posed PPs and CPs, Bell argues that certain constituents and clauses can be left behind when *v*P moves to [Spec, $NegP_2$]. He proposes that cases of PPs and CPs post-posing are analogous to other cases of scrambling in non-negative

environments (scrambling of post-verbal constituents being a well-known phenomenon in Afrikaans). Furthermore, on the basis of the fact that sentence-final *nie* can be used to disambiguate *because*-clauses (cf. (2.45) in section 2.5.1) Bell argues that *nie* is a scope-delimiting particle.

While Bell's (2004) analysis does address some important aspects of negation in Afrikaans within a minimalist framework, it does not present any new insights. Furthermore, as with all the analyses discussed so far, with the exception of Molnárfi (2004), it does not address the possibility that in colloquial Afrikaans multiple negative indefinites can co-occur with a NC interpretation.

2.5.6 Biberauer (2008, 2009)

Biberauer (2008) focuses on the presence and absence of sentence-final *nie* in Afrikaans, what she refers to as doubling vs. omission, while Biberauer (2009) examines the cyclic developments that can be observed in the domain of Afrikaans negation, specifically how the properties of the negation system in Afrikaans relate to Jespersen's Cycle. As with previous analyses, Biberauer views sentence-medial *nie* to be the "true" negator. Following on from Oosthuizen (1998), Biberauer provides compelling evidence for analysing sentence-medial *nie* and sentence-final *nie* as fundamentally different negative elements, contrary to Molnárfi (2004), based on the difference between the behaviour of the two elements in respect of (i) omissibility, (ii) modifiability, (iii) reinforcement; and (iv) stressability. Firstly, the omission of sentence-medial *nie* results in ungrammaticality, as in (2.58)(b) whereas in sentence (2.60)(c), the omission of sentence-final *nie*, although also ungrammatical, just makes it sound as if it was forgotten[17]. This is a particularly common feature of L2 Afrikaans and, as noted in footnote 8, is also a feature of newspaper headlines.

(2.58) (a) *Hy kom nie in nie.*
he come not in SN
"He doesn't come in."/"He isn't coming in."

[17] In this section sentence-medial *nie* is glossed as "not" in order to distinguish it, as Biberauer (2008, 2009) does, from sentence-final *nie*, which is glossed as SN.

(b) **Hy kom in nie.*
he come in SN

(c) *(*)Hy kom nie in.*
he come not in (Biberauer 2007: 8,9)

In addition, as shown in (2.52)(a), repeated below as (2.59), sentence-final *nie* is optional following a negative indefinite that occurs sentence finally.

(2.59) *Ek sien niemand (nie).*
I see nobody (SN)
"I don't see anybody."

Secondly, only the sentence-medial *nie* can be modified, as (2.60) illustrates.

(2.60) (a) *Jy let glad/ hoegenaamd/absoluut/geheel en al*
you attend altogether/ at-all/absolutely/whole and all
nie op nie.
not up SN
"You aren't remotely paying attention"

(b) **Jy let nie op glad/hoegenaamd/absoluut/geheel en al nie.*
(Biberauer 2008: 109)

Furthermore, only the sentence-medial *nie* can be reinforced through replacement by a more emphatic negator, as (2.61) illustrates.

(2.61) (a) *Ons is nie beïndruk nie.*
us is not impressed SN
"We are not impressed."

(b) *Ons is geensins beïndruk nie.*
us is not-remotely impressed SN
"We are not remotely impressed."

(c) **Ons is nie beïndruk geensins.* (Biberauer 2008: 110)

Finally, while the sentence-medial *nie* can be stressed, the sentence-final *nie* cannot, as (2.62) illustrates.

(2.62) (a) *Ek weet NIE wat hy doen nie.*
I know not what he do SN
"I DON'T know what he's doing/he does."

(b) **Ek weet nie wat hy doen NIE.* (Biberauer 2008: 111)

Biberauer assumes that sentence-medial *nie* adjoins to the lower *v*P-edge, rather than postulating a NegP above AgrOP, as she views negation phrases as a "species of adverbial with no special status" (Biberauer 2008: 112). Following Oosthuizen (1998), Biberauer views sentence-final *nie* as the head of Pol(arity)P, merged at the clause-edge above CP. She argues that the proposed origin of sentence-final *nie* as a discourse-level element[18] provides motivation for viewing this element as belonging in the CP domain. In addition this analysis enables Biberauer to characterise sentence-final *nie* as a polarity marker, rather than a scope marker[19].

Biberauer's (2008) primary contribution is an account of why sentence-final *nie* does not occur in certain structures, namely immediately following sentence-medial *nie*, and why in certain structures it is possible to find two or more adjacent *nie*s. Specifically, she accounts for why in (2.63)(a) and (b), the occurrence of sentence-final *nie* is ungrammatical, while in (2.63)(c), the second (and optional third) *nie* results in a DN reading.

(2.63) (a) *Hy verstaan dit nog nie (*nie).*
he understand it still not (SN)
"He still doesn't understand it"

(b) *Ek weet nie (*nie).*
I know not (SN)
"I don't know"

[18] Cf. Roberge (2000), as discussed in section 2.3.
[19] Cf. Biberauer's (2008) criticism of the widespread view that sentence-final *nie* is a scope marker discussed in section 2.5.1.

(c) *Ek weet NIE nie (nie).*
I know not not (SN)
"I don't not know" (i.e. I do know)

Biberauer proposes an Afrikaans Syntactic Haplology Mechanism, as a refinement of the *Nie*-filter (Waher 1983, Den Besten 1986), given in (2.48) in section 2.5.1.

(2.64) Afrikaans Syntactic Haplology Mechanism
Nie$_2$ is subject to PF deletion whenever it is sent to Spellout in a position where it will (a) end up (following copy deletion) being the element which is spelled out immediately adjacent to a *nie* and (b) be part of the same phonological phrase (φ) as a *nie*.
i.e. [φ… *nie nie*$_2$] → *nie* ~~*nie*~~$_2$

(Biberauer 2008: 129)

This mechanism is a very general haplogical mechanism that, according to Biberauer, appears to be widely operative, and as such provides an explanation for the structures in Afrikaans without recourse to language specific stipulations. Specifically, it explains why sentence-final *nie* will always be deleted wherever it is spelled out adjacent to sentence-medial *nie* or to another sentence-final *nie*. It also accounts for situations where two or more *nie*s are spelled out adjacent to one another, as it requires adjacent *nie*s to be spelled out in distinct prosodic phrases, a situation which will always result in a DN reading.

Whereas Biberauer (2008) provides a characterisation of the doubling and omission phenomena that surface in the Afrikaans negation context, Biberauer (2009) examines how the properties of NC in Afrikaans, in both standard and colloquial varieties, relate to the Jespersen Cycle (JC). Biberauer (2009) initially characterises Afrikaans as a stage 3 language (cf. (2.4) in section 2.1), but is quick to point out that this characterisation is only partially correct. Firstly, she argues that the nature of the reinforcing element, the sentence-final *nie*, is different from reinforcing elements in other stage 3 languages, such as French. For example, while *pas* in French originated as a minimiser, introduced in order to reinforce the weakened negation expressed by *ne*, there is no indication that sentence-final *nie* was ever a minimiser of any kind. Rather, in light of Roberge's (2000) theory on the origin of sentence-final *nie* (cf. section 2.3), "there is

a strong argument that [sentence-final] *nie* originated as a CP-related discourse marker, which might originally have been a resumptive or emphatic tag negator" (Biberauer 2009: 112). Furthermore, as Biberauer (2008) shows, this element is in fact weak, and so more closely resembles the original negators in other stage 3 languages, such as *ne* in French.

Secondly, while standard and colloquial Afrikaans is clearly at stage 3 of the JC with regard to clausal negation, as a sentence-final *nie* occurs in all negation structures (except of course where it is deleted because of the Afrikaans Syntactic Haplology Mechanism), Biberauer argues that there is evidence that in the non-clausal domain (constituent negation) colloquial Afrikaans is at stage 2 of the JC. Biberauer (2009: 104) argues that colloquial Afrikaans makes "systematic use of [sentence-final] *nie* in a non-clausal context that is not generally available in standard Afrikaans, namely that in which specific negated constituents are emphasised". This can be illustrated by the sentences in (2.65) in which, according to Biberauer, the presence of an additional, clause-internal, sentence-final *nie* renders the sentence emphatic (cf. section 2.4.1).

(2.65) (a) *Dit moet nie langer nie as 10 000 woord wees nie.*
it must not longer SN than 10 000 words be SN
"It mustn't be any longer than 10 000 words."

(b) *Ek sou nooit nie so iets doen nie.*
I would never SN such something do SN
"I would never do that kind of thing."

(c) *Geen mens nie kan dit verstaan nie.*
no person SN can it understand SN
"Not a soul can understand that."

(d) *Hy het niks anders nie as 'n Mercedes gery nie.*
he have nothing other SN than a Mercedes driven SN
"He drove nothing other than a Mercedes."
(Biberauer 2009: 101 -103)

With regard to negative indefinites in Afrikaans, Biberauer argues that a "short-cycle" JC development is in progress in colloquial Afrikaans, targeting sentence-medial *nie*, observing that *niks*, *g'n* and *g'n niks* can be substituted for sentence-medial *nie* in order to express emphatic negation, as illustrated in section 2.4 in (2.37), repeated below as (2.66). This phenomenon will be examined in detail in Chapter 7, with a detailed analysis of the types of *g'n* and its role and the role of *niks* in non-standard constructions, such as (2.66).

(2.66) (a) *Ek is g'n jou vriend nie!*
I is no your friend SN
"I am NOT your friend!"

(b) *Ons doen niks sulke dinge nie.*
we do nothing such things SN
"We don't do any of those sorts of things"

(c) *Hy wil g'n niks luister nie.*
he want no nothing listen SN
"He won't listen at all."

Biberauer (2009: 112) argues that Afrikaans does not exhibit any signs of the "traditional" JC development that would be expected for Afrikaans, namely from stage 3 to stage 4, with sentence-medial *nie* becoming optional and sentence-final *nie* replacing it as the sentential negator. Rather, Afrikaans remains a stable stage 3 language with "short cycle" developments affecting sentence-medial *nie*, namely the reinforcement of this original negator in different ways, either through optional, clause-internal, sentence-final *nie*, or through lexical substitution. In fact, Biberauer (2009: 124) maintains that sentence-final *nie* has become "semantically and grammatically bleached", and as such has "grammaticalised beyond the Cycle".

2.5.7 Concluding remarks

In this section I have discussed various analyses of negation in Afrikaans. While Waher (1978), Robbers (1994), Oosthuizen (1998) and Bell (2004) focus on sentential negation, specifically the so-called "double *nie*", two proposals, namely Molnárfi (2004) and Biberauer (2009) also deal with negative indefinites in Afrikaans. As stated in Chapter 1, the behaviour

and status of negative indefinites in Afrikaans forms the central focus of this dissertation, and so it is these latter two proposals which prove ultimately relevant. Furthermore, the analyses discussed in this section are all grounded in a generative perspective and focus almost exclusively on the syntax of sentential negation in Afrikaans. This dissertation deals with the expression and interpretation of negative indefinites in Afrikaans within the framework of Optimality Theory, and, while a generative approach to the syntax of negation in Afrikaans is not incompatible with this perspective, the focus of the analyses in this dissertation are largely semantic in nature. Specifically, following de Swart (2010: 35), this dissertation "applies the principles of compositionality of meaning to a surface level syntax without hidden levels of representation and covert operators". Of course this position is limited to sentential negation markers and negative indefinites which have truth-conditional effects, and so does not necessarily apply to empty categories in syntax in general. In order to provide a starting point for the analyses presented in later chapters, it is necessary to adopt certain assumptions as laid out in the proposals presented in this section. Firstly, contrary to Molnárfi (2004), and in line with Biberauer (2009), I take the two *nie*s to be fundamentally different. It is my assumption, following Biberauer (2009) among others, that sentence-medial *nie* is the locus of negation. Sentence-final *nie* is taken to be a NC element, an obligatory negative marker without semantic content that is present in all sentences that contain sentence-medial *nie* or a negative indefinite, except when deleted as a result of Biberauer's (2007) Afrikaans Syntactic Haplology Mechanism. I remain theoretically neutral on the syntactic status and position of sentence-final *nie*, although I do not take this element to be a scope marking element. Finally, I take sentence-medial *nie* to be a sentential negative marker along the lines of *not* in English and *niet* in Dutch, but again, remain neutral as to its position in the syntactic structure.

2.6 Conclusion

In this chapter I have examined the fact that negation is marked in natural language. Firstly, single negation is marked in relation to affirmation, and secondly, double negation is marked in relation to single negation. The markedness of (both single and double) negation makes Afrikaans an important language to examine, as in Afrikaans it is possible

to find a single negation expressed by more than one negative indefinite, i.e. exhibiting syntactic double negation, as well as such a construction receiving a DN reading, i.e. exhibiting semantic double negation. In addition I have provided a brief outline of the structure of Afrikaans and a discussion of negation in Afrikaans, in order to develop a basis for the analyses presented in subsequent chapters. To this end I have also discussed the various previous accounts of negation in Afrikaans, indicating what features of these analyses I take as a starting point for my own analyses. In the next chapter I will provide an outline of the various approaches to the analysis of negative indefinites in DN and NC languages. On the basis of this discussion I will present my conclusions about the status of negative indefinites in Afrikaans and in DN and NC languages in general.

Chapter 3
Negative Indefinites

3.1 Introduction

Negative indefinites have received considerable attention in the negation literature, specifically in research focusing on languages that display NC, because of the interesting puzzle they pose from an interpretation perspective. In this chapter I provide a critical examination of the various approaches to the analysis of negative indefinites. These can be divided into three main categories, namely (i) approaches that view negative indefinites (in NC languages) as non-negative, (ii) approaches that view negative indefinites as ambiguous between a non-negative and a negative interpretation, and (iii) approaches that view negative indefinites as inherently negative. As Afrikaans is characterised as a NC language such an examination is necessary in order to enable us to define the lexical semantics of negative indefinites in Afrikaans. It is this definition that will provide a basis for the analysis of negative indefinites in Afrikaans that forms the focus of this dissertation.

It is my goal to adopt an approach that provides a unified account of negative indefinites across both DN and NC languages, and the conclusion I will reach in this chapter is that negative indefinites are inherently negative, and that the difference between DN and NC lies in two different ways of instantiating polyadic quantification (de Swart 2010). This chapter will first present a general characterisation of the elements identified as negative indefinites. This will be followed by a brief discussion of the different types of NC, so that we are able to situate Afrikaans within the typology of NC languages. A broad overview of the various approaches to the analysis of negative indefinites found in the literature will then be presented. Finally, I will discuss other approaches to the status of negative indefinites in Afrikaans, before presenting my conclusions about their status.

As noted in Chapter 1, the term "negative indefinite" is used, following Penka (2007), in a descriptive manner to refer to both negative quantifiers, such as *nobody* or *nothing* in double negation (DN) languages

like English, and to the so-called n-words, a term first coined by Laka (1990) for the indefinite pronouns that participate in negation in negative concord (NC) languages. A unifying characteristic of negative indefinites, whether negative quantifiers or n-words, is that they can be used to provide negative fragment answers, cf. Bernini & Ramat (1996) and Haspelmath (1997). This can be illustrated by the following examples.

(3.1) (a) Q: *Qué viste?* A: *Nada* (Spanish)
what saw.2SG "Nothing."
"Who did you see?"
(Haspelmath 1997: 195)

(b) Q: *Wie kom?* A: *Niemand.* (Afrikaans)
who come "Nobody."
"Who is coming?"

(c) Q: *Where did you go?* A: *Nowhere.* (English)

It is this characteristic that distinguishes negative indefinites from NPIs, as NPIs cannot be used as negative fragment answers. This is illustrated by the examples in (3.2).

(3.2) (a) Q: *Where did you go?* A: **Anywhere.* (English)

(b) Q: *Wie kom?* A: **Enigiemand.* (Afrikaans)
who come "Anybody."
"Who is coming?"

The problem posed by negative indefinites is that their interpretation appears to differ across DN and NC languages. In DN languages, such as standard English and Dutch, these elements are always interpreted as contributing negation, a situation in line with their use in negative fragment answers. If a negative indefinite in a DN language occurs with a sentential negative marker, or with another negative indefinite, the sentence receives a DN reading, as we see in (3.3).

(3.3) (a) *Nobody didn't call.* (English)
= "Everybody called."

(b) *They never went nowhere.* (English)
= "They did go somewhere at some point."

In NC languages, such as Italian and Spanish, however, negative indefinites seem to be interpreted as either negative or non-negative. For example, in the negative fragment answer in (3.1)(a) above, *nada* is clearly interpreted as contributing negation, as is *nessuno* in (3.4)(a) below, while in (3.4)(b) the combination of *nessuno* with the sentential negative marker *non* expresses a single logical negation, implying that *nessuno* should be interpreted as non-negative. Similarly in (3.4)(c), the combination of two negative indefinites, *nessuno* and *niente*, also expresses a single logical negation, implying that one of these elements contributes a negative meaning while the other does not.

(3.4) (a) *Nessuno ha telefonato.* (Italian)
nobody has telephoned.
"Nobody called."

(b) *Non ho visto nessuno.* (Italian)
SN has seen nobody.
"I haven't seen anybody."

(c) *Nessuno ha detto niente.* (Italian)
nobody has said nothing
"Nobody has said anything."
(Haegeman & Zanuttini 1996: 120)

It is for this reason that most researchers distinguish between negative quantifiers, as they occur in DN languages, and n-words. Giannakidou (2006: 328) defines the set of expressions known as n-words as follows:

(3.5) An expression α is an n-word iff:
(iii) α can/must be used in structures containing sentential negation or another α-expression yielding a reading equivalent to one logical negation; and
(iv) α can provide a negative fragment answer.

Most research on the status of negative indefinites focuses on n-words as they occur in NC languages. As noted at the start of this chapter, the

various approaches to the analysis of n-words in NC languages can be divided into three main categories, depending on whether n-words are viewed as non-negative, negative or ambiguous between a negative and non-negative meaning. The various approaches to the analysis of negative indefinites will be presented in section 3.3, but first I provide a characterisation of NC, in section 3.2. In the last section of this chapter, section 3.4, I will discuss Biberauer and Zeijlstra's (2009) analysis of negation and the status of negative indefinites in Afrikaans, before presenting my own conclusions about their status.

3.2 Negative concord

The term "negative concord" is used to refer to languages that make use of multiple instances of negation and/or negative indefinites to express a single negation. As discussed in Chapter 1, Afrikaans is characterised as a NC language. It is therefore important, in order to situate Afrikaans within the NC paradigm, that we have an understanding of the different types of NC that occur in natural language. Firstly, it is possible to distinguish two types of NC, labelled by Giannakidou (1998, 2000) as strict and non-strict negative concord. In strict negative concord languages, a negative element, or sentential negative marker, occurs in all sentences that contain a negative indefinite, as illustrated in by the sentences in (3.6).

(3.6) (a) *Milan nikomu nevolá.* (Czech)
Milan nobody SN-call
"Milan doesn't call anybody."

(b) *Nevolá nikdo.* (Czech)
SN-calls nobody
"Nobody is calling."

(c) *Nikdo nevolá.* (Czech)
nobody SN-calls
"Nobody is calling." (Zeijlstra 2004: 64)

In non-strict negative concord languages, post-verbal negative indefinites must be accompanied by a preverbal negative marker. However, when

the negative indefinite is in a preverbal (subject) position, it may not co-occur with a negative marker. This is illustrated by the sentences in (3.7).

(3.7) (a) **(No) vino nadie.* (Spanish)
SN came nobody
"Nobody came."

(b) *Nadie (*no) vino.* (Spanish)
nobody SN came
"Nobody came."

(c) *Nadie (*no) ha comido nada.* (Spanish)
nobody SN has eaten nothing
"Nobody has eaten anything."

(Penka 2007: 19)

The fact that in Afrikaans negative indefinites have to be accompanied by the sentence-final negative marker *nie*, as illustrated in (3.8), leads us to characterise Afrikaans as a strict negative concord language.

(3.8) (a) *Ons het nooit 'n gemors gemaak nie.*
we have never a mess make-PST SN
"We never made a mess."

(b) *Niemand het 'n gemors gemaak nie.*
nobody have a mess make-PST SN
"Nobody made a mess."

A second distinction that can be made with regard to NC languages is the distinction between "negative doubling" and "negative spread" (van der Wouden 1994, den Besten 1986). As discussed in Chapter 2, "negative doubling" can be defined as the situation in which "a distinguished negative element shows up in all sentences that contain a negative expression" (van der Wouden 1994: 95). This pattern of NC is characteristic of negative sentences in Afrikaans as all negative structures in Afrikaans require two negative elements, either a negative indefinite and the negative element *nie*, as illustrated in (3.8) above, or the seemingly identical negative elements *nie*…*nie*, as illustrated in (3.9).

(3.9) *Ons het nie 'n gemors gemaak nie.*
we have SN a mess make-PST SN
"We didn't make a mess."

Negative spread occurs when a single negation is expressed by any number of negative indefinites. De Swart (2010: 46) restricts the use of the term "negative spread" to languages in which the NC relation is established exclusively with negative indefinites, as illustrated by the sentences in (3.10).

(3.10) (a) *Nessuno ha telefonato a nessuno.* (Italian)
nobody has telephoned to nobody
"Nobody called anybody."
(Zeijlstra 2004: 62)

(b) *Personne a rien dit.* (Spoken French)
nobody has nothing said
"Nobody said anything."
(de Swart 2010: 46)

(c) *Valère ging nooit nieverst noatoe.* (West Flemish)
Valère went never nowhere to
"Valère never went anywhere."
(Haegeman & Zanuttini 1996: 130)

Under de Swart's definition of negative spread, the marker of sentential negation is incompatible with (multiple) negative indefinites on a single negation interpretation, as illustrated by the sentence (3.11).

(3.11) *Il est pas venu pour rien.* (spoken French)
he is SN come for nothing
≠ "He didn't come for anything."
= "He didn't come for nothing." (de Swart 2009: 46)

Zeijlstra (2004: 62) maintains, however, that negative spread can also occur in NC languages together with a sentential negative marker, as illustrated by the sentences in (3.12).

(3.12) (a) *Nikdo nedá nikomu nic.* (Czech)
nobody SN-gives nobody nothing
"Nobody gives anything to anyone."
(Zeijlstra 2004: 62)

(b) *Jean n'a jamais vu personne.* (French)
Jean SN-has never seen nobody
"Jean hasn't ever seen anyone."
(Rowlett 1998: 178)

As the focus of this dissertation is solely on negative indefinites in Afrikaans, the interaction of these elements with markers of sentential negation is beyond its scope. As such, there is no motivation to distinguish between negative spread as it occurs in (strict) NC languages, together with a marker of sentential negation, and as it occurs in languages like spoken French and West Flemish, without a marker of sentential negation. For this reason I adopt Zeijlstra's (2004) characterisation of negative spread as the co-occurrence of negative indefinites, with or without a marker of sentential negation.

Standard Afrikaans does not display negative spread, as the negative feature is not spread over all the indefinites. Rather the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$ is expressed, in standard Afrikaans, with a single negative indefinite, together with n-1 ordinary (or special) indefinites in its scope, as illustrated in (3.13).

(3.13) (a) *Die kind het niks vir (enig)iemand gegee nie.*
the child has nothing for (any)somebody give-PST SN
"The child didn't give anything to anybody."

(b) *Hy weet nooit (enig)iets nie.*
he knows never (any)something SN
"He never knows anything."

However, as noted in Chapter 2, in colloquial Afrikaans it is possible to find multiple negative indefinite combinations used to express the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$, as the sentence in (3.14) illustrates.

(3.14) *Niemand het niks gedoen nie.*
nobody have nothing done SN
"Nobody did anything."

Zeijlstra (2007) argues that sentences containing multiple negative indefinites with an NC interpretation in non-standard Dutch, such as the one in (3.15), which is similar to the Afrikaans sentence in (3.14), should be analysed in terms of emphatic negation, rather than negative spread.

(3.15) *Ik heb nooit geen problemen met haar gehad.* (NS Dutch)
I have never no problems with her had
"I have never had any problems with her."
(den Besten 1986: 205)

Zeijlstra labels such constructions "Emphatic Multiple Negative Expressions" (EMNE's), and holds that EMNE's are not instances of negative spread as they are fundamentally different from NC constructions. He argues that EMNEs are subject to strict adjacency requirements, require stress on the first negative indefinites and are idiosyncratic in nature, characteristics that distinguish them from NC constructions. This proposal will be critically examined in Chapters six and seven, with the discussion of multiple negative indefinites in Afrikaans, and shown not to be applicable to the Afrikaans data. However, we will see later in this chapter that a strict distinction between negative spread and emphatic negation is actually unnecessary if negative indefinites are considered to be inherently negative and both negative spread and emphatic negation to be the result of a polyadic quantifier analysis in which interpretation is done via the resumption of negative quantifiers.

What makes the study of NC, as discussed in this section, interesting is the puzzle it poses from a semantic point of view, as it raises problems for the principle of compositionality of meaning. The principle of compositionality of meaning holds that the meaning of a complex expression is derivable from the meaning of its immediate constituents, and the way they are combined. Of course, as Giannakidou (2000: 462) points out, the extent to which NC is a problem for compositionality depends on one's analysis of negative indefinites, specifically n-words, that is, whether or not n-words are taken to be inherently negative or

not. For this reason, the following section, section 3.3, provides a discussion of the various approaches to the analysis of n-words in NC languages.

3.3 Approaches to the analysis of negative indefinites

Various proposals have been put forward in the literature to account for NC on the basis of the status of negative indefinites, specifically the status of n-words. Most proposals focus solely on n-words, although some proposals do attempt to provide a unifying account for both n-words and negative quantifiers. In this section the three major approaches to the status of negative indefinites are discussed, namely, (i) the approach that treats negative indefinites in NC languages as non-negative, (ii) the approach that treats negative indefinites in NC languages as ambiguous between non-negative and negative, and (iii) the approach that treats negative indefinites as inherently negative.

3.3.1 Negative indefinites as semantically non-negative

The first approach to negative indefinites in NC languages views n-words as semantically non-negative. While this approach might seem counter-intuitive, based on the fact that a unifying characteristic of negative indefinites is that they can be used to provide negative fragmentary answers, as was illustrated in (3.1), the driving force behind such an approach is the fact that negative indefinites in NC languages can be used in constructions where they do not appear to contribute any negative force, similar to NPIs. The first proposal within the approach that views negative indefinites in NC languages as non-negative I will discuss is that of Laka (1990). Laka's analysis treats negative concord as a variety of negative polarity, with the negative marker as the true bearer of negation, and the co-occurring negative indefinite as a negative polarity item (NPI). This analysis is based on the similarity between the behaviour of n-words and NPIs. Laka argues that, similar to NPIs, n-words in post-verbal position have to be licensed by negation, as illustrated by (3.16).

(3.16) **(No) vino nadie.* (Spanish)
SN came nobody
"Nobody came." (Laka 1990: 104)

However in non-strict NC languages, like Italian and Spanish, n-words in preverbal position cannot co-occur with a negative marker, as illustrated by (3.7)(b), repeated below as (3.17). In these cases the negative indefinite is the sole contributor of negation.

(3.17) *Nadie (*no) vino.* (Spanish)
nobody SN came
"Nobody came."

In addition, as noted in section 3.1, n-words can be used to provide negative fragment answers, as illustrated by (3.1)(a), repeated below as (3.18).

(3.18) Q: *A quién viste?* A: *A nadie.* (Spanish)
whom saw.2SG Nobody.
"Who did you see?"

In order to account for the ability of pre-verbal n-words to occur without a negative marker, Laka (1990) proposes a functional projection ΣP headed by an implicit negative operator that, while syntactically covert, contributes a negative feature which licences the n-word occupying the specifier position of ΣP under specifier-head agreement. Furthermore, in order to account for why n-words that occur post-verbally cannot be licensed by the abstract negative head in ΣP, Laka argues that this abstract negative head is only licensed if there is an overt element in the specifier position.

This analysis is appealing from the point of view that it is able to account for the occurrence of negative indefinites in contexts not involving sentential negation, but which can be characterised as downward entailing, and therefore able to license NPIs. In such contexts the negative indefinite does not contribute negation and is interpreted as an existential, as in (3.19).

(3.19) (a) *Ha telefonato nessuno?* (Italian)
has telephoned nobody
"Did anybody call?"

(b) *Dubito che venga nessuno.* (Italian)
doubt.1SG that comes nobody
"I doubt that anyone will come." (Zanuttini 1991)

However, there are two problems with Laka's proposal. Firstly, while the presence of a functional projection ΣP headed by an implicit negative operator, explains why preverbal n-words do not have to co-occur with a sentential negative marker, it doesn't explain why preverbal n-words cannot co-occur with a sentential negative marker (Penka 2007: 23). Secondly, the fact that n-words are explicitly equated with NPIs is a problem as, if n-words are equivalent to NPIs, we would expect the abstract negative head in ΣP to be able to license NPIs that occur in a preverbal position in the same way as it licences preverbal n-words, which (3.20) shows not to be the case.

(3.20) (a) *No tengo un real* (Spanish)
SN have. 1SG a real
"I don't have a red cent."

(b) *Un real tengo.* (Spanish)
a real have. 1SG
= "I have a cent."
≠ "I don't have a red cent." (Laka 1990: 114)

Nor are NPIs able to occur as negative fragment answers, as illustrated by (3.21).

(3.21) Q: *A quién viste?*
whom saw. 2SG
"Who did you see?"

A: *A nadie.* (Spanish)
"Nobody."

A': **A un alma*
"A soul."
(Herberger 2001: 300)

Furthermore, the fact that n-words cannot occur in all the environments in which NPIs are known to be licensed, distinguishes n-words from NPIs. N-words cannot be licensed in a downward entailing context, a context in which (weak) NPIs typically occur. For example, n-words in

Spanish are not allowed to occur in conditionals (with a non-negative meaning), as illustrated by (3.22).

(3.22) **Si encuentras nada avísame* (Spanish)
if find. 2SG nothing tell-me
Intended meaning: "If you find anything, tell me."
(Herberger 2001: 299)

Ladusaw (1992) proposes an analysis "intended as a semantic foundation" for Laka's syntactic proposal (Ladusaw 1996: 340). Similar to Laka, Ladusaw analyses n-words as equivalent to indefinite NPIs such as *anything*, although with more restricted distribution. While Ladusaw's proposal relies on similarities between n-words and NPIs, he does point out that the licensing conditions of n-words and NPIs are crucially different. In his analysis, Ladusaw assumes the existence of a semantically potent feature [neg] that is inherently specified for all negative phrases. This feature is introduced by a propositional negation operator and percolates up to the top level of a structure, so licensing any n-words present in the structure. Crucially, it is the feature [neg] which expresses negation, not the lexical element that introduces it. In order to account for structures in which a propositional negation operator is absent, such as in the Spanish sentence in (3.17), which contains a pre-verbal n-word, Ladusaw assumes that the n-word licenses the presence of the [neg] feature, in NegP, which in turn percolates up the structure and licences the pre-verbal n-word. This leads Ladusaw to characterise n-words as "self-licensing", in contrast to NPIs which require an overt licensor. A drawback of both Laka (1990) and Ladusaw's (1992) proposals is that they require special syntactic assumptions, in the case of Laka, an abstract negative operator, located in ΣP, and for Ladusaw, an "abstract expressor of clausal negation" (Ladusaw 1996: 340). It is this covert negative operator/feature that accounts for the negative interpretation of utterances containing preverbal n-words in non-strict NC languages, and n-words in negative fragment answers. In this dissertation my goal is to avoid the conceptual problems that are raised by the assumption that the expression of negation can take place via covert syntactic operators. Specifically, the markedness of negation, both formally and semantically, is not compatible with the idea that negation may be syntactically invisible, but semantically potent. I will return to the issue of covert negation, and the

conceptual problems that an analysis of negative indefinites as non-negative raise, in the final section of this chapter.

The idea of n-words as non-negative indefinites, licensed by a covert negative operator or feature, has been taken up more recently within the feature checking theory of minimalist syntax by Zeijlstra (2004). Unlike Laka (1990) and Ladusaw (1992), though, Zeijlstra does not equate n-words with NPIs. Zeijlstra argues that n-words are semantically non-negative Heimian indefinites (cf. Heim 1982) that carry an uninterpretable [*u*NEG] feature that has to be eliminated in the course of a derivation by means of feature checking against an operator carrying an interpretable [*i*NEG] feature. The [*i*NEG] feature is assigned to elements that are interpreted as negation. N-words therefore enter an Agree relation with negation in order to check their uninterpretable [*u*NEG] feature against the [*i*NEG] feature carried by the negation. Zeijlstra assumes that multiple Agree is possible, which means that one [*i*NEG] feature is able to check more than one [*u*NEG] feature at the same time, allowing one negation operator to license more than one n-word in the same clause.

In non-strict negative concord languages, such as Italian, the negative operator, carrying the [*i*NEG] feature, is realised phonologically by the sentential negative marker. The checking of the [*u*NEG] feature of a non-negative n-word against the [*i*NEG] feature borne by the sentential negative marker can be illustrated by (3.23).

(3.23) (a) *Gianni non telefona a nessuno.* (Italian)
Gianni SN telephone to nobody
"Gianni doesn't call anybody."

(b) *Gianni non*$_{[i\text{NEG}]}$ *telefona a nessuno*$_{[u\text{NEG}]}$
(Penka 2007: 48)

However, in order to account for the fact that in non-strict negative concord languages n-words do not always co-occur with sentential negation, Zeijlstra assumes that the negative operator carrying the [*i*NEG] feature can be covert. Preverbal n-words are assumed to be licensed by a covert negative operator, Op¬, as illustrated in (3.24).

(3.24) (a) *Nessuno telefona a Gianni.* (Italian)
nobody telephone to Gianni
"Nobody calls Gianni."

(b) *Op*¬$_{[i\text{NEG}]}$ *nessuno*$_{[u\text{NEG}]}$ *telefona Gianni*
(Penka 2007: 48)

Zeijlstra locates the difference between non-strict and strict NC languages in the semantic status of the negative marker. Zeijlstra argues that in strict NC languages the negative marker is semantically non-negative and carries a [*u*NEG] feature. For this reason the negative marker cannot be the negative operator and itself has to be licensed by a semantic negation, that is a negative operator carrying a [*i*NEG] feature. Therefore in strict NC languages both the sentential negative marker and n-words carry [*u*NEG] features which are checked against the covert negative operator *Op*¬. This can be illustrated by (3.25).

(3.25) (a) *Jan nie pojechal do Warszawy.* (Polish)
Jan SN go. 3SG. PST to Warsaw
"Jan did not go to Warsaw."

(b) *Op*¬$_{[i\text{NEG}]}$ *Jan nie*$_{[u\text{NEG}]}$ *pojechal do Warszawy.*
(Penka 2007: 50)

According to Zeijlstra, this accounts for the fact that in strict NC languages negative indefinites are able to occur in a position in front of the negative marker, as illustrated by (3.26), in contrast to non-strict NC languages.

(3.26) (a) *Nikt nie przyszedl.* (Polish)
nobody SN came
"Nobody came."

(b) *Op*¬$_{[i\text{NEG}]}$ *nikt*$_{[u\text{NEG}]}$ *nie*$_{[u\text{NEG}]}$ *przyszedl.*
(Penka 2007: 50)

In non-strict languages the co-occurrence of a preverbal n-word and a sentential negation marker results in ungrammaticality. According to

Zeijlstra's account, the reason for this is that, because licensing under Agree only takes place through c-command, the preverbal n-word cannot be licensed by the sentential negative marker. Therefore, a preverbal n-word requires the presence of the covert negative operator, Op¬, in order to license it. This means that there are two semantically negative elements in the structure, the negative operator Op¬ and the sentential negation marker *non*, which results in double negation. This can be illustrated by (3.27).

(3.27) (a) **Nessuno non ha mangiato.* (Italian)
nobody SN has eaten

(b) *Op¬*$_{[i\text{NEG}]}$ *nessuno*$_{[u\text{NEG}]}$ *non*$_{[i\text{NEG}]}$ *ha mangiato.*
(Penka 2007: 50)

Interestingly, Penka (2007: 51) points out that given the right context and the right intonation, a sentence such as (3.27), can be considered acceptable by native speakers, but crucially only with a DN meaning, as illustrated by (3.28).

(3.28) Q: *Chi non ha mangiato?* (Italian)
"Who didn't eat?"

A: *NESSUNO non ha mangiato.*
Nobody SN has eaten
"Nobody didn't eat." (Penka 2007: 51)

As with Laka (1990) and Ladusaw's (1992) proposals, Zeijlstra's proposal requires special syntactic assumptions[20], firstly, the interpretable and uninterpretable features [*i*NEG] and [*u*NEG] and secondly, the abstract negative operator Op¬. Furthermore, proposals, such as these, that view n-words as inherently non-negative cannot provide a unified account of negative indefinites in DN and NC languages, which, as stated in the introduction, is the aim of this chapter[21]. These analyses focus on how

[20] Of course such a criticism is applicable to all proposals set in a minimalist framework, including the accounts of negation in Afrikaans, such as Oosthuizen (1998) and Bell (2004), discussed in section 2.5.

[21] Biberauer & Zeijlstra (2009) represents an exception to this, as it does attempt to account for both DN and NC interpretations of multiple negation constructions in Afrikaans.

one is able to derive a single negation reading from multiple negative indefinites (cf. Corblin 1996), and do not seem to take into account languages, like colloquial Afrikaans, in which multiple negative indefinites can be ambiguous between a single and a double negation reading. Of course there are analyses that take the potential ambiguity of n-words as their starting point, as we will see in the following section.

3.3.2 Negative indefinites as ambiguous

An alternative approach to negative indefinites in NC languages views n-words as ambiguous between non-negative and negative. For example, Giannakidou (2000, 2006) argues that the status of n-words differs from language to language, depending on the type of NC, whether strict or non-strict. Giannakidou's analysis focuses primarily on n-words in Greek, claiming that Greek n-words are (non-negative) polarity sensitive universal quantifiers that take scope over negation. In one respect Giannakidou's account is similar to those of Laka (1990) and Ladusaw (1992) as she takes n-words to be NPIs. Contrary to other accounts though, Giannakidou analyses Greek n-words as universal quantifiers taking wide scope with respect to negation, rather than as existential quantifiers in the scope of their licensor, which is the standard definition of NPIs. Giannakidou's analysis is designed to account for strict NC languages in which negative indefinites always co-occur with a sentential negation marker, regardless of their position in relation to the verb. Under this analysis the truth conditions of (3.29)(a) are given in (3.29)(b). Of course, as de Swart (2010: 28) points out, $\forall x \neg V(x)$ is logically equivalent to $\neg \exists x V(x)$.

(3.29) (a) *Dhen ipe o Pavlos TIPOTA* (Greek)
SN said. 3SG the Paul nothing
"Paul said nothing."

(b) $\forall x[\text{thing}(x) \rightarrow \neg \text{said}(\text{Paul}, x)]$

(Giannakidou 2006: 344)

While Giannakidou's account of negative indefinites as strong NPIs denoting a universal quantifier works for strict NC languages like Greek, it is unable to account for non-strict NC languages in which negative

indefinites can occur without a sentential negation marker. For this reason Giannakidou proposes that in non-strict NC languages like Italian, n-words are ambiguous between an existential and a negative meaning. Unfortunately, Giannakidou does not provide details of the compositional semantics of negation and n-words in languages other than Greek, except in very general terms (de Swart 2010: 29).

Furthermore, in order to account for the occurrence of n-words in negative fragment answers in Greek and other strict NC languages, Giannakidou has to propose a novel analysis that takes negative fragment answers to be elliptical structures. Under such an analysis, the negative meaning of negative fragment answers is not due to the "inherent contribution of the n-word, but rather as the result of their being associated with negation at the level at which ellipsis is resolved" (Giannakidou 2006: 363). This is illustrated in (3.30), where strikethrough indicates elided material.

(3.30) Q: *Ti idhes?* (Greek)
what saw.2SG
"What did you see?"

A: *TIPOTA* [~~*dhen idha*~~].
nothing not saw.1SG
"Nothing." (Giannakidou 2000: 486)

Watanabe (2004) points out, however, that there is a serious flaw in Giannakidou's argument, namely the requirement that ellipsis must have an antecedent. He finds the fact that, according to Giannakidou's analysis, a negative open proposition takes an affirmative open proposition as its antecedent for the purpose of ellipsis highly problematic. Using Japanese examples, as Japanese behaves exactly the same as Modern Greek with regard to NC, Watanabe illustrates how Giannakidou's approach to ellipsis in fragment answers does not yield the correct results. Consider the example in (3.31).

(3.31) Q: *Nani-o mita no?* (Japanese)
what-ACC saw Q
"What did you see?"

A: *Nani-mo*
what-MO
"Nothing."

A': *Nani-mo* [~~*mi-nak-atta*~~]
what-MO see-NEG-PST (Watanabe 2004: 567)

In (3.31), the negative fragment answer A, should have the underlying representation in A', according to Giannakidou's analysis. Now consider the example in (3.32). Here the negative fragment answer in A should be able to have the representation in A" if one assumes the same ellipsis-antecedent relation, but this is clearly not possible. The answer should be read as in A'.

(3.32) Q: *Nani-o* *mita* *no?* (Japanese)
what-ACC saw Q
"What did you see?"

A: *Hebi*
snake
"A snake."

A': *Hebi-~~o~~* [~~*mita*~~]
snake-ACC saw
"I saw a snake."

A": *Hebi-~~o~~* [~~*mi-nak-atta*~~]
snake-ACC see-NEG-PST
"I didn't see a snake." (Watanabe 2004: 568)

What we can conclude from this is that n-words cannot be interpreted as non-negative in negative fragment answers. As such, negative fragment answers pose a problem for any analysis that takes n-words in NC languages, or even a subset of NC languages, to be inherently non-negative.

Other proposals have also advocated an ambiguity analysis, namely van der Wouden & Zwarts (1993) and Herberger (2001). These analyses characterise negative indefinites as underspecified, that is, they are

compatible with both a negative quantifier and an existential quantifier meaning. Van der Wouden & Zwarts use context-sensitive semantics to characterise n-words as systematically ambiguous between negative universal quantifiers and positive existential quantifiers. They argue that in a particular negative context, downward entailing, or anti-additive depending on the language concerned, n-words are interpreted as existentials, while in all other contexts, n-words are interpreted as negative quantifiers. For example in (3.33), the first n-word is not in a negative context and therefore is interpreted as a negative quantifier, thus introducing a negative context in which the second n-word is interpreted as a positive existential.

(3.33) *Nessuno ha telephonato a nessuno* (Italian)
nobody has telephoned to nobody
"Nobody called anybody."

Herberger (2001) in turn accounts for NC in terms of lexical ambiguity. Herberger argues that while the occurrence of negative indefinites in non-negative downward entailing contexts with an existential reading is problematic for an analysis that treats negative indefinites as negative quantifiers, the occurrence of negative indefinites in fragmentary answers is problematic for theories that treat negative indefinites as semantically non-negative. Her alternative is that n-words are lexically ambiguous between negative quantifiers and NPIs and that there is some filter that blocks one of the two meanings in most cases.

According to de Swart & Sag (2002: 377), there are two problems with approaches that analyse negative indefinites as ambiguous, namely, that the ambiguity is not well motivated, and that it doesn't appear to be appropriate "to treat an ambiguity which clearly arises from the construction as lexical ambiguity". Furthermore, Giannakidou (1997: 166-168) herself, argues that an ambiguity approach lacks independent evidence and suffers from a lack of testability.

3.3.3 Negative indefinites as semantically negative

A third approach treats all negative indefinites as inherently negative quantifiers. This approach is motivated by the fact that n-words are able to contribute negative force, specifically in negative fragment answers. Such an approach is also able to provide a unified account of negative

indefinites in both NC and DN languages, something that is missing from many of the proposals discussed up to this point. Of course the challenge for such an approach is to explain why n-words do not always appear to contribute negative force.

The first analysis in this approach, Haegeman and Zanuttini's feature checking approach to NC (Zanuttini 1991, Haegeman & Zanuttini 1991, 1996 and Haegeman 1995), maintains that the expression of negation is governed by a syntactic constraint, the NEG-criterion[22]. Haegeman and Zanuttini propose that sentential negation is association with a functional projection, NegP (cf. Pollock 1989). A negative marker that attaches to the verb (clitic negation) is the head (X^O) of NegP and all other negative elements in the clause move to the specifier position of NegP, either at surface structure or at the level of Logical Form. The driving force for the movement of negative indefinites to [Spec, NegP] is the NEG-criterion. This well-formedness condition applies to all elements with a [+negation] feature, as it requires that such elements check their feature against a negative head. The NEG-criterion can be formulated as follows:

(3.34) The NEG-criterion
  (a) Each Neg X^O must be in a Spec-Head relation with a Negative phrase
  (b) Each Negative phrase must be in a Spec-Head relation with a Neg X^O

(Haegeman and Zanuttini 1996: 153)

In order to account for how negation is interpreted only once in NC constructions, Haegeman and Zanuttini argue that multiple negative quantifiers merge, through negative factorisation, into a single negative quantifier. As factorisation can only take place under a Spec-Head configuration, the NEG-criterion is necessary for the application of this operation. According to Haegeman and Zanuttini, the operation of factorisation reinterprets a sequence of quantifiers as a single binary (or n-ary) quantifier, as in (3.35). This means that any number of negative indefinites merge into one semantic negation.

[22] Cf. Watanabe (2004) for a recasting of Haegeman and Zanuttini's NEG-criterion approach within the general theory of feature checking (Chomsky 2000, 2001).

(3.35) $[\forall x\neg][\forall y\neg]([\forall z\neg]) = [\forall x,y(,z)]\neg$

(Haegeman and Zanuttini 1996: 139)

Haegeman and Zanuttini claim that factorisation can also affect the sentential negation marker in certain languages, as in (3.36). In this case the combination of a negative quantifier and a sentential negation marker merge into one semantic negation.

(3.36) $[\forall x\neg][\neg] = [\forall x]\neg$

(Haegeman and Zanuttini 1996: 139)

May (1989), however, argues that factorisation is not compositional because the process actually involves the deletion of part of the semantic contribution of the contributing elements. As an alternative, May proposes the operation of absorption. Absorption interprets a sequence of negative indefinites, $NO_{x1},\ldots NO_{xn}$ as a polyadic quantifier complex $NO_{x1}\ldots_{xn}$ (Cf. May (1989), van Benthem (1989), Keenan and Westerståhl (1997)). According to de Swart (2010: 38), while absorption as resumption goes beyond standard generalised quantifier theory, it is compositional in a higher order theory of meaning, that of polyadic generalized quantifier theory.

Absorption of negative quantifiers as resumption in a polyadic quantifier framework forms the basis of de Swart and Sag's (2002) approach to NC, which also maintains the view that negative indefinites are inherently negative quantifiers. What makes de Swart and Sag's analysis particularly effective is that it can account for both NC and DN readings of multiple negative indefinites. Their proposal maintains that there are two ways in which a sequence of negative quantifiers may be interpreted, either, in NC constructions, by resumption, or, in DN constructions, through function application, by iteration. Following Keenan and Westerståhl (1997), de Swart and Sag give the definition of resumptive quantification as in (3.37), where E is the universe of discourse, the one-place predicates A_1 through A_k represent the restrictors of the quantifiers, and the k-ary predicate R their scope.

(3.37) Resumption of a k-ary quantifier
$Q'_{E}{}^{A1,A2,\ldots Ak}(R) = Q_{Ek}{}^{A1xA2x\ldots Ak}(R)$

(de Swart and Sag 2002: 385)

Using French as an example, de Swart (2010: 133) illustrates this proposal, showing how in (3.38) the iteration of two negative quantifiers leads to the generalized quantifier representation in (3.38)(b), which has the truth conditions for a DN interpretation, spelt out in first-order logic in (3.38)(c). In (3.39), on the other hand, polyadic quantification gives one the resumptive quantifier in (3.39)(b), following the definition of resumption given in (3.37), which has the truth conditions for a NC interpretation given in (3.39)(c).

(3.38) (a) *Personne* *n'aime* *personne* (French)
nobody SN-loves nobody
= Everyone loves someone. [DN]

(b) NO (HUM, {x| NO (HUM, {y| LOVE(x,y)})})

(c) $\neg\exists x \neg\exists y$ Love(x,y)

(3.39) (a) *Personne* *n'aime* *personne* (French)
nobody SN-loves nobody
= No one loves anyone. [NC]

(b) $NO_{E2}^{hum \times hum}$ (LOVE)

(c) $\neg\exists x \exists y$ Love(x,y)

De Swart and Sag (2002: 384) note that the construction of a resumptive quantifier requires the sequence of quantifiers to be the 'same' (cf. May 1989, Keenan and Westerståhl 1997), and argue that in the case of NC, the quantifiers involved are anti-additive quantifiers, such as *personne* ("no one") and *rien* ("nothing"). This further explains why downward entailing quantifiers such as *peu* ("few") and *rarement* ("seldom") do not participate in resumptive quantification and so do not lead to NC interpretations. In addition, the fact that the sentential negation marker is also anti-additive accounts for why it too is able to participate in NC, that is, in the construction of a polyadic quantifier.

What de Swart and Sag (2002) are able to do is provide a grammatical account of negative concord while taking into account the possibility of DN readings. However, Zeijlstra (2004: 207) raises the criticism that the

analysis of NC developed by de Swart and Sag (2002) is not able to predict cross-linguistic variation. Zeijlstra points out that some DN languages, such as Swedish and Norwegian, do not allow any NC-like interpretations, while in most NC languages, examples like the French sentence in (3.38) and (3.39) are not generally ambiguous, and are only interpreted with an NC meaning. As the primary aim of this dissertation is to provide an analysis for negative indefinites in two varieties of Afrikaans, an approach that accounts for negative indefinites in a cross-linguistic perspective is essential in order to provide a sufficient theoretical basis for such an analysis. De Swart (2010) addresses this problem by proposing an OT analysis that builds on the polyadic quantifier analysis developed in de Swart and Sag (2002), but which locates the cross-linguistic variation in a bi-directional OT component. The bi-directional OT analysis that de Swart (2010) proposes to account for the expression and interpretation of negation in sentences containing one or more negative indefinites will be presented in Chapter 4.

3.4 The status of negative indefinites in Afrikaans

In Chapter 2 various accounts of negation in Afrikaans were discussed. In all these accounts, the general approach to the status of negative indefinites in Afrikaans is that they are inherently negative quantifiers, similar to negative quantifiers in Dutch, such as *niemand* ("nobody") and *niets* ("nothing"), although only Molnárfi (2004) and Biberauer (2009) address this issue explicitly. In a recent collaboration, Biberauer and Zeijlstra (2009) examine the status of negative indefinites in Afrikaans as a NC language, taking Zeijlstra's (2004, 2008) semantic analysis as their theoretical framework. They propose that there are two varieties of Afrikaans, *Variety A* and *Variety B*. While *Variety A* is characterised as a conservative variety of the spoken language, corresponding largely with what I have identified as standard Afrikaans, *Variety B* is characterised as a variety that incorporates many non-standard properties, corresponding largely with what I have identified as colloquial Afrikaans. According to Biberauer and Zeijlstra, negative indefinites in *Variety A* are semantically negative, that is they carry a [*i*Neg] feature, while negative indefinites in *Variety B* are semantically non-negative, that is they carry a [*u*Neg]

feature. In both varieties sentential negation markers are assumed to carry a [*u*Neg] feature, meaning that they are semantically non-negative[23].

According to Biberauer and Zeijlstra, the [*i*Neg] feature carried by all negative indefinites in *Variety A* means that all multiple negative indefinite combinations will yield a DN interpretation, which is indeed the case as the discussion in section 2.3.2, in Chapter 2, showed. An example of such a multiple negative indefinite combination with a DN interpretation is given in (3.40) Following Zeijlstra (2004), it is the combination of two semantically negative elements in the structure, both carrying an [*i*Neg] feature, which results in the double negation.

(3.40) (a) *Niemand sien niks nie.* (standard Afrikaans)
no-one sees nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

(b) *Niemand*$_{[i\text{NEG}]}$ *sien* *niks*$_{[i\text{NEG}]}$ *nie*$_{[u\text{NEG}]}$.

As with Zeijlstra's (2004) account of strict NC languages, Biberauer and Zeijlstra take the co-occurrence of negative indefinites with an NC interpretation in colloquial Afrikaans, as in (3.41), to be evidence that these negative indefinites are semantically non-negative and carry a [*u*Neg] feature. Therefore in colloquial Afrikaans both the sentential negative marker and negative indefinites carry [*u*NEG] features which are checked against the covert negative operator *Op*¬.

(3.41) (a) *Niemand sien niks nie.* (colloquial Afrikaans)
no-one sees nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

(b) Op¬ *Niemand*$_{[u\text{NEG}]}$ *sien* *niks*$_{[u\text{NEG}]}$ *nie*$_{[u\text{NEG}]}$

[23] Interestingly, Biberauer and Zeijlstra (2009), contrary to Biberauer (2008, 2009) do not make a distinction between sentence-medial *nie* and sentence-final *nie*.

Biberauer and Zeijlstra (2009) argue that one of the two respects in which colloquial Afrikaans (*Variety B*) differs from standard Afrikaans (*Variety A*) is that in colloquial Afrikaans multiple negative indefinites may yield an NC reading in addition to the DN reading that is obligatory in standard Afrikaans. In the case of DN readings of multiple negative indefinites in colloquial Afrikaans, they argue that it is the assignment of a special type of focus, namely Negative Verum Focus, to one of the negative indefinites, which disrupts the agree relation, preventing an NC interpretation of the utterance. However, while this analysis appears to account for how combinations of multiple negative indefinites are able to yield both an NC and a DN interpretation, Biberauer and Zeijlstra do not provide an explanation for why it is also possible in colloquial Afrikaans to use a combination of a negative indefinite and an ordinary indefinite in place of a multiple negative indefinite combination. As pointed out in Chapter 1, it is the potential ambiguity between NC and DN interpretations of multiple negative indefinite combinations on the one hand, and the variation in the expression of multiple indefinites in the scope of negation on the other hand that forms the central focus of the dissertation, and specifically, of the analysis in Chapter 6.

The main problem with Biberauer and Zeijlstra's analysis of NC in Afrikaans is the same problem highlighted for all the analyses that take negative indefinites to be inherently non-negative, namely that negation is expressed covertly. De Swart (2010) argues against the view that a compositional analysis of negation and NC should be based on covert or empty negative operators –

> If a truth-functional operator like ¬ can remain implicit in the sentence, or the negation particle is semantically potent in some sentences, but not others, the distinction between affirmation and negation is blurred.
>
> (de Swart 2010: 35)

Furthermore, in the discussion of the markedness of negation in section 2.1 in Chapter 2, it was argued that negation remains marked, semantically as well as formally, in relation to affirmation (Horn 1989: 156). The markedness of negation is not in line with the idea, subscribed to by Zeijlstra (2004) and others, that negation may be syntactically invisible, but semantically potent. It would seem more appropriate then, in view of the conceptual problems that analyses that take negative

indefinites to be non-negative face, to analyse negative indefinites, both negative quantifiers and n-words, as inherently negative. The difference between the interpretation of negative indefinites in NC and DN languages then lies in the two different ways of instantiating polyadic quantification, namely resumption and iteration (de Swart 2010).

Adopting the approach that n-words and negative quantifiers form a single class, uniformly interpreted as negative indefinites (¬∃), allows one to provide a unified account of negative indefinites across both DN and NC languages, without reference to hidden levels of representation and covert operators. It is this approach that will form the basis of the analysis of multiple negative indefinites in Afrikaans, presented in Chapter 6. Furthermore, the framework of bidirectional OT, proposed by de Swart (2010) and outlined in Chapter 4 will provide the tools necessary to distinguish between DN and NC interpretations of multiple negative indefinite combinations in colloquial Afrikaans, as illustrated by (3.40) and (3.41).

3.5 Conclusion

In this chapter I have provided a characterisation of NC, in order to situate Afrikaans within the typology of NC languages, and a broad overview of the various approaches to the analysis of n-words in NC languages, namely (i) approaches that view n-words as non-negative, (ii) approaches that view n-words as ambiguous between a non-negative and a negative interpretation, and (iii) approaches that view n-words as inherently negative. I have also outlined Biberauer and Zeijlstra's (2009) approach to the status of negative indefinites in Afrikaans, noting that their proposal, along with all the proposals that take negative indefinites to be semantically non-negative, suffer from conceptual problems w.r.t. the expression of negation with covert syntactic operators. My goal was to adopt an approach that provides a unified account of negative indefinites across both DN and NC languages, and to this end the conclusion I have reached in this chapter is that negative indefinites, that is both negative quantifiers and n-words, are inherently negative, and that the difference between DN and NC lies in two different ways of instantiating polyadic quantification. It is this approach that will form the basis of the analysis of multiple negative indefinites in Afrikaans, presented in Chapter 6. Furthermore, I have noted that bidirectional OT

can provide the tools to enable one to account for both DN and NC interpretations of multiple negative indefinite combinations in colloquial Afrikaans. In the next chapter, Chapter 4, I provide an outline of the bidirectional OT framework that will underlie the analysis of multiple negative indefinites in Afrikaans, presented in Chapter 6.

Chapter 4
Optimality Theory and Negation

In this chapter I provide a characterisation of Optimality Theory (OT) and how it can be used to account for negation in a cross-linguistic perspective. Firstly, in section 4.1, I provide an introduction to OT, and examine its various forms, in order to outline the theoretical framework for analysing negation and negative indefinites in Afrikaans. In order to provide a grounding for the analyses presented in subsequent chapters, in section 4.2 I examine negation in OT, by looking at how OT can account for the markedness of negation, and by explicating de Swart's (2006, 2010) OT typology of negation, focussing on the expression and interpretation of negative indefinites in NC and DN languages, and how this relates to negation, specifically negative indefinites, in Afrikaans. The constraints proposed in this account, and the framework developed will inform the analysis of negative indefinites in Afrikaans that is the focus of this dissertation.

4.1 Introduction to Optimality Theory

Optimality Theory is a general theory of language and grammar that originated with explorations of the ability of optimization principles, from research on neural network modelling, to provide insights into the structure of the language faculty (Prince & Smolensky 1997: 1604). An optimization approach to language entails that speakers select an optimal form for expressing a given meaning, while hearers, in turn, select an optimal interpretation for a given form. These optimal forms and meanings are determined on the basis of the application of various constraints, which typically conflict, and an optimal form or meaning is one that satisfies the total set of constraints the best, and on the fact that speakers have to take into account the demands of the hearer as well as their own demands, and vice versa. According to Hendriks, de Hoop, Krämer, de Swart & Zwarts (2010: 2) an optimization approach not only provides "a new way to tackle old problems in the areas of compositional semantics, lexical semantics, language acquisition and language typology, but such an approach may also allow for the

integration of linguistic results with results from the wider field of cognitive science".

In OT, a grammar consists of a ranked set of well-formedness constraints (Hendriks, de Hoop & de Swart 2000: 185). These constraints apply simultaneously to representations of structures, they are ordered in a constraint hierarchy according to strength, and they are violable. A constraint may be violated, but only in order to satisfy a stronger constraint. The assumption is that languages share the same set of constraints and that differences between languages are the result of the language-specific ordering of the same set of constraints (Blutner, de Hoop & Hendriks 2006: 4). This is different from rule-based, derivational frameworks which account for linguistic patterns by assuming that languages share inviolable principles and differ syntactically due to different parameter settings. According to Blutner et al (2006: 17) "the possibility of avoiding inviolable rules (for which there does not seem to be any evidence at all …) and the view that there is competition among candidate outputs have made OT a highly attractive theoretical framework in different sub-domains of linguistics". What is crucial for OT is the idea of relating a connectionist notion of well-formedness (harmony), the extent to which a pattern is well-formed according to the connections in the network, with linguistic well-formedness, or grammaticality (Hendriks & de Hoop 2001: 14). In neural network modelling a maximally harmonic pattern is one that optimally balances between conflicting constraints. In OT linguistics, a grammatical structure is then one which best satisfies the total set of constraints that make up the grammar. The key assumption is that linguistic rules are not hard and inviolable, but rather soft and violable, and therefore potentially conflicting.

Just like a connectionist network, an OT grammar has an input and an output level. The input and output can be anything, depending on what the grammar is accounting for. So for example, in phonology, the input is the underlying phonological representation, and the output is the phonetic form as it is expressed. Or, for example, in syntax the input is a meaning and the output a form that expresses that meaning, while in semantics the input is a form and the output a meaning. The important thing is that the input is always given. In OT, a formal mechanism, GEN (for generator) generates possible output candidates – the candidate set –

on the basis of a given input. Once the candidate set has been created by GEN, EVAL (for evaluator), a second formal mechanism, applies an optimization procedure to decide which output is optimal for the given input. The optimization procedure relies heavily on a weighted set of constraints that are evaluated in parallel. The weight is reflected in the ranking of the constraints, which is language-specific. The output candidate for a given input that best satisfies the constraints is the optimal candidate. Because the well-formedness constraints of the OT grammar are violable, an output can never be rejected because it violates certain constraints, or too many constraints. An output can only be rejected if there is a better output available. This means that in OT no amount of success with regard to weaker constraints can compensate for the violation of a stronger constraint (Hendriks & de Hoop 2001: 14). The content of the constraints themselves is not determined by OT, which is in some sense a linguistic meta-theory, but is inspired by linguistic theory.

Constraints take two forms, namely markedness constraints, which are solely applicable to the form of the output, and are blind to the form of the input, and faithfulness constraints, which, in syntax and semantics, amount to a relation of association, that is, they associate a particular form with a particular meaning. As such, faithfulness constraints take into account both the input and the output. Markedness constraints entail that certain forms or meanings are preferred to other forms or meanings because they are unmarked. As discussed in Chapter 1, there are various ways to define markedness, such as in terms of morphological marking, frequency of forms or meanings, language universals and neutral interpretation. An important part too is played by economy principles, in that the pairing of unmarked forms and meanings is more economical in general for speakers and hearers. There is an inherent tension between these two types of constraints and this entails that constraints in OT are in potential conflict (Blutner et al 2006: 7). This tension arises as a result of the fact that while faithfulness constraints promote associations between particular inputs and outputs, markedness constraints sometimes promote a difference between input and output because they have a preference for particular outputs. The resolution of constraint conflicts in OT depends on the relative ranking of constraints, and so differences between languages can be explained by different rankings of the same set of constraints.

To illustrate, consider the example (from Hendriks et al 2010) of the verb *to rain* which semantically does not need a subject, as the event of raining does not require an individual who performs or undergoes some action, as illustrated by the Italian sentence in (4.1)(a). In certain languages, such as English, however, the verb *to rain* takes an expletive subject, as illustrated in (4.1)(b).

(4.1) (a) *Piove.* (Italian)
rain-3SG

(b) *It is raining.* (English)

The difference between these two realisations of the meaning "it is raining" can be accounted for by the interaction of two constraints, Subject and Full-Interpretation, as given in (4.2) and (4.3).

(4.2) **Subject**[24]
All clauses must have a subject.

(4.3) **Full-Interpretation**
All constituents in a sentence must be interpreted.

While the constraint Subject requires each clause to have a subject, the constraint Full-Interpretation requires each word in a sentence to be meaningful. The constraint Full-Interpretation is a faithfulness constraint, as it relates parts of the output, in this case, syntactic form, to a correspondent in the input, in this case, semantic meaning. The constraint Subject, on the other hand, is a markedness constraint, as the requirement that clauses have a subject is unrelated to the input meaning (de Swart 2010: 60). These two constraints conflict when there is no semantic requirement for a subject, as is the case with the verb *to rain*, which is a zero-place predicate. In order to satisfy the constraint Subject, an expletive subject is required, as there is no semantic subject present and this constraint requires that each clause have a subject. However, the constraint Full-Interpretation requires a subject-less clause, as an

[24] The violable constraints Subject and Full-Interpretation can be seen as reformulations of the inviolable Extended Projection Principle and the inviolable principle of Full Interpretation, respectively (Blutner et al 2006: 15).

expletive subject is not meaningful, and so should not be present, as this constraint requires each word in a clause to be meaningful.

If we take two possible sentences, one with an expletive subject and one without a subject, as possible outputs produced by GEN, then the sentence that will be the optimal candidate for the input, the meaning "it is raining", will be dependent on the ranking of the constraints Subject and Full-Interpretation. In languages such as English, the constraint Subject is ranked above Full-Interpretation, which means that the latter may be violated in order to satisfy the stronger constraint, Subject. In English, therefore, a meaningless, expletive subject, *it*, occurs with zero-place predicates such as *to rain*. In languages such as Italian, the constraint ranking is reversed, and it is possible to violate the constraint Subject in order to satisfy the stronger constraint Full-Interpretation, resulting in a sentence with no subject for zero-place predicates. The results of this process of optimization are generally represented in tableaux, such as the ones in Tableau 4.1 and Tableau 4.2.

Meaning (input) "It is raining"	Form (output)	Subject	Full-Interpretation
☞	It is raining		*
	Is raining	*!	

Tableau 4.1: English (production)

Meaning (input) "It is raining"	Form (output)	Full-Interpretation	Subject
	EXPL[25] piove		*
☞	Piove	*!	

Tableau 4.2: Italian (production)

In both Tableau 4.1 and Tableau 4.2 the input to the optimization is the meaning "it is raining", given in the top left-hand cell, while the possible outputs are the candidate forms, given in the second column, namely, a

[25] EXPL stands for "expletive". Italian does not have expletive subjects like the English *it*, so there is no lexical equivalent to put here. However this is not the reason for the unacceptability of this candidate. If in Italian the constraint Subject was ranked higher than Full-Interpretation, as in English, then some lexical item would have been co-opted to serve as an expletive (Grimshaw & Samek-Lodovici 1998).

sentence with an expletive subject and a sentence without a subject. The constraints are given in the top row, ordered according to their constraint ranking. An asterisk (*) in a cell indicates a violation of a constraint, while an exclamation mark (!) indicates a fatal violation of a constraint. The pointing hand (☞) represents the optimal candidate. In English, as shown in Tableau 4.1, the sentence *it is raining* violates the constraint Full-Interpretation because it contains a meaningless word *it*. The sentence *is raining*, in turn, violates the constraint Subject because it does not have a subject. As indicated this is a fatal violation because Subject is a higher ranked constraint. For this reason the sentence *it is raining* is the optimal candidate. In Italian, as shown in Tableau 4.2, the form *EXPL piove* violates the constraint Full-Interpretation, while *piove* violates the constraint Subject. However, in this case, Full-Interpretation is ranked higher than Subject and so the optimal form in Italian is *piove*, the form without a subject.

The example discussed above, and modelled in Tableau 4.1 and Tableau 4.2, is an illustration of how OT can provide a linguistic framework for syntax. In OT syntax, given a semantic meaning as an input, the goal is to select the optimal output for this input from among a well-defined set of candidate syntactic expressions. As such OT syntax takes the point of view of the speaker. OT can also provide a linguistic framework for semantics, where it takes the point of view of the hearer. In OT semantics, given a syntactic expression as an input, the goal is to select the optimal output for this input from among a set of candidate semantic interpretations (Blutner 2004: 21). The optimal candidate interpretation is determined on the basis of violable constraints on interpretation. Examples of such constraints are the pragmatic constraint that favours anaphorization of text, as formulated in (4.4), and the syntactic constraint on interpretation known as *Principle B*[26], as formulated in (4.5) (Blutner et al 2006: 20).

(4.4) **Don't overlook anaphoric possibilities (DOAP)**
Opportunities to anaphorize text must be seized.

[26] The violable constraint Principle B is a reformulation of the inviolable Principle B of the Binding Theory (Chomsky 1982).

(4.5) **Principle B**
If two arguments of the same semantic relation are not marked as being identical, interpret them as being distinct.

While the constraint DOAP accounts for the general preference in language to interpret linguistic elements as anaphors and so relate them to previous discourse, the constraint Principle B accounts for the strong tendency in language that semantic relations are always established between different objects. Their interaction can be illustrated by the interpretation of the sentences in (4.6) (from Blutner et al 2006).

(4.6) (a) *Often when I talk to a doctor, the doctor disagrees with him.*

(b) *Often when I talk to a doctor, the doctor disagrees with himself.*

In (4.6)(a), the NP *the doctor* and the pronoun *him* cannot be interpreted as anaphoric to the preceding NP *a doctor*. According to Blutner et al (2006: 20), Krahmer and Van Deemter (1997) claim that the anaphoric interpretation is not a possible interpretation "because of the implausibility of the resulting reading". However, Blutner et al argue that if that were the case the NP *the doctor* would also not be interpreted as anaphoric in (4.6)(b), which is clearly not the case, as in (4.6)(b) the anaphoric reading is the preferred reading. Rather, they claim, it is the conflict between Principle B and DOAP that results in the anaphoric reading in (4.6)(a) being ruled out. If we assume that Principle B is ranked higher than DOAP, then it is possible for DOAP to be violated in (4.6)(a) to satisfy Principle B, while in (4.6)(b), it is possible for both Priniple B and DOAP to be satisfied. This is illustrated by Tableau 4.3 and Tableau 4.4 below[27].

[27] Note that these tableaux do not provide the (full) interpretation for the example sentences in (4.6)(a) and (b), but only their reference structure.

Form (input) *Often when I talk to a doctor, the doctor disagrees with him*	Meaning (output)	Principle B	DOAP
☞	a doc_i – the doc_i – him_j		*
☞	a doc_i – the doc_j – him_i		*
	a doc_i – the doc_i – him_i	*!	
	a doc_i – the doc_j – him_j	*!	
	a doc_i – the doc_j – him_k		**!

Tableau 4.3: NP interpretation (4.6)(a)

Form (input) *Often when I talk to a doctor, the doctor disagrees with himself*	Meaning (output)	Principle B	DOAP
	a doc_i – the doc_i – $himself_j$		*!
	a doc_i – the doc_j – $himself_i$		*!
☞	a doc_i – the doc_i – $himself_i$		
	a doc_i – the doc_j – $himself_j$		*!
	a doc_i – the doc_j – $himself_k$		*!*

Tableau 4.4: NP interpretation (4.6)(b)

In these tableaux, the inputs are the sentences in (4.6)(a) and (b), while the candidate outputs are the possible interpretations for the NPs *a doctor, the doctor* and *him*[28]. As we see in Tableau 4.3, there are two optimal interpretations for the sentence in (4.6)(a), as both these interpretations satisfy Principle B, the stronger constraint, and only violate DOAP once. These interpretations are obtained when either *the doctor* or *him* is co-referential with *a doctor*. In Tableau 4.4, there is only one optimal interpretation, the interpretation where *a doctor*, *the doctor* and *himself* are all co-referential. In this case the optimal candidate satisfies both Principle B and DOAP.

The OT semantics tableaux above, Tableau 4.3 and Tableau 4.4, in which the input is a sentence, or syntactic expression, and the possible

[28] By focussing of the interpretations of only these NPs other interpretational issues and possible constraints are not taken into account.

outputs are interpretations, or meanings, can be contrasted with the OT syntax tableaux in the previous example, Tableau 4.1 and Tableau 4.2, in which the input is an interpretation, or meaning, and the possible outputs are sentences, or syntactic expressions. Together, these examples illustrate clearly how OT can be applied to syntax, being able to account for the selection of an optimal syntactic expression for a given semantic input, as well as to the domain of interpretation, accounting for the selection of an optimal semantic interpretation for a given syntactic input. Furthermore, the constraints in Tableau 4.1 and Tableau 4.2, can be characterised as syntactic constraints, as can the one constraint in Tableau 4.3 and Tableau 4.4, namely Principle B, while the other constraint in Tableau 4.3 and Tableau 4.4, DOAP, can be characterised as a pragmatic constraint. As Hendriks and de Hoop (2001:15) note, in both the expressive optimization (syntax) and interpretive optimization (semantics) processes, constraints can be syntactic, phonological, pragmatic or semantic in nature and can play a role in both or either processes.

The separation of expressive optimization and interpretive optimization is the standard approach in OT syntax (and in some early studies in OT semantics), however, proposals such as Blutner (2000), Jäger (2002) and Wilson (2001) have argued that the hearer and speaker perspectives cannot be examined in isolation from each other. They argue in favour of bidirectional optimization, where both speakers' and hearers' optimization are carried out simultaneously.

4.1.1 Bidirectional optimization

Bidirectional optimization is a way of capturing the intuition that hearers not only rely on their own perspective, but also take into account the speaker's perspective, when interpreting an input. Whether the opposite is also the case, i.e. whether speakers take into account both their perspective and the hearer's perspective when producing an output, is, however, a point of debate. While most versions of bidirectional OT are symmetric, in that they rely on the intuition that speakers take into account the hearer's perspective, and hearers the speaker's perspective (de Swart 2010, Hendriks et al 2010, Blutner et al 2006, Blutner 2000), there are asymmetric versions of bidirectionality (Zeevat 2000, 2006, Wilson 2001), a point I will return to later in this section.

Bidirectional optimization takes two possible forms, strong bidirectional optimization and weak bidirectional optimization. In strong bidirectional optimization, a form-meaning pair ⟨*f,m*⟩ is optimal if and only if there is no other pair ⟨*f',m*⟩ such that ⟨*f',m*⟩ < ⟨*f,m*⟩, and there is no other pair ⟨*f,m'*⟩ such that ⟨*f,m'*⟩ < ⟨*f,m*⟩, where < is an ordering relation which can be read as "being less costly, being more harmonic, being more economical" (Blutner et al 2006: 23). Therefore, form-meaning pairs that compete in one direction of optimization are constrained by the outcomes of the other direction, and vice versa, and a form-meaning pair is an optimal pair if there is no pair with a better form or a better meaning. Under strong bidirectional optimization, an optimal pair blocks all other pairs in the same competition. The term "blocking" is used to describe the situation where a possible form, or form-meaning pair, does not exist because an alternative form, or form-meaning pair already does. For example, there are two possible ways to realise the comparative form of *good* in English, either by means of the regular form *gooder* or by means of the irregular form *better*. Because the irregular form *better* is preferred in English, the regular form *gooder* is blocked as the comparative form of *good*. So in terms of form-meaning pairs, because *better* (form *f*) is preferred to *gooder* (form *f'*) for the comparative meaning of *good* (meaning *m*), the form-meaning pair ⟨*better*, comparative meaning of *good*⟩ is more harmonic than the form-meaning pair ⟨*gooder*, comparative meaning of *good*⟩, and, as there is no pair more harmonic, the pair ⟨*better*, comparative meaning of *good*⟩ is then the bidirectionally optimal form-meaning pair.

Of course, in language, total blocking of certain form-meaning pairs by optimal pairs does not always occur, rather we get instances of partial blocking. An example of partial blocking is the relation between *kill* and *cause to die* (Blutner 2000). The lexical causative *kill* is the shorter, less complex form, and is used in the stereotypical causative situation where the action is accomplished in a direct way. The longer, more complex form *cause to die*, is not, however, completely blocked by the lexical causative. Rather it is used in more marked situations where the action is accomplished in an indirect way. Take the sentences in (4.7) for example (Blutner 2000: 202). The second sentence, (4.7)(b), could be used appropriately when Black Bart caused the sheriff's gun to backfire by

stuffing it with cotton, a situation in which the action of killing the sheriff is accomplished in an indirect way.

(4.7) (a) *Black Bart killed the sheriff.*

(b) *Black Bart caused the sheriff to die.*

In order to account for situations where partial blocking occurs, Blutner (2000: 203) proposes a recursive variation of bidirectional optimization, called weak bidirectional optimization, or super-optimality. In weak bidirectional optimization, a form-meaning pair $\langle f,m\rangle$ is super-optimal if and only if there is no other super-optimal pair $\langle f',m\rangle$ such that $\langle f',m\rangle < \langle f,m\rangle$, and there is no other super-optimal pair $\langle f,m'\rangle$ such that $\langle f,m'\rangle < \langle f,m\rangle$. The notion of super-optimality can be illustrated by the bidirectional optimization diagram in Figure 4.1, in which the arrows point to the preferred pair and the (super-) optimal pairs are marked with the symbol ✌. If we examine this diagram we see that, under strong bidirectional optimization, only one pair, $\langle f_1, m_1\rangle$ is a bidirectionally optimal pair, as this is the only pair from which no arrows are leaving, and towards which two arrows are pointing. However, under weak bidirectional optimization, the pair $\langle f_2, m_2\rangle$ emerges as a super-optimal form-meaning pair as there is no other super-optimal pair that has either a better form for the same meaning or a better meaning for the same form. In Figure 4.1 the pair $\langle f_2, m_2\rangle$ is not in direct competition with the only other super-optimal pair $\langle f_1, m_1\rangle$, because they differ in both their form and their meaning component.

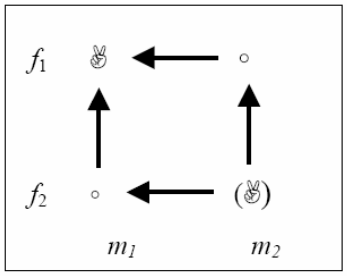

Figure 4.1: (Weak) bidirectional optimization

This definition of weak bidirectional optimization allows, in principle, for two types of super-optimal form-meaning pairs. Firstly, the strong pair $\langle f_1,m_1\rangle$, consisting of an unmarked form and an unmarked meaning, and secondly, the weakly optimal pair $\langle f_2,m_2\rangle$, consisting of a marked form and a marked meaning. Both pairs are super-optimal because there are no alternative super-optimal pairs in which either the form is more economical with respect to the same meaning, or the meaning is more adequate with respect to the same form. And so, in language, a suboptimal form *f'* is not blocked entirely, but only as a match to a meaning *m* which is better paired with an unmarked form *f* (de Swart 2010: 70). This pairing of unmarked forms with unmarked meanings and marked forms with marked meanings gives rise to Horn's (1989) division of pragmatic labour, which states that:

> Given two coextensive expressions, the briefer and/or more lexicalised form will tend to become associated with some unmarked, stereotypical meaning, use or situation, and the marked, more complex or prolix, less lexicalised expression tends to implicate a marked message, one which the unmarked form could not or would not have conveyed.
>
> (Horn 1989: 197)

Bidirectional optimization therefore gives rise to one optimal pair in its strong form, and two or more optimal pairs in its weak form, as a result of one or more markedness or faithfulness constraints. This situation can also be represented by an OT tableau. If we take the sentences in (4.7), and assume that there are two markedness constraints M1 and M2, where M1 constrains the use of complex forms and M2 constrains the use of complex meanings (their rankings are not relevant to this example) we can represent the process of (weak) bidirectional optimization in Tableau 4.5 below. The form-meaning pair of *kill* and the direct interpretation is the strongly optimal pair, as it does not violate either constraint. The form-meaning pair of *cause to die* and the indirect interpretation is the super-optimal pair as, although this pair violates both markedness constraints, it wins out in a second round of optimization, because the competing pairs [kill, indirect] and [cause to die, direct] ($\langle f_1, m_2\rangle$ and $\langle f_2, m_1\rangle$) lose against the strongly optimal pair [kill, direct] ($\langle f_1, m_1\rangle$) and given that there are no better super-optimal pairs,

the pair [cause to die, indirect] (⟨f_2, m_2⟩) is therefore a super-optimal pair. The super-optimal pairs are indicated by the victory sign (✌).

Input [*f*,*m*] f_1: kill, f_2: cause to die m_1: direct, m_2: indirect	M1	M2
[kill, direct] ✌		
[kill, indirect]		*
[cause to die, direct]	*	
[cause to die, indirect] ✌	*	*

Tableau 4.5: Weak bidirectional optimization

A final point to examine is the exact relation between production and comprehension in bidirectional optimization. Specifically, whether bidirectional optimization is symmetric or asymmetric. As noted at the start of the section, bidirectional optimization is a way of capturing the intuition that hearers take into account the speaker's perspective when interpreting an utterance. Most accounts of bidirectional optimization also assume the converse to be the case, namely that speakers take into account the hearer's perspective when producing an utterance. However, there appears to be a general feeling among linguists that speakers are "lazy" (Hendriks et al 2010: 19) and do not necessarily take into account the hearer's perspective when producing an utterance. From this latter intuition, Zeevat (2000) argues that, contrary to symmetric models of bidirectional optimization that take the influence of production on comprehension to be the mirror image of the influence of comprehension on production, bidirectional optimization is asymmetric, with production as a unidirectional process, and comprehension as a bidirectional process. According to Zeevat (2000: 250) the process of language production has to find a balance between conflicting constraints, as a result of a principle of minimal effort, but interpretation does not represent the same conflict. Economizing on effort in interpreting a speaker's intention cannot go below the effort required, as then the hearer would run the risk of not finding the speaker's intention.

As noted in Chapter 1, the focus of this dissertation is on the expression and interpretation of indefinites in the scope of negation. What will

become clear in Chapter 6 is that in Afrikaans the expression of multiple indefinites in the scope of negation is an arbitrary process, determined by stochastic optimization, in which the speaker does not take into account the hearer. A speaker can use one of two possible forms for expressing multiple indefinites in the scope of negation, either a negative indefinite together with one or more ordinary indefinites or NPIs, or multiple negative indefinites. The interpretation of multiple negative indefinite combinations in Afrikaans, however, is not an arbitrary exercise. Multiple negative indefinite combinations in Afrikaans can have either an NC or a DN meaning. In order to correctly interpret an utterance containing a multiple negative indefinite combination, a hearer must reconstruct the speaker's intention and so it is essential that the hearer take the speaker's perspective into account when interpreting an utterance. It is for this reason that the distinction between symmetric and asymmetric bidirectional optimization is an important one for this dissertation. It is also important to examine whether these different options, when it comes to the expression and interpretation of multiple indefinites in the scope of negation, are in free distribution, or whether they are constrained in some way or other.

In the preceding discussion we have seen how both weak and strong bidirectional optimization, whether symmetric or asymmetric, provide mechanisms for obtaining multiple optimal solutions for form-meaning pairs, through the interaction of markedness and faithfulness constraints. It is important to note though that this type of optimization does not entail optionality, except under certain types of constraint interaction (Legendre 2001: 17). Optionality can only occur if (i) two candidates incur the same set of violations and are therefore both optimal, which is highly unlikely; (ii) two constraints are tied in a ranking, and a violation of each cancels the other out; or (iii) there is a partial ordering of constraints, where the relative ranking of two constraints is indeterminate. Whereas (ii) results in a single ranking, (iii) results in a set of rankings which can yield potentially different optimal outputs in free variation. However, as we will see in Chapter 6, while there is optionality in the expression of multiple indefinites under negation in colloquial Afrikaans, this optionality is not free, but rather statistically asymmetrical. Zeevat & Jäger (2002) and Zeevat (2002), in their analysis of differential case marking, propose a constraint $Bias_{int}$ that is intended to represent linguistic sensitivity to asymmetries in language use. A

criticism of this approach is, however, that it is a stipulation of a statistical sensitivity and does not explain the mechanism(s) involved (Jäger 2003, Mattausch 2005). An alternative which enables one to account for a grammar that allows degrees of optionality is to make use of stochastic OT (Boersma 1999, Boersma & Hayes 2001). In the next section I provide a description of stochastic OT and illustrate how it can account for constrained variation.

4.1.2 Stochastic Optimality Theory

According to Mattausch (2007: 109):

> A stochastic OT grammar does not make a simple distinction between grammatical and ungrammatical expressions. Rather, it defines a probability distribution over a set of possible expressions and a particular expression is only technically ungrammatical if the grammar assigns that expression a probability of zero.

There are two main differences between standard, ordinal OT and stochastic OT. The first difference is that the ordinal ranking of constraints is replaced by a continuous ranking of constraints, with each constraint being assigned a ranking value. The ranking values of the various constraints represent the hierarchical ordering of those constraints and also measure the distance between them. The result of replacing the ordinal ranking of standard OT by a continuous ranking of constraints is that constraints can have overlapping ranges. The second difference is that stochastic OT uses stochastic evaluation, which means that the ranking value of a constraint is modified by the addition of a normally distributed noise value with mean $\mu = 0$ and standard deviation $\sigma = 2$. The actual probability that $C_1 >> C_2$, for any two constraints C_1 and C_2, is a function of the difference between their ranking values, as depicted in Figure 4.2.

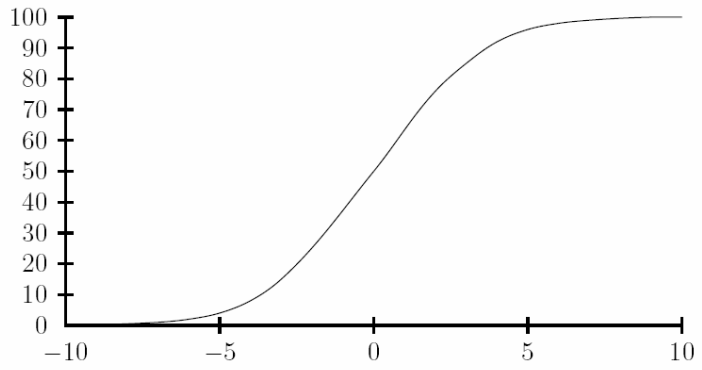

Figure 4.2: Probability of C1 >> C2 as function of C1 – C2 (in %) (Mattausch 2005:83)

The actual evaluation of the relevant candidates for each individual evaluation is always a result of the hierarchical ranking of the constraints after the noise values have been added. This means that if two constraints C_1 and C_2 have overlapping ranges and there is a certain degree of noise in the system, which affects the ranking at every evaluation of an input, we mostly find the order $C_1 >> C_2$ but the order $C_2 >> C_1$ does occur in some cases. If these two different constraint rankings have different optimal candidates, then the output will be affected in each case. It is therefore the degree of overlap that governs the distribution of different optimal candidates. If there is no overlap, that is if the ranking value of C_1 is high enough compared to C_2 that the probability of C_2 outranking C_1 for any given evaluation is virtually zero, we get a constraint ranking $C_1 >> C_2$. If there is total overlap, true free variation is predicted and the optimal candidates for both constraint rankings will each occur in about 50% of the cases. However, if the degree of overlap is smaller, then the different optimal candidates may occur in different distributions. This is illustrated in Figure 4.3, where for example one can expect about 76%-24% variation between candidates favoured by C_1 and those favoured by C_2, since C_1 outranks C_2 by two units (Mattausch 2005: 84).

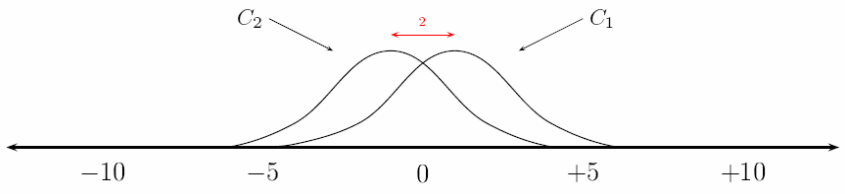

Figure 4.3: Overlapping constraints (Mattausch 2005: 84)

Stochastic OT, together with a bidirectional version of Boersma's (1999) Gradual Learning Algorithm (GLA), a learning algorithm that allows a learner to develop a stochastic OT grammar based on observed linguistic behaviour, enables Zeevat & Jäger (2002), Jäger (2003) and Mattausch (2005, 2007) to generate theories of how learners could come to acquire knowledge of a grammar and can also be used to model Horn's division of pragmatic labour (cf. section 4.1.1). The GLA assumes that, at any stage of the learning process, a learner has a hypothetical stochastic OT grammar in place. The learner then, faced with some form-meaning pair, takes the meaning as an input and generates some hypothetical output, according to the learner's current grammar. If the hypothetical output is the same as an observed, actual output no action is taken, however, if there is a mismatch between the two outputs, then the learner adjusts the grammar in such a way that the constraints that favour the observed output are promoted, while the constraints that favour the hypothetical output are demoted. Learning as such is driven by the frequency distributions in a corpus.

The Bidirectional GLA (BiGLA), in turn, views learning as bidirectional, in that the learner not only evaluates candidate forms with respect to a hypothetical grammar, but also candidate meanings, and the adjustment of constraints is dependent on a speaker-mode and a hearer-mode. As in the GLA, in the speaker-mode of the BiGLA a learner, on observing a form-meaning pair $\langle f,m \rangle$, generates a hypothetical output f' on the basis of an observed input meaning m and adjusts the ranking of constraints accordingly when there is a mismatch between the hypothetical output and the actual output f. In hearer-mode a learner uses the observed input form f to generate a hypothetical output m'. Again, if the hypothetical output is the same as an observed output m, no action is taken, however, if there is a mismatch between the two outputs, then the learner adjusts

the grammar in such a way that the constraints that favour the observed output are promoted, while the constraints that favour the hypothetical output are demoted.

In order to illustrate how stochastic OT, together with the BiGLA[29], can account for constrained variation we will briefly examine Mattausch's (2005, 2007) analysis of patterns of binding phenomena in Old English. In Modern English, the example in (4.8) is representative of a very general pattern in natural language binding phenomena. This pattern is accounted for, for example, by Principles A and B of Chomsky's Binding Theory (1982), which requires that (non-reflexive) pronouns must be locally free, while reflexive pronouns must be locally bound.

(4.8) (a) *He_i *loves* him_i

(b) He_i *loves* him_j

(c) He_i *loves* $himself_i$

(d) *He_i *loves* $himself_j$

However, Old English does not appear to obey Principles A and B, as the examples in (4.9) illustrate. Evidence from Old English shows that the opposition between the OE pronoun *hine* and the emphatic *hine selfne* is not the same as the opposition between *him* and *himself* in Modern English. Specifically, the pronoun *hine* could be locally bound, i.e. function as a reflexive pronoun, or have a disjoint reference, as we see in (4.9)(a)[30]. Furthermore, while *hine selfne*, could be interpreted reflexively,

[29] While the BiGLA does not form part of the stochastic OT analysis of multiple negative indefinites in Afrikaans proposed in Chapter 5, it is a necessary ingredient in understanding Mattausch's use of stochastic OT.

[30] Interestingly, Afrikaans also permits bound pronominals in reflexive structures, as illustrated by (i), and in fact has a number of "reflexive" verbs, that is, verbs that only take a reflexive pronoun as complement (cf. Oostuizen 2007) as illustrated by (ii).

(i) Hy_i *byt* $hom_{i/j}$.
"He bites himself."/"He bites him."

(ii) Hy_i *vererg* hom_i.
"He loses his temper."

as in (4.9)(b), it could also appear unbound, and be interpreted non-reflexively, as we see in (4.9)(c)[31].

(4.9) (a) *Hine$_{i/j}$ he$_i$ bewerað mid wþnum.* (Old English)
him he defended with weapons.
"He$_i$ defended himself$_i$ with weapons." or
"He$_i$ defended him$_j$ with weapons."
(Siemund 2000: 25)

(b) *Ond se cwellere$_i$ sona hine$_i$ selfne$_i$ ofslog mid*
and the killer$_i$ immediately him$_i$ self$_i$ slew with
ðy ilcan sweorde.
the same sword
"And the killer immediately slew himself with the same sword."
(Sinar 2006: 138)

(c) *Moyses$_i$, se ðe ws God$_j$ sua weorð ðt he$_i$*
Moses, he who was to-God so dear that he
oft wið hine$_j$ selfne$_j$ sprc.
often with him self spoke
"Moses$_i$ was so dear to God$_j$ that he$_i$ often spoke with himself$_j$."
(Mattausch 2007: 105)

Mattausch (2007: 105) notes that during the sixteenth century there was "a dramatic increase in the percentage of *self*-marked locally bound pronouns and a sharp decrease in occurrences of locally free ones". However, there was also a large degree of variation among individual speakers. He offers an analysis that accounts for the variation observed in OE using four bias constraints and a stochastic OT framework. Firstly, Mattausch notes that 18% of reflexive pronouns in OE are *self*-marked while the rest are bare, and he goes on to assume (in order to illustrate his point) that 18% of non-reflexive pronouns are also *self*-marked – whether for reasons of contrast or emphasis, or some such.

[31] Sinar (2006: 26) notes that researchers are unanimous that, while the construction *hine selfne* represents the origin of the Modern English reflexive form *himself*, in Old English *selfne* is considered to be an independent item whose primary function is as an intensifier. Hence its ability to appear both locally bound and unbound.

Furthermore, on the basis that non-reflexive transitive clauses vastly outnumber reflexive transitive clauses, Mattausch assumes that the ratio of reflexive versus non-reflexive transitive clauses is 49:1. These assumptions result in the frequencies given in Table 4.1 below.

	pro	*pro + self*	*% marked*
reflexive	1.64%	.36%	18 %
non-reflexive	80.36%	17.64%	18 %

Table 4.1: Frequencies for OE (Mattausch 2007: 111)

According to Mattausch, a child-learner exposed to the frequencies in Table 4.1 would be learning a grammar in which there was no correlation between whether a form was marked and whether the input related to that form was reflexive or non-reflexive, that is, the *self*-marking is non-differential (Mattausch 2005: 105). Mattausch then proposes four bias constraints, given in (4.10), that in a stochastic OT framework accounts for the distributional behaviour of bare pronouns and reflexives in (his variety of) OE.

(4.10) **self,co*: *Self*-marked pronouns are not locally conjoint (i.e. not reflexive).
**self,dis*: Self-marked pronouns are not locally disjoint (i.e. not non-reflexive).
**pro,co*: Bare pronouns are not locally conjoint (i.e. not reflexive).
**pro,dis*: Bare pronouns are not locally disjoint (i.e. not non-reflexive).

These constraints are neither markedness nor faithfulness constraints but rather mitigate against all possible form-meaning combinations. Furthermore, they are both generative and interpretational constraints. For example, the constraint **self,co* militates against producing a *pro*+ *self* output for a reflexive input on the generative side and militates against a reflexive interpretation of a *pro*+*self* form on the interpretational side. While **self,dis* and **pro,co* can be seen as OT variants of Principles A & B, **self,co* and **pro,dis* are mirror images of those constraints. These

constraints are used to reflect the statistical state of affairs in a corpus by their relative rank to one another.

Now let us consider how the BiGLA would operate on the basis of these four constraints, recalling that the adjustment of constraint values is dependent on a speaker-mode and a hearer-mode. In speaker-mode, a learner observes a pair ⟨*f,m*⟩ and, using the observed meaning *m* (either reflexive or non-reflexive) as an input, generates a hypothetical output (either *pro* or *pro*+*self*). Where that hypothesis is wrong, the learner demotes the constraints which favor the hypothesis and promotes the which favor the observed output. On the other hand, in hearer-mode, a learner observes a pair ⟨*f,m*⟩ and, using the observed form *f* (either *pro* or *pro*+*self*) as an input, generates a hypothetical output (either reflexive or non-reflexive). Again, where that hypothesis is wrong, the learner demotes the constraints which favor the hypothesis and promotes the constraints which favor the observed meaning.

The observation is that, in speaker-mode, the fact that the percentages of reflexive inputs and non-reflexive inputs that get *self*-marked outputs are the same (18%) will mean that there will be no difference between the rankings of **self,co* and **self,dis* or between the rankings of **pro,co* and **pro,dis*. However, because there is an asymmetry between bare pronouns and *self*-marked pronouns (49:1), the ranking of **self,co* and **self,dis* will be considerably higher than **pro,co* and **pro,dis*. In hearer-mode, on the other hand, because *self*-marked inputs get reflexive outputs and non-reflexive outputs the same percentage of the time (18%), there will be no difference between the rankings of **self,co* and **pro,co* or between the rankings of **pro,dis* and **self,dis*, while the asymmetry between reflexive and non-reflexive outputs will mean that **self,co* and **pro,co* will be ranked considerably higher than **pro,dis* and **self,dis*. Mattausch (2005: 108) points out that the effects of the BiGLA will be a compromise of sorts between the two modes of learning, as the hearer-mode learning will be "pulling apart" the two pairs of constraints (**self,co*/**self,dis* and **pro,co*/**pro,dis*) that the speaker-mode learning is "holding together", while the hearer-mode learning is "holding together" the two constraint pairs (**self,co*/**pro,co* and **self,dis*/**pro,dis*) that the speaker-mode is "pulling apart". This results in the learning curves given in Figure 4.4 (where the vertical axis indicates the relative strength of the constraints

with respect to one another, and the horizontal axis reflects the number of pairs drawn at random based on the frequencies in Table 4.1).

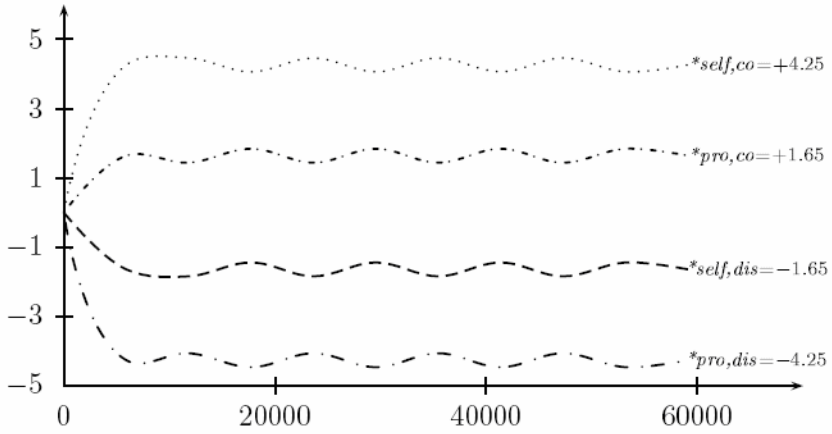

Figure 4.4: Bidirectional learning curves – bias constraints (Mattausch 2007: 115)

Furthermore, Mattausch notes that the compromise is a successful one in that the grammar constructed by the learner, accurately reflects the frequencies in the corpus, given in Table 4.1, firstly with regard to the expected general preference for non-reflexive interpretations, and secondly, the generative preference for bare pronouns. However, in order to explain how this grammar can develop into one which favours Horn's division of pragmatic labour, that is, where unmarked forms pair up with unmarked meanings, and marked forms pair up with marked meanings, an additional markedness constraint, representing "a universal force of articulatory economy" is necessary, as given in (4.11) (Mattausch 2007: 116).

(4.11) **Struc*: Avoid morphological structure.

In speaker-mode, the constraint **Struc* will be promoted whenever the learner observes the use of an unmarked form, that is, a bare pronoun, and demoted whenever the learner observes the use of a marked form, that is, a *self*-marked pronoun. Because **Struc* is related to forms only, it will never be promoted or demoted in hearer-mode. Mattausch (2007:

117) points out that the grammar that is produced through the operation of the BiGLA on the basis of the four bias constraints and the markedness constraint **Struc*, unlike the grammar based solely on the bias constraints (Figure 4.4), will not reflect the output frequencies of the original learning corpus, as it will not only be determined by the ranking values of the bias constraints, but also by how the markedness constraint is ranked among them. This so-called "ganging-up cumulativity" (Mattausch 2007: 118), where the markedness constraint works together with certain bias constraints in the presence of statistical asymmetries, results in the grammar in Figure 4.5.

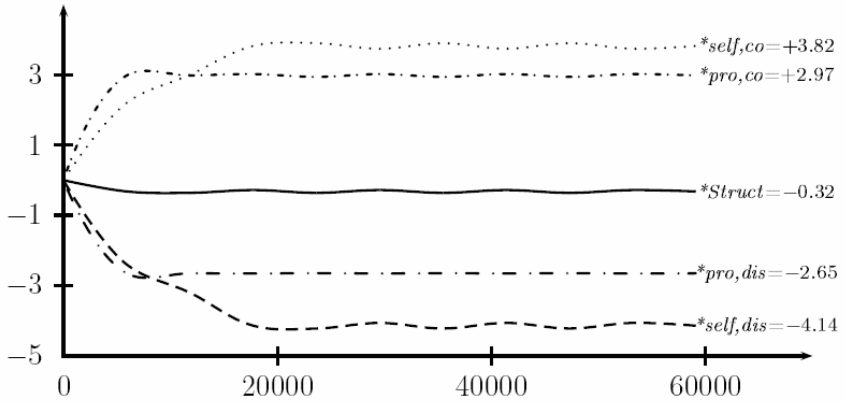

Figure 4.5: Bidirectional learning curves – first generation (Mattausch 2007: 119)

What is represented by this grammar is that reflexives are now significantly more likely to be expressed by *self*-marked pronouns than non-reflexives, meaning that a cross-generational change has taken place. This change has resulted in a tendency towards the pattern of marked forms for rare, or marked, meanings. A second generation learner, exposed to the frequencies of the first generation learner who learned the grammar in Figure 4.5, will in turn reinforce the tendency to avoid a marked form for the more frequent meaning, and so provide input for a third generation learner. This iterated learning[32], applied over multiple

[32] Mattausch (2004, 2007) makes use of Kirby & Hurford's (1997) Iterated Learning Model to model the evolutionary transition of (his version of) OE into Modern Standard English. The ILM captures the intuition that, in an evolutionary perspective, a

generations, will eventually lead to a stable grammar that reflects the patterns of Modern Standard English, where bare pronouns are optimally interpreted as non-reflexive and reflexives are optimally expressed by *self*-marked pronouns. This evolutionary transition is represented by Figure 4.6 (where the vertical axis indicates the relative strength of the constraints with respect to one another, and the horizontal axis reflects the number of generations).

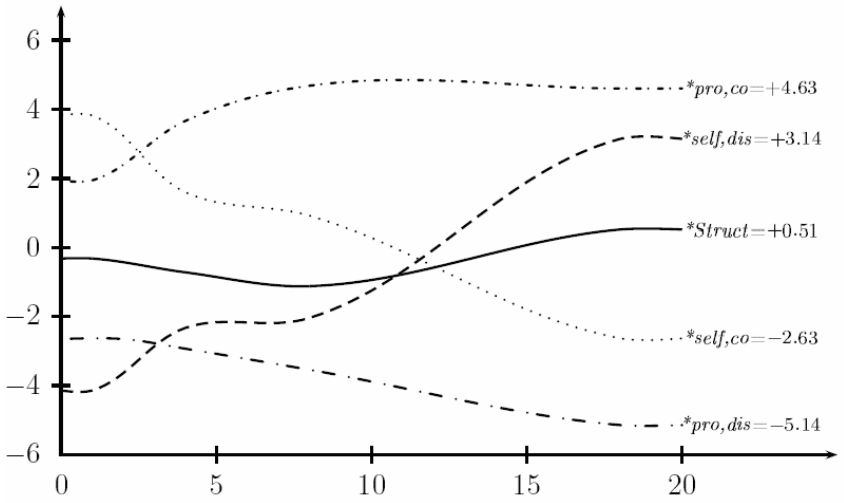

Figure 4.6: Evolution of OE – generations 1-20 (Mattausch 2007: 126)

Mattausch's (2005, 2007) evolutionary account of binding phenomena illustrates, firstly, that stochastic OT is able to model constrained variation in a grammar, based on corpus frequencies, in a descriptively adequate manner. Secondly, it shows how Horn's division of pragmatic labour, i.e. the marked-form-for-rare-meaning pattern, "follows (probabilistically) from the interaction of bias constraints with … *markedness* constraints, in a context of bidirectional learning" (Mattausch 2007: 129).

---

new generation does not return to the original training corpus but rather learns from the previous generation, with each successive generation becoming the teacher of the next generation.

In the following section we will show how, according to de Swart (2010), this bidirectional evolutionary learning approach, with its interaction of bias constraints with markedness constraints, in a context of bidirectional learning and bidirectional optimization, can also be used to show how negation emerges as a universal linguistic category. This will be followed by de Swart's (2010) OT typology of negation and how it relates to negation in Afrikaans.

4.2 Negation in Optimality Theory

4.2.1 Markedness of negation

As discussed in Chapter 2, negation is marked in relation to affirmation. Using the framework of bidirectional stochastic OT, with iterated, bidirectional learning, it is possible show how the formal markedness of negation arises (de Swart 2010). If we take affirmation to be the frequent meaning and negation to be an infrequent meaning, and assume that there are two possible forms, a marked (m) and an unmarked (u) one, then we can model the optimal form-meaning pairs using the bias constraints given in (4.12) (de Swart 2010: 84).

(4.12) **m,aff*: the (marked) form *m* is not related to the meaning affirmation.
**m,neg*: the (marked) form *m* is not related to the meaning negation.
**u,aff*: the (unmarked) form *u* is not related to the meaning affirmation.
**u,neg*: the (marked) form *u* is not related to the meaning negation.

As discussed in section 4.1.2, these bias constraints interact with a markedness constraint, **Struc*, as given in (4.11), which aims at reducing structure in the output. The statistical asymmetry in the corpus between the frequency of negation meanings versus affirmation meanings means that, while the initial corpus will rank all four bias constraints equally strong, bidirectional learning will entail that in hearer-mode, the constraints **m,neg* and **u,neg* will be promoted, while **m,aff* and **u,aff* will be demoted (there will be no difference between the rankings of **m,neg* and **u,neg* or between the rankings of **m,aff* and **u,aff*). In the speaker-mode, the infrequency of the meaning of negation will result in **m,aff*

being promoted more than **m,neg*, while the markedness constraint, **Struc*, will favour the use of unmarked forms for both affirmation and negation, that is **u,aff* and **u,neg* will be promoted more than **m,aff* and **m,neg*. This will lead to a cross-generational change in constraint values, which in turn will result in a tendency towards the pattern of marked forms for rare, or marked, meanings, that is, a tendency towards the use of the marked form *m* for negation. The application of the BiGLA, in combination with iterated learning, as in Mattausch's model, will reinforce this asymmetry, eventually resulting in a stable constraint ranking as given in (4.13).

(4.13) {*u,neg*, **m,aff*} >> **Struc* >> {**u,aff*, **m,neg*}

This constraint ranking will mean that affirmation will be expressed by an unmarked form, and a sentence containing no marking will be interpreted as affirmative. Conversely, negation will be expressed with a marked form, and a sentence containing a marker of negation will be interpreted as negative. This is consistent with the fact that negation is formally and interpretationally marked with regard to affirmation and that all languages generally have a way to express (propositional) negation (¬p), such as *not* in English and *nie* in Afrikaans.

De Swart (2010) reformulates the bias constraints given in (4.13) in terms of faithfulness constraints, capturing the effects of **u,neg* and **m,aff* with the faithfulness constraint FNeg (Faith negation), given in (4.14), and the effects of **u,aff* and **m,neg* with the faithfulness constraint FAff (Faith Affirmation), given in (4.15).

(4.14) **FNeg**
Be faithful to negation, i.e. reflect the non-affirmative nature of the input in the output.

(4.15) **FAff**
Be faithful to affirmation, i.e. reflect the affirmative nature of the input in the output.

From a generation perspective, FNeg requires that the syntax of negative sentences reflects their negative nature, while from an interpretation perspective it requires that any formal expression of negation be

interpreted as contributing a semantic negation. Similarly, FAff requires that affirmative sentences be formally marked, and that a form marked for affirmation should be interpreted as being affirmative. However, given that the evolutionary learning process results in the constraint ranking FNeg >> **Struc* >> FAff[33], with FAff always ranked below **Struc*, this constraint is in fact inoperative and can be left out of the system (de Swart 2010: 85).

It is also possible, in the case of negation, to replace the general markedness constraint **Struc* with a negation-specific markedness constraint *Neg, given in (4.16).

(4.16) ***Neg**
Avoid negation in the output

The two constraints, FNeg and *Neg, are, by their very natures, in conflict, a situation that is characteristic of OT analyses, as we saw in section 4.1. The application of an evolutionary iterated BiGLA results in a ranking of FNeg higher than *Neg, given in (4.17), resolving the conflict, and deriving the fact that negative meanings are formally expressed in natural language.

(4.17) FNeg >> *Neg

We can illustrate the effect of this constraint ranking on the generation and interpretation of propositional negation in relation to the sentence in (4.18) with Tableau 4.6 and Tableau 4.7 below.

(4.18) *It is not raining.*

In these tableaux FNeg is ranked higher than *Neg, leading to the optimal candidate for the input in Tableau 4.6, the meaning ¬rain, being the form that reflects the negation present in the input (*It is not raining*), while for the input in Tableau 4.7, the form *It is not raining*, the optimal candidate is the meaning ¬rain, which reflects the negation present in the input.

[33] Cf. (4.13).

Meaning ¬rain	Form	FNeg	*Neg
	It is raining	*	
☞	*It is not raining*		*

Tableau 4.6: Generation of negative sentences

Form *It is not raining*	Meaning	FNeg	*Neg
	rain	*	
☞	¬rain		*

Tableau 4.7: Interpretation of negative sentences

In the following section I will examine in more detail the expression of negation in natural language by explicating de Swart's (2006, 2010) bidirectional OT typology of negation, focussing on negative indefinites, and on the expression and interpretation of DN/NC constructions. A bidirectional version of OT is, according to de Swart (2006: 17), essential for the investigation of negation, as it offers new perspectives on the range of variation found in natural language for the expression and meaning of negation.

4.2.2 Expression and interpretation of negative indefinites

Languages generally have a way to express (propositional) negation (¬p), such as *not* in English and *nie* in Afrikaans; furthermore, many languages also have nominal expressions that negate the existence of individuals having a certain property (¬∃x), such as *nobody* or *nothing* in English and *niemand* or *niks* in Afrikaans. However these negation forms and their interpretations differ from language to language. In this section I will outline the framework proposed to account for the expression and interpretation of negation in sentences containing one or more negative indefinites. Firstly, in order to account for the existence of negative indefinites, that is, the incorporation of negation into indefinite pronouns, de Swart (2010: 119) proposes a violable constraint NegAttract, given in (4.19). This constraint accounts for the strong tendency that languages have "to attract the negative notion to any word that can easily be made negative" (Jespersen 1917: 56).

(4.19) **NegAttract**
Realize (clausal) negation on an indefinite in argument or adjunct position.

As this is a violable constraint, it is possible for this constraint to come into conflict with other constraints, and depending on their relative rankings, be outranked by them. For example, NegAttract may be in conflict with the tendency "to place the negative first, or at any rate as soon as possible, very often immediately before the particular word to be negated (generally the verb)" (Jespersen 1917: 4). Following Horn (1989: 292-293), who labeled this tendency for negation to be realised pre-verbally, NegFirst, De Swart (2010: 96) proposes the violable constraint, given in (4.20), to account for this tendency, noting that in English negation precedes the (main) lexical.

(4.20) **NegFirst**
Negation precedes the finite verb.

So, depending on the constraint ranking of NegAttract and NegFirst, the meaning $\neg\exists$ can realized in two ways, either with a sentential negation marker and an indefinite, as in (4.21)(a), or with a negative indefinite, as in (4.21)(b)[34].

(4.21) (a) *I didn't buy anything.* (colloquial English)

(b) *I bought nothing* (literary English)

The assumption is that, in colloquial English, NegFirst is ranked higher than NegAttract, resulting in the sentence in (4.21)(a), where negation occurs before the lexical verb, while in literary English NegAttract is ranked higher than NegFirst, resulting in the sentence in (4.21)(b), where negation is morphologically incorporated into the indefinite, rather than occurring pre-verbally.

In Afrikaans, NegAttract is ranked high, as the examples in (4.22) illustrate. The hash sign (#) indicates that the sentence in (4.22)(b), although acceptable for expressing constituent negation, i.e. where there

[34] De Swart (2010: 149) takes (4.21)(a) to be colloquial and (4.21)(b) to be more literary English, following Jespersen (1917: 56).

is a specific 'something' that we didn't buy, or for expressing a denial of a previous assertion, it is not an acceptable way to express the neutral meaning "we didn't buy anything", i.e. clausal negation.

(4.22) (a) *Ons het niks gekoop nie.*
we have nothing buy-PST SN
"We didn't buy anything."

(b) #*Ons het nie iets gekoop nie.* (*¬∃,✓∃¬)
we have not something buy-PST SN

Of course the picture becomes more complex if there are multiple indefinites in the scope of negation. De Swart (2010, following Haspelmath 1997) distinguishes three main ways of expressing the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$, namely with indefinites, with negative polarity items (NPIs) and with negative indefinites. According to her, the simplest way to express the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$ is to make use of a negative indefinite (or a sentential negation marker) with n-1 (or n) indefinites in its scope, as illustrated by the Dutch example in (4.23).

(4.23) *Niemand heeft iets gezien.* (Dutch)
nobody has something seen
"Nobody saw anything."

The second way, illustrated by the English example in (4.24), is where NPIs are used to express existential quantification in the scope of negation, because ordinary indefinites are blocked in negative contexts.

(4.24) *Nobody saw anything.*

Finally, existential quantification in the scope of negation may be expressed by negative indefinites that express a single negation in combination with sentential negation or other negative indefinites, the so-called n-words discussed in Chapter 3. This is illustrated by the Spanish example in (4.25) from (de Swart 2006: 5).

(4.25) *Nadie miraba a nadie.* (Spanish)
nobody looked at nobody
"Nobody looked at anybody."

However, what needs to be explained is why some languages express negation with multiple negative indefinites, while others do not. De Swart's (2010: 136) solution is the violable constraint MaxNeg, given in (4.26), which captures the idea that the use of negative indefinites is motivated by the desire to mark the participants that are affected by negation (Haspelmath 1997), but which, because it is not a hard constraint, can be violated. That MaxNeg can be violated explains why languages which do not make use of multiple negative indefinites, such as Dutch and English, can exist.

(4.26) **MaxNeg**
Mark 'negative variables' (i.e. mark indefinites in argument or adjunct position that are interpreted in the scope of an anti-additive operator such as negation, as formally negative.)

The differences between languages with and without multiple negative indefinites can be accounted for by the different rankings of MaxNeg, given in (4.26) and *Neg, given in (4.16), as is illustrated by Tableau 4.8 and Tableau 4.9 (de Swart 2010: 136-137). The fact that FNeg, given in (4.14), is ranked so high means that an optimal form for the expression of negation is always going to violate this constraint, and so the only candidates that are really in competition are those that mark negation in the output in some way. In Tableau 4.8, *Neg is ranked higher than MaxNeg. This means that the optimal form is the one that violates *Neg the least number of times. The optimal form is therefore a combination of a negative indefinite and an ordinary indefinite, as in the examples in (4.23) and (4.24) above. In Tableau 4.9, MaxNeg is ranked higher than *Neg so that the optimal form is the one that does not violate MaxNeg (violations of *Neg are immaterial). The optimal for this optimization is therefore a combination of negative indefinites, as in the example in (4.25) above.

Meaning $\neg\exists x_1 \exists x_2$	Form	FNeg	*Neg	MaxNeg
	indef + indef	*		**
☞	neg + indef		*	*
	neg + neg		**	

Tableau 4.8: Production of indefinites in the scope of negation (Dutch, English, etc.)

Meaning $\neg\exists x_1 \exists x_2$	Form	FNeg	MaxNeg	*Neg
	indef + indef	*	**	
	neg + indef		*	*
☞	neg + neg			**

Tableau 4.9: Production of indefinites in the scope of negation (Spanish, Italian, etc.)

These constraint rankings can be illustrated with the aid of further examples. Firstly, the ranking of *Neg higher than MaxNeg, in Tableau 4.8, which results in a form containing negative indefinite with n-1 indefinites in its scope, can be illustrated by the English and Dutch sentences in (4.27) and (4.28).

(4.27) *Nobody has anything to hide.*

(4.28) *Niemand heeft mij iets verteld.* (Dutch)
nobody has me something told
"Nobody told me anything."

The ranking of MaxNeg higher than *Neg in Tableau 4.9, on the other hand, results in a form containing multiple negative indefinites, as the Spanish and Italian sentences in (4.29) and (4.30) illustrate (de Swart 2010: 138).

(4.29) *Nadie ha dicho nada.* (Spanish)
nobody has said nothing
"Nobody said anything."

(4.30) *Nessuno ha detto niente.* (Italian)
nobody has said nothing
"Nobody said anything."

As we saw in Chapter 2, the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$ is expressed, in standard Afrikaans, with a single negative indefinite, together with n-1 indefinites in its scope, as the example in (4.31) illustrates. This means that in standard Afrikaans *Neg is ranked higher than MaxNeg, as in Tableau 4.8, similar to English and Dutch.

(4.31) *Niemand het iets gesien nie.*
nobody have something see-PST SN
"Nobody saw anything."

However, as mentioned in Chapter 2, and as we will see from the corpus data described in Chapter 5, this is not the whole story. In colloquial Afrikaans it is possible to find multiple negative indefinite combinations used to express the meaning $\neg\exists x_1\exists x_2\ldots\exists x_n$, as the example in (4.32) illustrates, as well as with a single negative indefinite with n-1 indefinites in its scope (as in (4.31) above).

(4.32) *Niemand het niks gedoen nie.*
nobody has nothing done SN
"Nobody did anything."

So far I have examined the OT syntax of negative indefinites, however in order to make an analysis of negative indefinites bidirectional, the question of their interpretation needs to be answered. In cases where a negative indefinite occurs on its own, the interpretation ($\neg\exists$) is straightforward. However, when multiple negative indefinites are used to express either a double negation or a single negation meaning, the situation is far from simple, as the discussion in Chapter 3 showed. Whether multiple negative indefinites are interpreted as negative quantifiers that each contribute their own negation, or whether they are interpreted as NC items, so-called n-words, is, according to de Swart and Sag (2002), decided in the grammar and not in the lexicon. As we saw in Chapter 3, de Swart and Sag's (2002) central assumption is that negative indefinites (whether negative quantifiers or n-words) are inherently negative and that there are two ways in which a sequence of these

elements may be interpreted, either, in NC constructions, by resumption, or, in DN constructions, through function application, by iteration. What this means is that if a sequence of negative indefinites is interpreted in terms of resumption, through the building of a polyadic quantifier, then a single negation, or NC, interpretation results. On the other hand, if a sequence of negative indefinites is interpreted via iteration (function application), this results in a DN reading.

The analysis developed in de Swart and Sag (2002) accounts for how languages may allow both DN and NC, and explains, if a language has a preference for either DN or NC, how the interpretation of negative indefinites takes place. However, as mentioned in Chapter 3, it is not able to predict whether a language will have a preference for one interpretation over another. This is where bidirectional OT comes in, as a way to account for the cross-linguistic variation on the basis of the interaction between violable constraints. In order to determine the interpretation of multiple negative indefinites, de Swart (2010) proposes the constraint IntNeg, given in (4.33).

(4.33) **IntNeg**
Force Iteration (i.e. interpret every negative indefinite in the input form as contributing a semantic negation at the first-order level in the output.)

De Swart (2010: 139) points out that iteration is the preferred method of interpretation of multiple negative indefinites as it can be defined in terms of first-order logic. The constraint IntNeg therefore favours the interpretation of every negation expressed in an utterance. For this reason we can characterise IntNeg as a faithfulness constraint in that it maximizes the reflection of input features in the output, i.e. it forces the hearer to interpret all that the speaker has said.

As a faithfulness constraint, IntNeg is in conflict with the markedness constraint *Neg, because, while it is generally preferable for interpretation of multiple negative indefinites to take place via iteration, as it is first-order definable, this involves multiplying the negation in the output. *Neg on the other hand mitigates against (multiple) negation in the output. For this reason if *Neg is ranked higher than IntNeg, iteration of negative indefinites will not be the preferred method of

interpretation. In such a case the interpretation of multiple negative indefinites will take place via resumption of a polyadic quantifier, which will result in a single negation interpretation. As discussed in section 4.1, cross-linguistic variation is seen to be the result of language-specific orderings of the same set of constraints. Therefore the relative ordering of IntNeg and *Neg result in either languages with a preference for NC interpretations of expressions containing multiple negative indefinites (NC languages) or languages with a preference for DN interpretations of expressions containing multiple negative indefinites (DN languages).

Let us illustrate this by means of optimization tableaux. If IntNeg is ranked higher than *Neg, interpretation of multiple negative indefinites takes place via iteration and a DN language results, as illustrated by Tableau 4.10. If however, *Neg is ranked higher than IntNeg, then multiple negative indefinites are interpreted via resumption and a NC language results, as illustrated in Tableau 4.11 (de Swart 2010: 139-140).

Form neg + neg	Meaning	FNeg	IntNeg	*Neg
	$\exists x_1 \exists x_2$	*	**	
	$\neg\exists x_1 \exists x_2$		*	*
☞	$\neg\exists x_1 \neg\exists x_2$			**

Tableau 4.10: DN interpretations (Dutch, English, etc.)

Form neg + neg	Meaning	FNeg	*Neg	IntNeg
	$\exists x_1 \exists x_2$	*		
☞	$\neg\exists x_1 \exists x_2$		*	*
	$\neg\exists x_1 \neg\exists x_2$		**	

Tableau 4.11: NC interpretations (Italian, Spanish, etc.)

These constraint rankings can be illustrated with the aid of the examples. Firstly, in Tableau 4.10, the ranking of IntNeg higher than *Neg, which results in a DN interpretation of multiple negative indefinites, can be illustrated by the English and Dutch sentences in (4.34) and (4.35).

(4.34) *Nobody has nothing to hide*[35].

(4.35) *waar niemand niets te doen heeft, maar waar*
where nobody nothing to do have but where
iedereen genoeg tijd over houdt[36] (Dutch)
everyone enough time over keeps
"where nobody has nothing to do, but where everyone is left with enough time"

The ranking of *Neg higher than IntNeg in Tableau 4.11, on the other hand, results in an NC interpretation of multiple negative indefinites, as the Spanish and Italian sentences in (4.36) and (4.37) illustrate (de Swart 2010: 138).

(4.36) *Nadie ha dicho nada.* (Spanish)
nobody has said nothing
"Nobody said anything."

(4.37) *Nessuno ha detto niente.* (Italian)
nobody has said nothing
"Nobody said anything."

Standard Afrikaans reflects the same constraint ranking of IntNeg and *Neg as in English and Dutch, as illustrated in Tableau 4.10. Specifically, IntNeg is ranked higher than *Neg in Afrikaans. This means that the interpretation of multiple negative indefinites in Afrikaans takes place via iteration, and every negative indefinite is interpreted as contributing its own semantic negation, as the example in (4.38) illustrates.

(4.38) *Ek het nog nooit niks gesien nie.*
I have yet never nothing see-PST SN
"I've still never seen nothing."
(Landbouweekblad 2005-07-22)

However, as discussed above, it is possible in colloquial Afrikaans to find multiple negative indefinite combinations with an NC interpretation as

[35] http://www.guardian.co.uk/politics/2005/jul/02/idcards.uk
[36] http://www.dbnl.org/tekst/_lib001195201_01/_lib001195201_01_0032.htm

well as with a DN interpretation. This means that both iteration and resumption are possible in colloquial Afrikaans, as the examples in (4.39) and (4.40), illustrate. (4.39)(b) and (4.40)(b) provide the respective meanings spelled out in first-order logic.

(4.39) (a) *Niemand het niks gedoen nie.*
nobody has nothing done SN
"Nobody did anything."

(b) $\neg\exists x\exists y$ Do(x,y)

(4.40) (a) *Niemand het niks gedoen nie.*
nobody has nothing done SN
"Nobody did nothing."

(b) $\neg\exists x\neg\exists y$ Do(x,y)

In Chapter 6 I will present an analysis of multiple negative indefinites in Afrikaans which, using the framework of stochastic OT examined in section 4.1.2, will account for this variation in the expression of indefinites in the scope of negation, as well as in the interpretation of multiple negative indefinite combinations, in Afrikaans.

De Swart (2010: 140) collapses the generation and interpretation perspectives, discussed above, to derive a bidirectional grammar with the constraint rankings given in (4.41) for NC and DN languages.

(4.41) **Bidirectional grammar**

NC languages:	FNeg >> MaxNeg >> *Neg >> IntNeg
DN languages:	FNeg >> IntNeg >> *Neg >> MaxNeg

Of course there are other possible rankings of these constraints, given in (4.42), however, these are unstable constraint ranking because the generation and production are not well-balanced. The brackets indicate that the constraints MaxNeg and IntNeg do not interact, as one is a faithfulness constraint that affects the generation of a form, while the other is a faithfulness constraint that affects the interpretation of a form.

(4.42) **Unstable constraint rankings**
FNeg >> {IntNeg, MaxNeg} >> *Neg
FNeg >> *Neg >> {MaxNeg, IntNeg}

The reason for why these constraint rankings cannot represent stable linguistic systems can be illustrated with Tableau 4.12 and Tableau 4.13.

Meaning $\neg\exists x_1\exists x_2$	Form	IntNeg	MaxNeg	*Neg
	neg + indef		*	*
☞	neg + neg			**
Form neg + neg	Meaning	IntNeg	MaxNeg	*Neg
☞	$\neg\exists x_1\neg\exists x_2$			**
	$\neg\exists x_1\exists x_2$	*		*

Tableau 4.12: {IntNeg, MaxNeg} >> *Neg (intended meaning not recovered)

Meaning $\neg\exists x_1\exists x_2$	Form	*Neg	MaxNeg	IntNeg
☞	neg + indef	*	*	
	neg + neg	**		
Form neg + neg	Meaning	*Neg	MaxNeg	IntNeg
	$\neg\exists x_1\neg\exists x_2$	**		
☞	$\neg\exists x_1\exists x_2$	*		*

Tableau 4.13: *Neg >> {IntNeg, MaxNeg} (form not motivated)

Firstly, if we examine the ranking in Tableau 4.12 we see that the single negation meaning intended by the speaker is not recovered by the hearer, as the interpretation of two negative indefinites leads to double negation. The opposite situation occurs in Tableau 4.13, where an indefinite form is the optimal form for a speaker to express indefinites under negation. Although the hearer will have no problem interpreting this input, the use of two negative indefinites will also lead to a single negation reading, even though the use of more than one negative indefinite is not functionally motivated by the ranking of MaxNeg below *Neg. We can

therefore conclude that the only viable constraint rankings are ones which balance the generation and interpretation of negative indefinites, that is, in which MaxNeg and IntNeg are distributed on either side of *Neg, as in the bidirectional grammar in (4.41).

And so the polyadic quantifier analysis developed by de Swart and Sag (2002) provides the semantic framework for the possible meanings that multiple negative indefinites may have, while the OT grammar makes it possible to encode the preference that a language may have for either resumption or iteration in the syntax-semantics interface (de Swart 2010: 141). By combining OT syntax and OT semantics in a bidirectional OT analysis, the recovery problem, that multiple interpretations can be derived from the expressions generated, is overcome as the generation of negative sentences hangs together with their interpretation (de Swart 2010: 139).

4.3 Conclusion

OT provides a framework which allows one to investigate both the syntax of negative indefinites as well as their semantics, and how the form and function of negative indefinites hang together in the syntax-semantics interface. This chapter has therefore provided a characterisation of OT and how it can be used to account for negation in a cross-linguistic perspective. I have examined the various forms that OT takes, specifically bidirectional OT and stochastic OT, and illustrated how bidirectional stochastic OT can account for the markedness of negation. Bidirectional OT is an attractive framework, as it is a way of capturing the intuition that hearers not only rely on their own perspective, but also take into account the speaker's perspective, when interpreting an input, and vice versa. Stochastic OT, in turn, is also an appealing extension of the OT framework as it enables one to account for a grammar that allows degrees of optionality, based on statistical asymmetries. In fact bidirectional stochastic OT provides us with the tools to show why negation itself is marked in relation to affirmation, from an evolutionary perspective.

Furthermore, in this chapter, I have provided an exposition of de Swart's (2010) OT typology of negation, focussing on the expression and interpretation of negative indefinites in NC and DN languages. I have also shown how this framework can be used (preliminarily) to account

for the expression and interpretation negative indefinites in Afrikaans. In Chapter 6 I will implement the framework explicated here to provide a comprehensive account of negative indefinites in Afrikaans, showing how it is possible to find a single negation expressed by more than one negative indefinite, as well as such a construction receiving a DN reading, i.e. exhibiting semantic double negation, in Afrikaans.

Chapter 5
Empirical evidence: corpus and experimental data

5.1 Introduction

As noted in Chapter 1, the aim of this dissertation is to provide an analysis of negative indefinites in Afrikaans, based on both empirical data and theoretical observations. This chapter therefore presents the data, from three sources, used to inform the analysis and support the theoretical observations. In section 5.2 I examine data from a corpus study, undertaken to determine the prevalence of multiple negative indefinite combinations in written Afrikaans. The data from the corpus study provide the statistical asymmetries with regard to the expression and interpretation of negative indefinites in Afrikaans that inform the central analysis of the dissertation, presented in Chapter 6. However, although the corpus data is very informative, and very useful in supporting various theoretical observations, it is not wholly sufficient when it comes to providing evidence for what is essentially a spoken language phenomenon, namely, the occurrence of multiple negative indefinite combinations with NC interpretations in colloquial Afrikaans. For this reason it was felt that spoken language data was necessary to inform the analysis. Section 5.3 describes this data collection, which took the form of two versions of a perception experiment. These experiments elicited acceptability judgements, as well as meaning judgements, from native speakers of Afrikaans on a range of spoken utterances containing multiple negative indefinites, produced with different prosodic contours. The results of these experiments will be examined in section 5.4. Finally, in section 5.5, data from a sentence production experiment, undertaken to determine how reliably naïve speakers produce disambiguating prosodic cues for multiple negative indefinite combinations with a double negation meaning in everyday contextualised speech, are presented.

5.2 Corpus Data

In the description of negation in Afrikaans in Chapter 2 it was shown that in standard Afrikaans multiple existentially quantified variables that

occur in the scope of negation are realised by a single negative indefinite and one or more non-negative indefinites, as illustrated in (5.1), while if multiple negative indefinites do co-occur, the utterance is given a DN interpretation, as illustrated in (5.2).

(5.1) *Ons het niemand ooit daar gesien nie.*
we have nobody ever there see-PST SN
"We never saw anybody there."

(5.2) *Niemand sien niks nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

In colloquial Afrikaans, however, it is possible to produce utterances containing multiple negative indefinites with a single negation, or NC interpretation, as illustrated in (5.3).

(5.3) *Ons skuld niemand niks nie!*
we owe nobody nothing SN
"We don't owe anybody anything!"

In order to determine the prevalence of multiple negative indefinite combinations in Afrikaans, and to establish whether such combinations are generally interpreted with a single or a double negation it was decided that a corpus study was needed. Unfortunately no spoken corpus of Afrikaans exists at this time, therefore it was decided that a corpus of written Afrikaans would have to suffice. For this reason the Pharos[37] corpus of written Afrikaans was used to inform the study. This corpus consists of articles from the various Naspers[38] Afrikaans-language newspapers (*Beeld*, *Die Burger*, *Landbouweekblad* and *Rapport*) and magazines (*Dit*, *Huisgenoot*, *Insig*, *Sarie* and *TV Plus*), as well as various Afrikaans fiction and non-fiction books published by Pharos. The corpus as a whole covers a time span of 21 years, from 1986 until 2006 and contains a total of 580 191 552 individual words. Using WordSmith

[37] Pharos is a South African publisher specialising in Afrikaans monolingual and Afrikaans and English bilingual dictionaries. I am indebted to them for the use of their corpus.

[38] Naspers is a media group whose operations include print media (publishing, distribution and printing of magazines, newspapers and books) in South Africa.

Tools a wordlist was compiled for the corpus, as well as concordances for all the possible combinations of negative indefinites (and ordinary indefinites/NPIs) in Afrikaans. As a comparison, concordances for possible combinations of negative indefinites and NPIs/indefinites were also compiled. The results for the total number of indefinites (represented by the solid columns), NPIs (represented by the diagonally-striped columns) and negative indefinites (represented by the dotted columns) occurring in the corpus are shown in Figure 5.1.

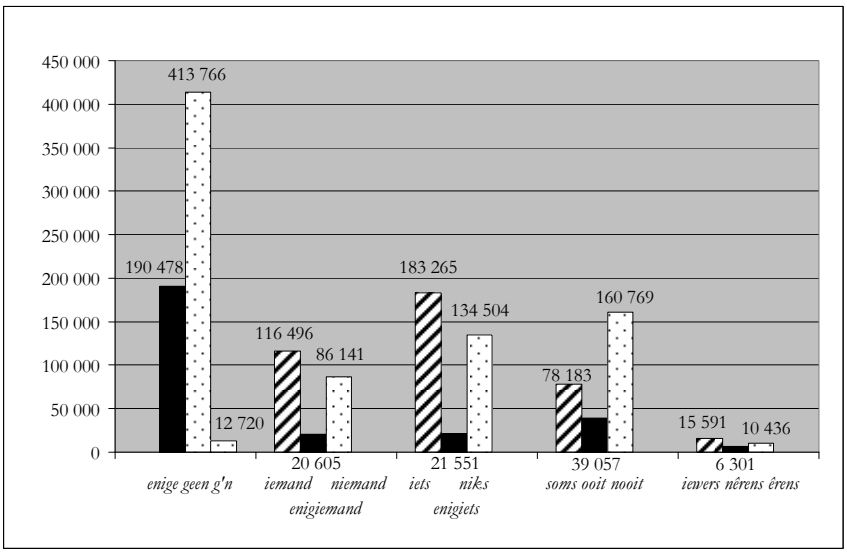

Figure 5.1: Total number of indefinites/NPIs and NIs occurring in the corpus

The negative indefinite *g'n* is generally seen as an interchangeable, phonologically reduced, variant of *geen* used in spoken Afrikaans or in more colloquial registers (Donaldson 1993: 413). For this reason it is placed next to *geen* in Figure 5.1. As the equivalent ordinary indefinite of *geen/g'n* is the determiner *'n* ("a/an") no figures for this item are given in Figure 5.1.

When we examine the results in Figure 5.1, we can make some interesting observations. Firstly, the negative indefinite *geen* occurs more than double the number of times than any other indefinite, negative or otherwise. A second interesting observation is that *g'n* occurs relatively

frequently (more often in fact than the negative indefinite *nêrens*) despite its strong colloquial nature. What this appears to indicate is that despite newspapers being a written medium, and, by extension, containing largely standardised language use, there is a certain amount of colloquial language use that occurs. The NPI *enige* ("any") is the second most frequent element, occurring nearly two hundred thousand times. This is followed in frequency by the indefinite/NPI *iets* ("something/ anything"), which occurs a hundred and eighty thousand times, fifty thousand more times than its negative equivalent *niks*. A similar pattern is found with *iemand* ("somebody/anybody") and *niemand*, with *iemand* occurring thirty thousand more times than *niemand*. The NPI equivalents of *niks* and *niemand*, namely *enigiets* ("anything at all") and *enigiemand* ("anyone at all"), however, occur considerably fewer times in the corpus than their negative equivalents. Similarly, the NPI *ooit* ("ever") occurs a hundred and twenty times less than its negative equivalent *nooit*. This is also the case with the NPI *êrens* ("anywhere"), whose occurrence is also considerably less (four thousand times) than its negative counterpart *nêrens*. Unlike the indefinites *iets and iemand* though, *soms*, the positive indefinite equivalent of *nooit* occurs far less times than its negative equivalent. The indefinite *iewers* ("somewhere"), however, occurs five thousand more times than *nêrens*, which is in line with the pattern observed between the other negative indefinites (*niks* and *niemand*) and their positive indefinite counterparts (*iets* and *iemand*).

The total number of combinations of negative indefinites (excluding those with *g'n/geen*), found in the corpus, are shown in Figure 5.2, while Figure 5.3 shows the total number of combinations of negative indefinites and indefinites/NPIs found (excluding those with *g'n/geen*). As we saw in Chapter 2, *g'n niks* functions differently in colloquial Afrikaans to other negative indefinite combinations, in that it can express sentential negation, in place of the sentence-medial *nie*. For this reason, and because of the high frequency of *g'n niks* in comparison to other negative indefinite combinations, it was decided to examine negative indefinite combinations with *g'n/geen* separately from other multiple negative indefinite combinations. The total number of combinations of negative indefinites with *g'n/geen*, as well as combinations of *g'n/geen* with ordinary indefinites, found in the corpus are therefore shown separately in Figure 5.4.

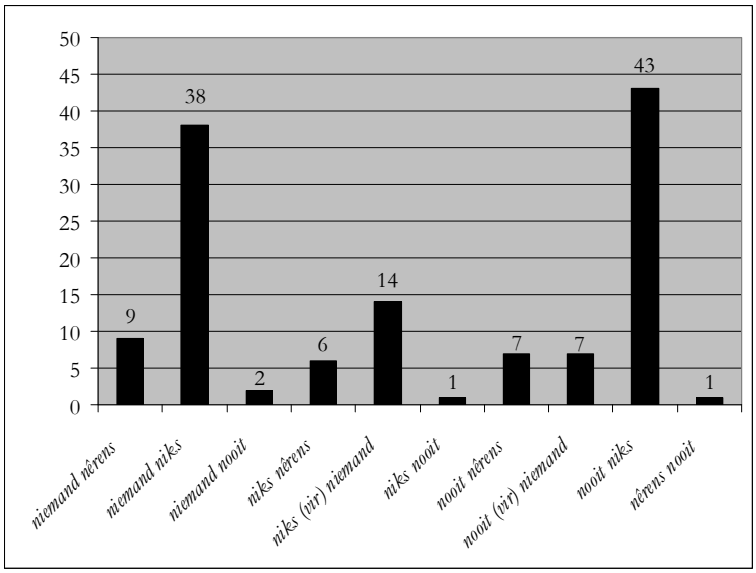

Figure 5.2: Total no. of multiple NI combinations in the corpus (excl. *g'n* and *geen*)

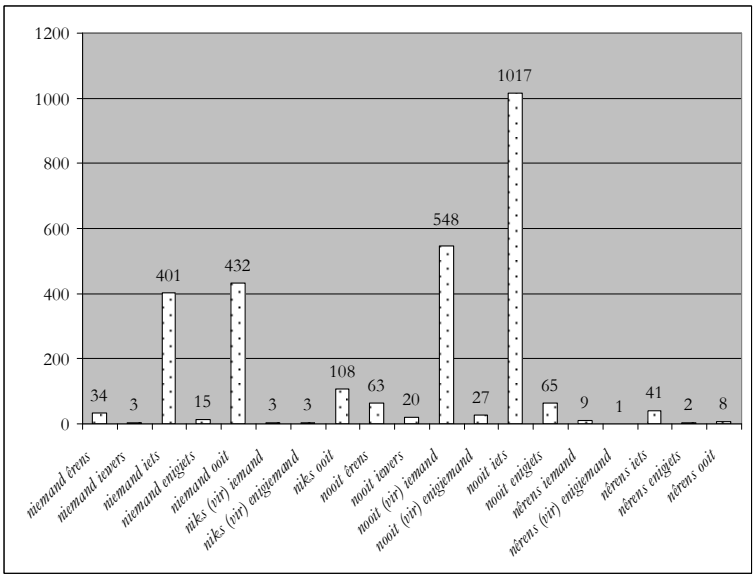

Figure 5.3: Total no. of NI & indefinite/NPI combinations in the corpus (excl. *g'n* and *geen*)

If we examine Figure 5.2 we can see that of the eight multiple negative indefinite combinations only *nooit niks*, *niemand niks* and *niks* (*vir*) *niemand* appear more than ten times in the data (*nooit niks* appears forty-three times, *niemand niks* appears thirty-eight times and *niks (vir) niemand* appears fourteen times). Of the other combinations, *niemand nêrens* appears nine times, *nooit nêrens* and *nooit* (*vir*) *niemand* each appear seven times, *niks nêrens* appears six times, *niemand nooit* appears twice, and *niks nooit* and *nêrens nooit* each appear once. These low totals for negative indefinite combinations in the corpus are not surprising, however, considering the highly colloquial nature of these constructions, especially when produced with a single negation meaning, and the fact that the corpus consists of written Afrikaans, which is assumed to be largely standard Afrikaans.

When we compare the totals for Figure 5.2 with those of Figure 5.3, we see that, in general, combinations of negative indefinites with ordinary indefinites/NPIs occur far more frequently than multiple negative indefinite combinations, however the totals are still relatively low if one takes into account the size of the corpus. For example, the combination *nooit iets* occurs one thousand and seventeen times in the corpus, as opposed to the forty-three times that the multiple negative indefinite combination *nooit niks* occurs. The combinations *nooit (vir) iemand*, *niemand ooit* and *niemand iets* all occur more than four hundred times in the corpus. In contrast the combinations *nooit (vir) niemand*, *niemand nooit* and *niemand niks* occur seven, two and forty-two times respectively. The combination *niks ooit* occurs fifty-five times as opposed to the once that the combination *niks nooit* occurs. The remaining ten combinations of negative indefinites and ordinary indefinites/NPIs found in the corpus occur thirty times or less, with half of them occurring less than five times. This is comparable with the corresponding multiple negative indefinite combinations. Finally, if we look for combinations that occur in Figure 5.2 that do not occur in Figure 5.3 (and vice versa), we find that the multiple negative indefinite combination *niks nêrens* occurs in the corpus, but the corresponding negative indefinite-NPI/indefinite combination *niks êrens* does not occur in the corpus. Conversely, the negative indefinite-NPI/indefinite combinations *nêrens iets*, *nêrens ooit* and *nêrens iemand* occur in the corpus, but not their negative indefinite combination equivalents *nêrens niks*, *nêrens nooit* and *nêrens niemand*.

Let us now examine the total number of combinations of negative indefinites with *g'n/geen*, and the combinations of *g'n/geen* with ordinary indefinites, found in the corpus, given in Figure 5.4.

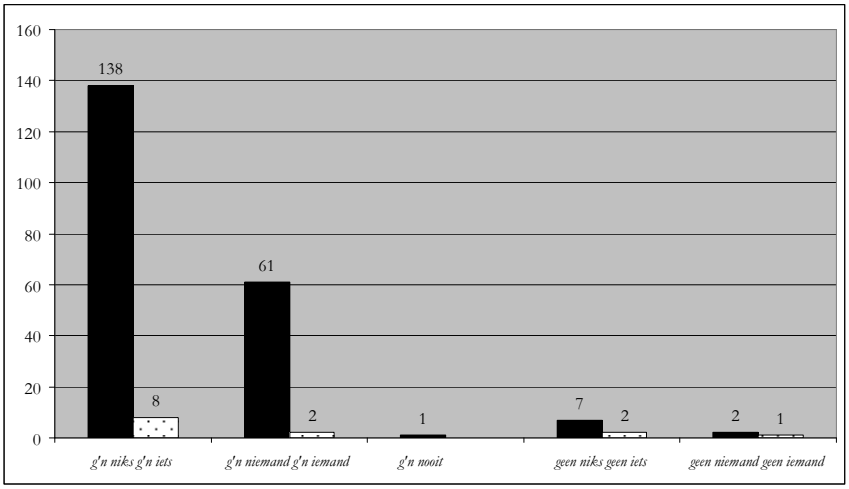

Figure 5.4: Total number of NI/indefinite combinations with *g'n/geen* in the corpus

As can be seen in Figure 5.4, one hundred and thirty-eight instances of *g'n niks* were found. If this is compared to the totals for the other negative indefinite combinations, given in Figure 5.2, it can be seen that this is by far the highest total for any negative indefinite combination, which is interesting when one considers that *g'n* is the second lowest occurring negative indefinite (see Figure 5.1). The high frequency of *g'n niks* in comparison to other negative indefinite combinations, such as *niemand niks*, supports making a distinction between *g'n niks* and other negative indefinite combinations. The combination *g'n niemand* also occurred relatively frequently in the corpus, with sixty-one instances found. Other than one occurrence of the combination *g'n nooit*, no other negative indefinite combinations with *g'n* were found in the corpus[39]. As mentioned before, *g'n* is not a standard written form, so it is quite

[39] As all negative indefinite combinations, including those with *g'n*, are essentially colloquial in nature, the relatively low totals to be found in a written corpus are not surprising. If one looks at more informal written sources, such as on-line blogs and forums we do find many more instances of negative indefinite combinations with *g'n*. Such examples will be presented in Chapter 7.

surprising to find it in written (non-quoted) material, although, as will be seen from the various examples that follow, the instances where negative indefinite combinations, such as *g'n niks*, occur tend to be in less formal types of newspaper discourse, such as sports reports and readers' letters. What is also interesting to note in Figure 5.4 is that the relative frequency of *g'n niks* is in sharp contrast to the fact that the supposedly equivalent expression, *g'n iets*, containing an ordinary indefinite in place of the negative indefinite *niks*, occurs only eight times in the corpus. Similarly, only two instances of *g'n iemand* were found in the corpus (and no instances of any other combination of *g'n* with other ordinary indefinites or NPIs, such as *g'n ooit*). Finally, it can be seen in Figure 5.4 that seven instances of *geen niks* and two instances of *geen niemand* were found in the corpus (and no instances of any other negative indefinite occurring together with *geen*).

In (5.4) we see an example of the negative indefinite combination *g'n niks*, while (5.5) is an example of the negative indefinite combination *geen niks*. The structure of the example in (5.5) is typical of occurrences of *geen niks*, as six of the seven instances of *geen niks* in the corpus were of this type. In Chapter 7 I will show that negative indefinite combinations with *g'n* are different from negative indefinite combinations with *geen*[40].

(5.4) *Streeptruie het gespeel asof dié lojale siele se teenwoordigheid g'n niks beteken nie en rugby opgedis wat verseker het dat dit vanoggend 'n beermark vir seisoenskaartjies sal wees.*
"The Striped-jerseys played as if these loyal souls' attendance meant absolutely nothing and served up rugby that ensured that this morning would be a bear market (buyer's market) for season tickets."
(Rapport 2003-10-26)

[40] In addition to the occurrences of *g'n*/*geen* + negative indefinite, the corpus also contained one instance each of *niemand g'n* and *niks g'n*, two instances of *nooit g'n* and five instances of *nooit geen*.

(5.5) *"Musiek is alles vir my, vier en twintig uur lank vir sewe dae 'n week. Ek het geen stokperdjies, geen meisies, geen niks nie. Net musiek," sê Travis.*
"'Music is everything to me, twenty-four hours a day, seven days a week. I have no hobbies, no girlfriends, nothing at all. Just music,' said Travis."

(Die Burger 1998-05-11)

So in total 2.800 negative sentences containing multiple adjacent existentially quantified variables were found in the corpus. Of these sentences, 96% contained a combination of a negative indefinite and an ordinary indefinite or NPI. The remaining 4% of these sentences contained multiple adjacent negative indefinites. These results are summarised in Table 5.1.

Frequencies for indefinites under negation	No. of occurrences	Percentage of total
negative indefinite + indefinite	2800	96%
multiple negative indefinites	128	4%

Table 5.1: Frequencies for expression of indefinites under negation

With regard to an analysis of the data, all the instances of multiple negative indefinite combinations, including those containing *g'n* and *geen*, were examined to determine whether they had a negative concord (NC) or a double negation (DN) interpretation. Firstly, all two-hundred and nine occurrences of negative indefinite combinations with *g'n/geen* had NC interpretations. Secondly, of all the one hundred and twenty-eight sentences containing multiple negative indefinites, only five had DN interpretations, and all these five instances contained the combination *nooit niks*. This means that 96% of the sentences containing multiple negative indefinites had an NC interpretation, while only 4% had a DN interpretation. These results are summarised in Table 5.2.

Frequencies for interpretations of multiple NIs	No. of occurrences	Percentage of total
NC interpretation	123	96%
DN interpretation	5	4%

Table 5.2: Frequencies for interpretations of multiple negative indefinite combinations

Example (5.6) illustrates the occurrence of the multiple negative indefinite combination *nooit niks* with a DN interpretation.

(5.6) *As die grondstruktuur reg is, sal jy ook in swak jare 'n oes hê. Dit sal min wees, maar nooit niks, soos wat by konvensionele boere verlede jaar die geval was.*
"If the ground structure is correct, you will still have a harvest in bad years. It will be small, but never nothing, as was the case with conventional farmers last year."
(Landbouweekblad 2000-04-28)

In (5.7) to (5.14) below, examples of some of the negative indefinite combinations shown in Figure 5.2 are presented. All these examples have NC interpretations, as is clear from the context.

(5.7) *Dan stem u seker ook saam dat al die geskryf en gekyf oor konvensionele politieke korrektheid ook snaaks, vervelig en voorspelbaar is. En bowe-al futiel, omdat dit niemand nêrens bring nie.*
"Then you surely agree that all the writing and quarrelling about conventional political correctness is also funny, boring and predictable. And above all futile, because it doesn't get anybody anywhere."
(Beeld 1997-02-07)

(5.8) *Ek het geen seksuele omgang met daardie vrou, mej. Lewinsky, gehad nie. Ek het niemand nooit aangesê om te lieg nie. Geen enkele keer nie.*
"I have had no sexual intercourse with that woman, Ms Lewinsky. I have never told anybody to lie. Not once."
(Volksblad-1998-08-17)

(5.9) *Blanke en swart boere het in Suid-Afrika dieselfde status, hulle het gelyk hier aangekom en is albei tweedegenerasie grondbesitters. Die eerstes was die Khoi en die San. Ons is net so inheems soos swartes. Daarom sê ek, ons skuld niemand niks nie!*
"White and black farmers have the same status in South Africa, they arrived here at the same time and are both second-generation landowners. The first ones were the Khoi and the San. We are just as indigenous as blacks. Therefore I say that we don't owe anybody anything!"
(Landbouweekblad 2002-10-11)

(5.10) *Müller is nog kontraktueel gebonde aan Natal en bly tjoepstil, maar bronne uit die Westelike Provinsie en die Goue Leeus skimp albei dat die 29-jarige Müller in hul visier is vir 1999. "Ek het nog niks nêrens geteken nie, maar my kontrak met Natal verstryk begin Januarie. Daarna gaan ek dinge goed deurkyk. Ek was nie tevrede met die aanbod van Natal nie," sê Müller.*
Müller is still contractually bound to Natal and remains quiet, but sources from Western Province and the Golden Lions both hint that the 29-year old M. is in their sights for 1999. "I haven't signed anything yet, but my contract with Natal expires the beginning of January. After that I'll look at things carefully. I wasn't happy with Natal's offer," said M.
(Rapport 1999-01-03)

(5.11) *"Ek het geweet hulle is van korrektiewe dienste, maar ek is 'n eerlike en openhartige mens en ek steek niks vir niemand weg nie," het sy die afgelope week aan Rapport gesê.*
"'I knew that they were from correctional services, but I am an honest and open-hearted person and I don't hide anything away from anybody,' she said to Rapport this past week."
(Rapport 2005-05-08)

(5.12) *'n Gerug wat die ronde doen dat sy en Herbst in die hoofslaapkamer van Troskie se huis betrap is, is ook glad nie waar nie, sê sy. "Ons is nog nooit nêrens betrap nie. Dit is ver verwyder van die waarheid."*
"A rumour doing the rounds, that she and Herbst were caught in the main bedroom of Troskie's house, is also completely false, she says. 'We have never been caught anywhere. That is far removed from the truth.'"
(Volksblad 2002-01-19)

(5.13) *"Hulle moes haar vreeslik geslaan het," het hy gesê. "Sy was so 'n saggeaarde kind. Sy sou nooit niemand seergemaak het nie," het mnr. Hill gesê.*
"They must have hit her terribly," he said. "She was such a soft-hearted child. She would never have hurt anybody." Said Mr Hill.
(Beeld 1996-03-29)

(5.14) *Ons hoor nooit niks van die polisie nie. Ek weet nie eens wie ondersoek die saak nou nie -- vier verskillende speurders het dit al gehad. Ek soek geregtigheid.*
"We never hear anything from the police. I don't even know who is now investigating the case -- four different detectives have already been on it. I am looking for justice."
(Beeld 2004-02-24)

All the above examples, and indeed the majority of all the instances of multiple negative indefinite constructions, including negative indefinite combinations with *g'n* and *geen*, found in the data, come from either sports reports or from readers' letters to the various newspapers or are reported speech. Both sports reports and readers' letters are more colloquial in nature than more formal news reports and editorials. These data therefore support de Stadler's (1989) observation, noted in Chapter 1, and the intuitions of native speakers of Afrikaans, that multiple negative indefinite constructions occur predominantly in informal, colloquial speech.

Although the corpus data is very informative, and, as we will see in Chapters six and seven, very useful in supporting various theoretical observations, it is not wholly sufficient when it comes to providing evidence for what is essentially a spoken language phenomenon, namely, the occurrence of multiple negative indefinite combinations with NC interpretations in colloquial Afrikaans. Wasow & Arnold (2005) point out that multiple types of evidence are essential in linguistic research, i.e. making use of spoken and written corpora, as well as collecting intuitions from multiple speakers. As there are currently no corpora of spoken Afrikaans it was determined that native speaker judgements of multiple negative indefinite combinations would have to be elicited in order to supplement the corpus study. These judgements would have to be two-fold in nature, as they would have to provide data on the acceptability of

negative indefinite combinations in Afrikaans, as well as on the preferred meaning of such combinations. In the following section, section 5.3, two versions of a perception experiment, constructed to elicit native speaker judgements of the acceptability and of the meaning of multiple negative indefinite combinations, will be described.

5.3 Perception experiment

In order to determine the acceptability of multiple negative indefinite combinations in Afrikaans and their preferred interpretation, a perception experiment was developed. The construction of this experiment was informed by an initial pilot study undertaken to explore the possibilities offered by sentential negation in Afrikaans. The perception experiment was designed, firstly, to obtain acceptability judgements of spoken utterances containing multiple negative indefinites. As Sorace & Keller (2005: 1499) note, "acceptability judgements by native speakers are generally accepted as the main type of evidence for linguistic theory". Furthermore, acceptability judgements allow us to examine reactions to sentences that might occur only very rarely in spontaneous speech or recorded corpora and also constitute a way of obtaining negative evidence (Schütze 1996: 2).

By presenting the utterances as auditory stimuli it was hoped that prescriptive attitudes that are often associated with written forms would be avoided. Cornips & Jongenburger (2001) have, for example, noted that written forms are influenced to a large extent by prescriptive educational practices, while Keller (2000: 34) notes that "[i]t has been suggested that the more formal mode of written presentation should lead to more stringent judgements". As the phenomenon of multiple negative indefinite combinations in Afrikaans is a largely colloquial phenomenon, judgements that are influenced by prescriptive attitudes are to be avoided wherever possible. Furthermore, it has been shown in research on second language (L2) acquisition that modality does have an effect on sentence judgement tasks. Murphy (1997), in her study on the effect of modality on L2 acceptability judgement tasks, notes that modality influences accuracy on ungrammatical sentences, as subjects are less accurate at judging spoken sentences than written sentences. The importance of this study is the clear indication it gives that subjects respond differently in a sentence judgement task when the sentences are presented in different modalities (Murphy 1997: 55).

An additional issue in sentence judgement experiments is whether to use binary or scaled judgements. While Myers (2009) argues in favour of small-scale syntactic judgement experiments involving binary judgements, Sorace & Keller (2005) point out that linguistic examples come in varying degrees of acceptability, and are, as such, gradient. With the absolute judgements that a binary scale requires, a sentence which might appear to a speaker to be vaguely problematic but almost acceptable is placed in the same category, namely "unacceptable", as one which, in the speaker's opinion, is completely ungrammatical. In order to detect relatively subtle judgement contrasts with regard to multiple negative indefinite combinations, and as such provide gradient acceptability judgements, it was decided to make use of a non-binary measurement scale. Two options were considered with regard to the selection of an acceptability judgement scale, namely an ordinal, Likert-type scale or an open ended continuous-valued scale with judgements elicited via magnitude estimation[41]. While magnitude estimation is an increasingly popular methodology for eliciting acceptability judgements in syntactic experiments (cf. Bard, Robertson & Sorace 1996, Cowart 1997, Keller 2000, Sorace & Keller 2005), it is known to have issues of face-validity (Murphy & Vogel 2008). Magnitude estimation, traditionally used in the field of psychophysics, requires a participant to assign a numerical value to a given stimulus, or modulus. This modulus acts as the reference, and the informant assigns numerical values to subsequent stimuli in relation to that of the reference, deciding whether a particular stimulus is twice as good as the modulus or only a quarter as good, and so on. However, Murphy & Vogel (2008) suggest that magnitude estimation does not provide clear benefits as a general methodology for eliciting acceptability judgements when compared to other measurement scales such as Likert-type scales. Furthermore Dąbrowska (2009: 5) argues that a method using a Likert-type scale is much more natural than magnitude estimation, as "it is easier for participants to decide if a particular stimulus sentence is closer to the 'good' or 'bad' end of the scale than to decide whether it is three times as good or only half as food as the modulus". For these reasons it was decided to make use of a seven point Likert-type scale to elicit acceptability judgements from the participants.

[41] Note that, according to Dąbrowska (2009), magnitude estimation experiments also result in ordinal judgements.

The perception experiment also aimed to elicit meaning judgements of multiple negative indefinite constructions. Specifically, the experiment aimed to test whether participants had a preference for NC versus DN meanings, and whether participants were able to identify whether an utterance had been pronounced with a DN prosodic contour. After the experiment was run once, the results were such that subsequent examination of the test instrument called into question whether the speaker who produced the test items for the perception experiment did in fact produce a clear enough prosodic contour, or even the correct prosodic contour, for (some of) the DN readings. In order to determine whether a more precise, or consistent, DN prosodic contour could elicit better results the experiment was re-run with a different speaker producing the test items. In the following section, section 5.3.1, the prosodic contour needed to elicit DN interpretations of multiple negative indefinite combinations and negative indefinite combinations with *g'n*, will be discussed, and contrasted with the prosodic contour generally occurring with NC readings of such combinations. This will be followed by a discussion of the perception experiment itself, with a description of the questionnaire in section 5.3.2 and a description of the participants in the two versions of the perception experiment in section 5.3.3. The results of the experiment will be presented in section 5.4.

5.3.1 DN vs. NC prosodic contour

The prosodic contour needed to elicit DN interpretations of multiple negative indefinite combinations is a very specific one, and, as with DN constructions in English and Dutch, appears to be essential for the accurate interpretation of DN multiple negative indefinite combinations (Biberauer, pc). Specifically, a multiple negative indefinite combination expressing a DN meaning needs to be produced with what is termed a "contradiction contour" (Liberman & Sag 1974). This means that the utterance is produced with (minimally) a prenuclear H* pitch accent (generally on the first negative indefinite), followed by a nuclear accent L* (on the second negative indefinite), and finished off with an L- phrase accent and an H% boundary tone. This can be contrasted with the prosodic contour used most often with multiple negative indefinite constructions with an NC interpretation, namely the "declarative contour" (Beckman & Elam 1997: 15). In this contour the intonation phrase contains one or more H* pitch accents and ends in a sequence of L- phrase accent and L% boundary tone. Figure 5.5 shows the prosodic

analysis of the utterance in (5.15)(a) below, produced with a DN prosodic contour, while Figure 5.6 shows the prosodic analysis of the utterance in (5.15)(b) below, produced with an NC, or neutral, prosodic contour[42]. The prosodic notation of the contours was made using the Guidelines for ToBI labelling (Beckman & Elam 1997). In these figures we can see the waveform, the F0 contour and the ToBI labelling together with the text of the utterance.

(5.15) (a) *Hy vra vir niemand niks nie.*
he asks for nobody nothing SN

(b) *Hulle het nooit niemand daar gekry nie.*
they have never nobody there find-PST SN

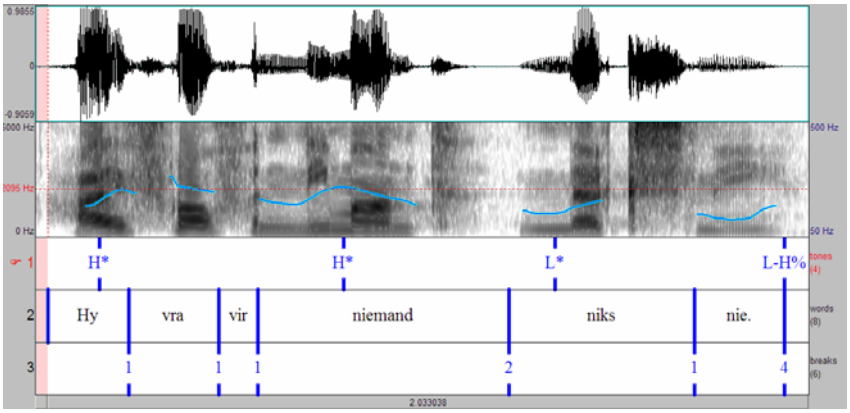

Figure 5.5: Prosodic contour for DN interpretation of multiple NI combination (H* L* L-H%)

[42] Both analyses were undertaken using PRAAT, a free software program for acoustic analysis of speech, designed by Paul Boersma and David Weenink (University of Amsterdam).

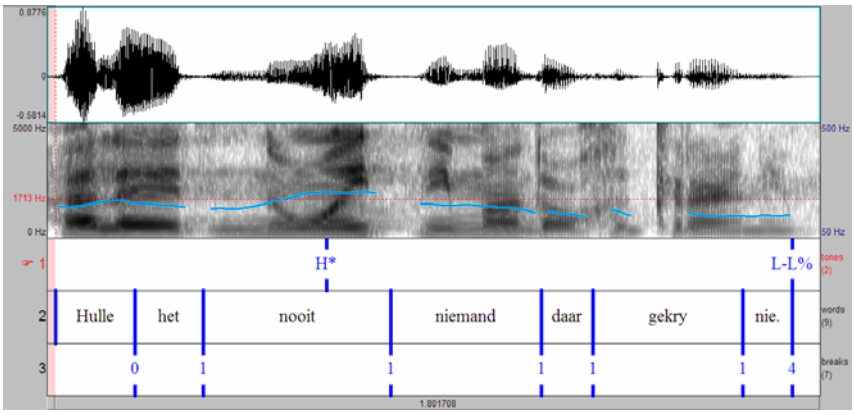

Figure 5.6: Prosodic contour for NC interpretation of multiple NI combination (H* L-L%)

Crucially the difference between the utterance in Figure 5.5 and the utterance in Figure 5.6 lies in the different pitch accents, phrase accents and boundary tones. While the F0 contour in Figure 5.5 has a pre-nuclear H* pitch accent on the first negative indefinite, *niemand*, followed by a nuclear L* pitch accent on the second negative indefinite, *niks*, and ending on a L- phrase accent and a H% boundary tone (a low low rise intonation), the F0 contour in Figure 5.6 has a nuclear H* pitch accent on the first negative indefinite, *nooit*, meaning that the second negative indefinite, *niemand*, is not accented, and ending on a L- phrase accent and a L% boundary tone (a fall intonation).

While all the sentences containing negative indefinite combinations with *g'n* found in the corpus had a NC meaning, and while there was an overwhelming preference for the NC meaning of negative indefinite combinations with *g'n* tested in the initial pilot study, it is still possible to obtain a DN reading of negative indefinite combinations with *g'n* if they are produced with a specific prosodic contour. Specifically, either, as with multiple negative indefinite combinations described above, a pre-nuclear H* pitch accent must fall on *g'n* followed by a nuclear accent L* on the following negative indefinite, or the nuclear H* pitch accent must fall on *g'n* (there are therefore no subsequent accented syllables). As with multiple negative indefinite combinations, in order to obtain a DN reading, an intonation phrase containing a negative indefinite combination with *g'n* must end in a low rise, that is, an L-phrase accent and an H% boundary tone. Figure 5.7 and Figure 5.8 show the prosodic

analyses of the two possible DN prosodic contours for the utterance in (5.16)(a), while Figure 5.9 shows the prosodic analysis of the NC prosodic contour for the utterance in (5.16)(b).

(5.16) (a) *Die band is g'n nêrens op toer nie.*
the band is no nowhere on tour SN

(b) *Die man het g'n nooit sy hare gewas nie.*
the man have no never his hair wash-PST SN

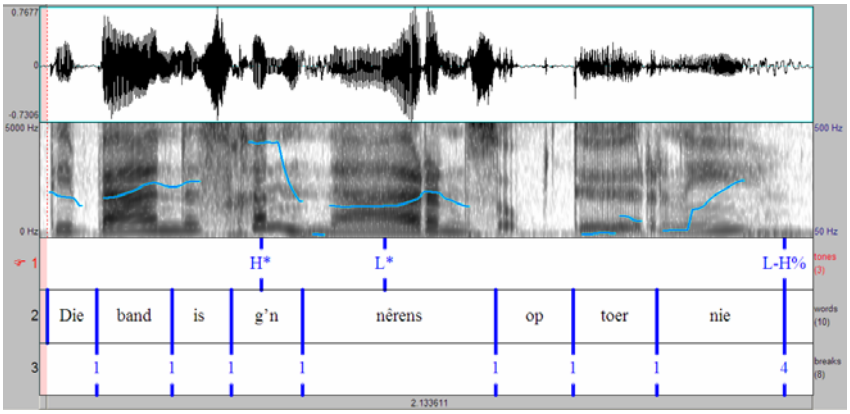

Figure 5.7: Prosodic contour (1) for DN interpretation of an NI combination with *g'n* (H* L* L-H%)

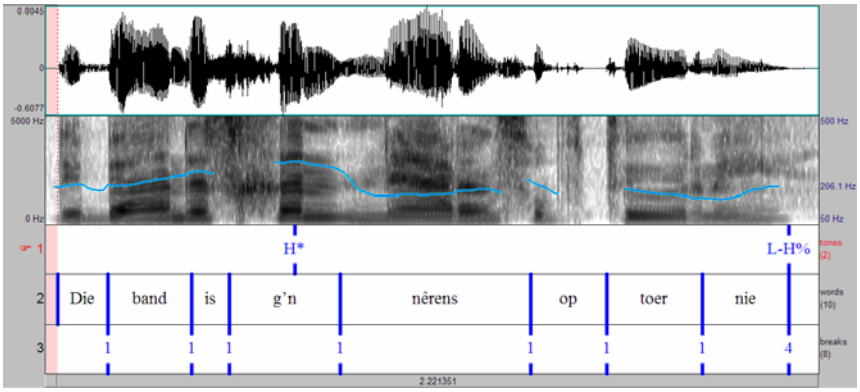

Figure 5.8: Prosodic contour (2) for DN interpretation of an NI combination with *g'n* (H* L-H%)

The difference between the utterance in Figure 5.7 and the utterance in Figure 5.8 lies in the presence/absence of a nuclear L* pitch accent. While the F0 contour in Figure 5.7 has a pre-nuclear H* pitch accent on *g'n*, followed by a nuclear L* pitch accent on the negative indefinite, *nêrens*, the F0 contour in Figure 5.8 has only a nuclear H* pitch accent on *g'n*. Importantly both intonation contours end in an L- phrase accent and an H% boundary tone (a low rise intonation).

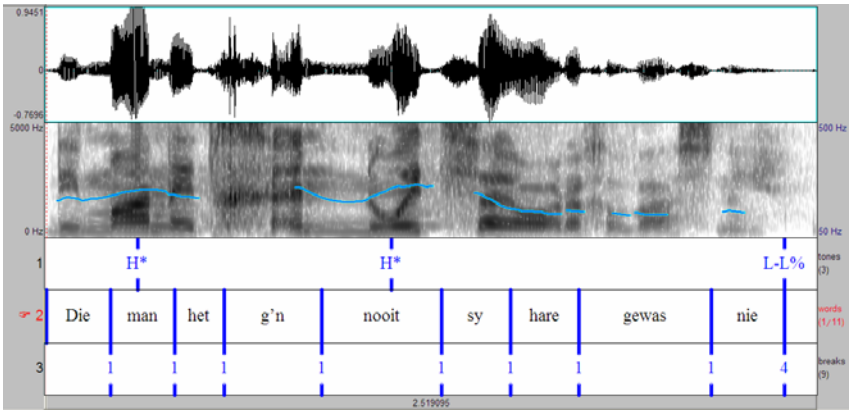

Figure 5.9: Prosodic contour for NC interpretation of a NI combination with *g'n*

The crucial difference between the utterance in Figure 5.9 and the utterances in Figure 5.7 and Figure 5.8 lies in the placing of the (nuclear) H* pitch accent and the boundary tone. In Figure 5.7 and Figure 5.8 *g'n* receives an H* pitch accent (with the negative indefinite *nooit* receiving a nuclear L* pitch accent in Figure 5.7), while in Figure 5.9 the H* pitch accent occurs on the negative indefinite *nooit*. Furthermore, in Figure 5.7 and Figure 5.8 the utterance ends on a L- phrase accent and H% boundary tone (a low rise intonation), while the utterance in Figure 5.9 ends in a L- phrase accent and L% boundary tone (a fall intonation).

Researchers are divided on the extent and effectiveness of the use of prosody in utterance disambiguation. However, studies are generally in agreement that naïve listeners can reliably use prosody to disambiguate structurally ambiguous sentences, and are in fact highly accurate in the presence of prosodic cues (Price et al. 1991; Misono et al. 1997; Schafer et al. 2000; Kraljic & Brennan 2005). Of course most studies that examine prosodic disambiguation do so for sentences that are

syntactically ambiguous. In the case of multiple negative indefinite constructions there is no syntactic ambiguity – the syntactic structure is assumed to be the same for both interpretations – however there is semantic ambiguity. It is therefore worthwhile to examine whether naïve speakers of Afrikaans are, in fact able to use prosodic cues to disambiguate the intended meaning of an utterance containing multiple negative indefinites, presented out of context.

5.3.2 Questionnaire

The perception experiment consisted of a questionnaire, divided into two parts, administered via WebCT (the online learning environment at Stellenbosch University)[43]. All students on the Stellenbosch University campus are registered users of WebCT, and most departments in the university require students to use WebCT on a regular basis to access content and/or to complete tutorials and assignments. Participants could complete the first part of the questionnaire at any time by logging onto WebCT. Once the first part of the questionnaire had been completed, the second part of the questionnaire was automatically made available. When first accessing the questionnaire, participants were required to read a set of instructions, and indicate that they had understood the instructions. As noted in the introduction to this section, questions around the accuracy of the DN prosody meant that the questionnaire was administered twice, approximately ten months apart.

The questionnaire contained one hundred and twenty utterances, of which fourteen contained multiple negative indefinites, as illustrated by the examples in (5.15) in section 5.3.1, six contained negative indefinite combinations with *g'n*, as illustrated by the examples in (5.16) in section 5.3.1, and four contained negative indefinite combinations with *geen*, as illustrated in (5.17)(a) below. These twenty-four utterances were read twice, once with NC, or neutral, prosody and once with DN prosody. The questionnaire also contained fourteen utterances consisting of a combination of a negative indefinite and an ordinary indefinite, as illustrated in (5.17)(b), six utterances consisting of a combination of *g'n* and an ordinary indefinite as illustrated in (5.17)(c), and four utterances

[43] Keller (2000: 231) provides strong evidence that web data is as reliable and valid as data obtained with conventional methodologies.

consisting of a combination of *geen* and an ordinary indefinite, as illustrated in (5.17)(d). The rest of the items in the questionnaire were distractor utterances, containing a combination of negative indefinites, ordinary indefinites, NPIs and sentential negation, as illustrated in (5.17)(e)-(g)[44]. The fillers were selected so that the number of acceptable utterances roughly matched the number of unacceptable utterances, in so doing adhering to Schütze's (1996) criterion that a stimulus set should not contain substantially more acceptable than unacceptable sentences (or vice versa).

(5.17) (a) *#Die polisie kon geen niks doen nie.*
the police could no nothing do SN

(b) *Hulle het nooit iemand daar gekry nie.*
they have never someone there get-PST SN
"They never found anyone there."

(c) *#G'n iemand hou daarvan nie.*
no anybody like there-of SN

(d) **Die kinders het geen ooit lekkers gekry nie.*
the children have no ever sweets get-PST SN

(e) **Ouma het ooit niks gevra nie.*
grandma have ever nothing ask-PST SN

(f) *Die kinders eet niks roomys nie.*
the children eat nothing ice-cream SN
"The children eat absolutely no ice-cream"

(g) **Ek weet dat hy nie kom.*
I know that he not come

[44] Utterances consisting of a combination of *geen* and a negative indefinite, such as in (5.17)(a) and utterances consisting of a combination of *g'n* and an ordinary indefinite, such as (5.17)(c), are considered largely unacceptable in Afrikaans, while utterances (5.17)(e), (d) and (g) are considered completely unacceptable in Afrikaans. Utterance (5.17)(b) is standard Afrikaans, while (5.17)(f) is non-standard, or colloquial Afrikaans.

All the test items were randomized multiple times to create different versions of the questionnaire for each group of participants and each version of the questionnaire was then divided into two parts in such a way so that no utterance was repeated in the same part of the questionnaire. This was done in order to avoid presentation order as a potential confounding factor (Keller 2000: 35). The utterances were all read by a female postgraduate research assistant in the General Linguistics department. Although not a trained speaker, it was judged that the level of linguistic awareness and the experience attained as a bilingual language instructor were sufficient to make the readings reliable from a prosodic disambiguation point of view. In addition there has been criticism levelled at studies that make use of, for example, professional newscasters, as production results of studies using speakers who are trained to produce disambiguating contours may not accurately reflect the prosody of natural conversation and thus may misrepresent the degree of prosodic disambiguation found in everyday speech (Schafer et al 2000). As discussed above, once the results of the experiment were examined, the accuracy of this speaker was called into question, specifically it was questioned whether the speaker did in fact produce a clear enough prosodic contour, or even the correct prosodic contour, for (some of) the DN readings. In order to determine whether a more precise, or consistent, DN prosodic contour could elicit better results the experiment was re-run with a second female postgraduate research assistant reading the items. As with the first speaker, the second speaker was not a trained speaker, however for the second version of the experiment greater care was taken to ensure that the DN prosody was as accurate as possible.

As noted above, when first accessing the questionnaire, participants were given a clear, detailed set of instructions. Participants were then given a few practice sets of questions for benchmarking purposes. In the first question of a question set, participants were instructed to click on an icon of a loudspeaker in order to listen to the relevant utterance and then asked to judge the acceptability of this utterance on a seven point Likert-type scale. The endpoints were described, with 1 being "acceptable in Afrikaans" and 7 being "unacceptable in Afrikaans", but the intermediate scale values were not given labels. After each acceptability judgement, participants were asked to provide an alternative sentence if they had found the utterance unacceptable. This question was then followed by a

question in which participants had to indicate the meaning of the utterance. Participants were given three options, a meaning that corresponded to the DN interpretation of the utterance, a meaning that corresponded to the NC interpretation of the utterance and an option indicating that neither of the two meanings was appropriate. The final question in each question set asked participants to provide an alternative meaning if neither of the meanings provided in the previous question were deemed appropriate. An example of a question set is given in Figure 5.10. This particular question set was intended to elicit acceptability judgements and meaning judgements of the sentence in (5.18), below.

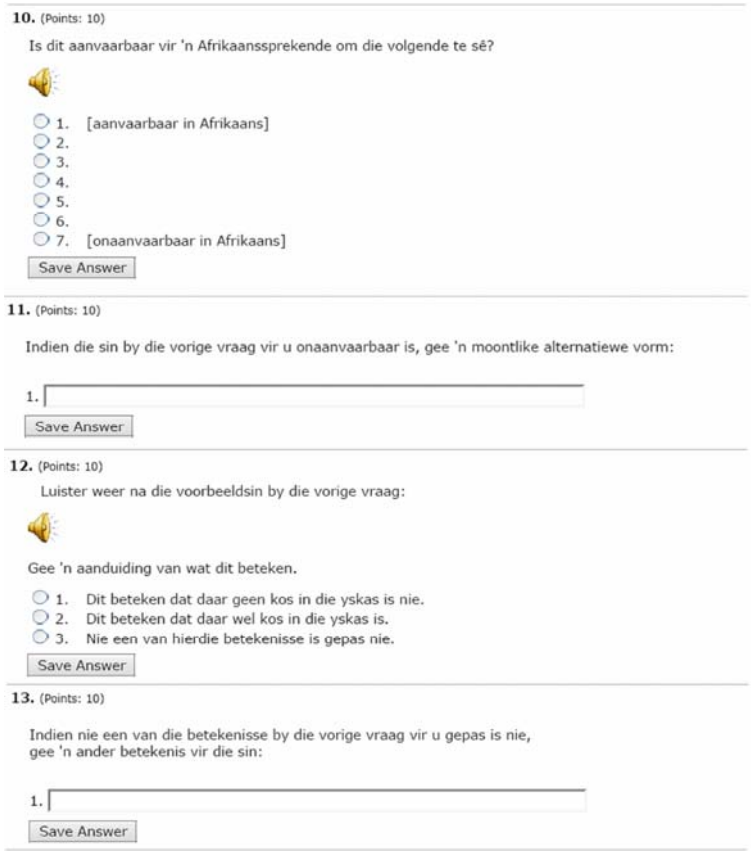

Figure 5.10: Sample questions from perception judgement questionnaire

(5.18) *Daar is g'n niks kos in die yskas nie.*
there is no nothing food in the fridge SN

Questions were delivered to the participants one at a time, and participants were unable to revisit questions they had already answered. No time limit was placed on the questionnaire, although it was possible to monitor the time participants spent on each question. It was emphasised in the instructions for the questionnaire that there was no right or wrong answer for any of the questions, and that the researcher was interested in their opinion on the well-formedness of the utterances, based on their intuitions and not on what they may have learnt about Afrikaans grammar.

5.3.3 Participants

For both versions of the perception experiment, participants were postgraduate and undergraduate students, between the ages of eighteen and twenty-six, who were (or had been in the past) registered as undergraduates for either General Linguistics or Afrikaans and Dutch at Stellenbosch University. Of course, Keller (2000: 33) notes that it is a contentious issue whether linguistic training has an influence on acceptability judgements, pointing out that although Schütze (1996) concludes that experimental data is not sufficient to determine whether there are systematic differences between the judgements of linguists and those of naïve speakers, he feels that linguists ought to be excluded as informants. However, in the context of this study it was felt that the linguistic training that students had received at an undergraduate level was not sufficient to make them biased informants. All participants were native speakers of Afrikaans, although three participants indicated that they functioned on a daily basis in their second language, English. In the first version of the experiment there were sixteen participants, while in the second version of the experiment there were twenty-four participants. The participants, in each experiment, were divided equally into four groups, and each group completed a different version of the questionnaire. Four of the participants who had participated in the first version of the experiment took part in the second version of the experiment, however it was determined that the ten months gap between the administration of the two versions of the experiment was sufficient to ignore this as a possible influencing factor.

5.4 Results of the perception experiment

The results of the perception experiment will be used in the analyses presented in Chapters six and seven, to supplement and support the observations from the corpus study discussed in section 5.2. The focus of the examination of the results of the perception experiment in this section is therefore on the acceptability and interpretation of multiple negative indefinite combinations and of negative indefinite combinations with *g'n* and *geen* respectively. Two way ANOVA's were conducted to determine the effects of prosodic contour and experiment version on acceptability and on percentage of correct interpretations of utterances containing negative indefinite combinations. For comparing percentage of correct interpretations between utterances produced with a neutral, or NC, prosodic contour, or a DN prosodic contour, a cross tabulation was done. Summary statistics are presented in histograms and frequency tables.

In section 5.4.1 I examine the results of the perception experiment with regard to acceptability judgements of multiple negative indefinite combinations and of negative indefinite combinations with *g'n* and *geen*. These acceptability judgements will in turn be compared to the standard Afrikaans form for expressing multiple indefinites in the scope of negation, namely with the combination of a negative indefinite and an ordinary indefinite. This will enable us to determine how acceptable multiple negative indefinite combinations and negative indefinite combinations with *g'n* and *geen* are to native speakers of Afrikaans, especially in comparison to the standard Afrikaans form. While there is clear evidence from the corpus study that these combinations do occur in colloquial Afrikaans, it is not clear how widespread their use is in spoken Afrikaans. As there is currently no corpus of spoken Afrikaans, the only way we can come close to determining how prevalent these combinations are in spoken Afrikaans is by examining native speaker intuitions about their acceptability. The results of the perception experiment, as they relate to the acceptability of multiple negative indefinite combinations, are such that they provide a strong motivation, in addition to the corpus data, for developing an analysis of multiple negative indefinites in Afrikaans. This analysis will be undertaken in Chapter 6. With regard to the acceptability of negative indefinite combinations with *g'n* and *geen*, the results, on the one hand, motivate a separate analysis of negative indefinite combinations with *g'n* and *geen*,

and, on the other hand, motivate the exclusion of negative indefinite combinations with *geen* from such an analysis. The analysis of negative indefinite combinations with *g'n* will form part of the focus of Chapter 7.

When it comes to the meaning of negative indefinite combinations it is clear from the corpus data, discussed in section 5.2, that the NC meaning of multiple negative indefinite combinations and negative indefinite combinations with *g'n* and *geen* is the preferred interpretation, with only 5 instances of multiple negative indefinite combinations with a DN interpretation observed in the corpus, and no DN interpretations of negative indefinite combinations with *g'n* or *geen* observed. The results of the meaning judgements of negative indefinite combinations will therefore be examined, in section 5.4.2, in order to determine whether NC interpretations are indeed the preferred interpretation of such combinations. Furthermore, it will be determined whether a specific prosodic contour makes it possible to elicit DN interpretations of negative indefinite combinations. The results of the perception experiment, as they relate to the interpretation of multiple negative indefinite combinations, will form an integral part of the analysis in Chapter 6. Specifically, the statistical asymmetries observed in the perception experiment data will inform the stochastic (overlapping) constraint ranking which (partially) determines the interpretation of multiple negative indefinite combinations in the bidirectional stochastic OT analysis proposed in Chapter 6. While the meaning judgements of utterances containing negative indefinite combinations with *g'n* and *geen* will also be discussed in section 5.4.2, these do not form an integral part of the analyses presented in this dissertation. For this reason, these results will only be briefly discussed, for the sake of completeness.

5.4.1 Results: acceptability judgements

In this section I first examine the results of the acceptability judgements for all relevant utterances (i.e. utterances containing multiple negative indefinite combinations, and utterances containing negative indefinite combinations with *g'n* and *geen*) from both versions of the perception experiment, produced with either a neutral, or NC, prosodic contour, or a DN prosodic contour. This will allow me, firstly, to determine whether there was a difference in participants' judgements of the acceptability of the relevant utterances between the two versions of the perception

experiment. Secondly, I will be able to determine whether prosodic contour, i.e. whether utterances were produced with a neutral (i.e. NC) or a DN prosodic contour, had an effect on acceptability judgements. I will then examine, as a whole, the acceptability judgements of utterances containing multiple negative indefinite combinations and utterances containing negative indefinite combinations with *g'n* and *geen* respectively.

As noted in section 5.3.2, there were two versions of the perception experiment, administered ten months apart. The purpose of re-administering the experiment was to determine whether a more precise prosodic contour could have an effect on the ability of participants to accurately identify the meaning of negative indefinite combinations (which will be discussed in section 5.4.2). However, it is also important to examine whether there was any difference between the acceptability judgements of participants in the first version of the experiment and those in the second version of the perception experiment. If we examine the results of both versions of the perception experiment, for all relevant utterances, we see that while there was a slight difference in mean acceptability (8.4%) between the first version and the second version of the perception experiment, this difference is not statistically significant (p = .17). This is illustrated in Figure 5.11.

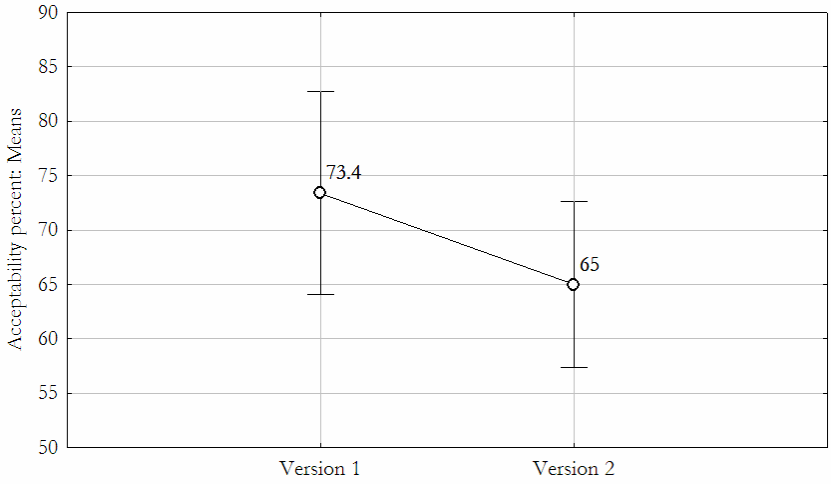

Figure 5.11: Acceptability means – Version 1 vs. Version 2 of the perception experiment

In Figure 5.11, the mean acceptability for utterances containing negative indefinite combinations in the first version of the perception experiment is 73.4%, while the mean acceptability in the second version is 65%. The error bars represent 95% confidence intervals.

If we examine the results of both versions of the perception experiment, comparing acceptability judgements of utterances produced with a neutral, or NC, prosodic contour with those produced with a DN prosodic contour, we see that there is no statistically significant difference between the mean acceptability of utterances containing combinations of negative indefinites produced with a neutral, or NC, prosodic contour versus utterances produced with a DN prosodic contour in the perception experiment (p = .85). This is illustrated in Figure 5.12.

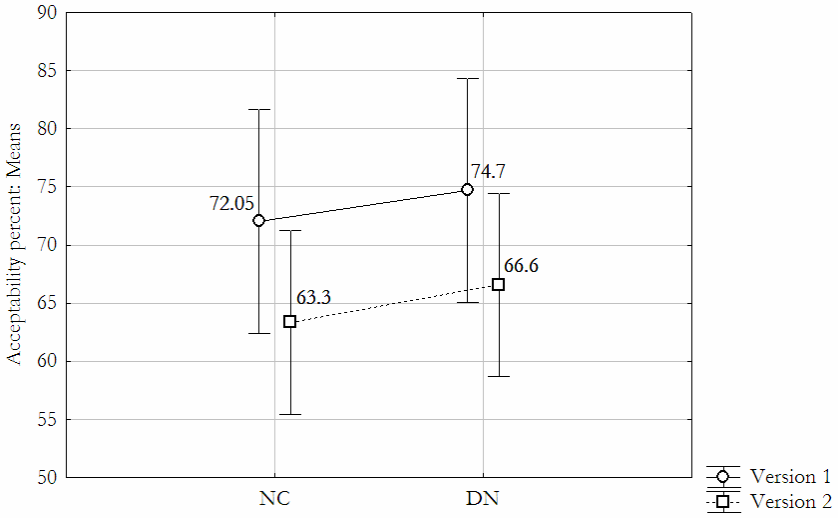

Figure 5.12: Acceptability means – NC vs. DN prosodic contour

In Figure 5.12, the mean acceptability for utterances containing negative indefinite combinations produced with a neutral, or NC, prosodic contour is 72.05%, in the first version of the experiment, while the mean acceptability for utterances produced with a DN prosodic contour is 74.7%. In the second version of the experiment, these mean acceptability values are lower, as we would expect from the results presented in Figure

5.11. The mean acceptability for utterances produced with a neutral, or NC, prosodic contour is 63.3%, and the mean acceptability for utterances produced with a DN prosodic contour is 66.6%. Again, the error bars represent 95% confidence intervals.

The fact that there is no statistically significant difference in mean acceptability judgements between the two versions of the perception experiment shows that participants in both versions of the experiment produced much the same acceptability judgements for utterances containing multiple negative indefinite combinations, and utterances containing negative indefinite combinations with *g'n* and *geen*. Furthermore the fact that there is no statistically significant difference in mean acceptability judgements based on prosodic contour, means that participants produced much the same acceptability judgements for utterances produced with an NC prosodic contour as they did for utterances produced with a DN prosodic contour. The assumption that participants' acceptability judgements do not differ dramatically between the two versions of the perception experiment, together with the fact that the second version of the perception experiment was run essentially to determine whether a more precise prosodic contour could have an effect on the ability of participants to accurately identify the meaning of negative indefinite combinations, has two implications. Firstly, we only have to examine the results of the acceptability judgements from the first perception experiment, as these will be sufficient to support any claims about the general acceptability of negative indefinite combinations in Afrikaans. Secondly, we can group the results of the utterances produced with different prosodic contours together in our examination of the results of the perception experiment as they relate to mean acceptability.

Let us now examine the specific acceptability judgement results for utterances containing multiple negative indefinite combinations. As described in section 5.3.2, the questionnaire in the perception experiment contained fourteen utterances containing multiple negative indefinite combinations, read twice, once with an NC prosodic contour and once with a DN prosodic contour. The mean acceptability percentages for utterances containing multiple negative indefinite combinations are given in Table 5.3. These figures represent the combined results for utterances read with an NC prosodic contour and utterances read with a DN prosodic contour from the first version of the perception experiment.

Item no.	Utterance	N*	Mean %	Std Deviation
1	*Hy vra vir niemand niks nie* he asks for nobody nothing SN	32	92.2%	17.95
2	*Ek weet dat niemand niks gesê het nie* I know that nobody nothing said had SN	32	89.1%	23.42
3	*Ek het niemand nooit daar sien loop nie* I have nobody never there seen walk SN	32	73.9%	36.89
4	*Hy het gesê dat ons niemand nêrens sal vind nie* he has said that we nobody nowhere will find SN	32	82.3%	25.38
5	*Sy steek niks vir niemand weg nie* she hides nothing for nobody away SN	31	89.8%	24.22
6	*Die speurder het niks nooit daar gevind nie* the detective has nothing never there found SN	31	54.8%	40.18
7	*Ek het niks nêrens gekoop nie* I have nothing nowhere bought SN	32	84.4%	21.97
8	*Jy het nooit vir niemand omgegee nie* you have never for nobody cared SN	31	86.6%	25.97
9	*Hulle het nooit niemand daar gekry nie* they have never nobody there found SN	32	72.9%	35.36
10	*Ouma het nooit niks gevra nie* grandmother has never nothing asked SN	32	80.7%	28.75
11	*Die kinders het nooit nêrens gegaan nie* the children have never nowhere gone SN	32	83.3%	32.24
12	*Die skerpioene het nêrens niks gevind nie* the scorpions have nowhere nothing found SN	32	74.5%	36.66
13	*Die man beweer dat daar nêrens niemand was nie* the man alleges that there nowhere nobody was SN	32	85.4%	23.47
14	*In die woestyn is daar nêrens nooit 'n blom of 'n blaar nie* in the desert is there nowhere never a flower or a leaf SN	32	80.7%	25.08
Total		445	80.7%	30.09

Table 5.3: Acceptability judgements of multiple NI combinations
*****Note. Where N is less than 32, it means one (or more) participant(s) failed to provide a judgement for a particular utterance.

As we can see from these results, utterances containing multiple negative indefinite combinations in Afrikaans are generally acceptable to native speakers, with a total mean acceptability of 80.7%. This, together with the results of the corpus study, is sufficient to motivate the necessity of

an analysis to account for the occurrence of multiple negative indefinite combinations in colloquial Afrikaans. Such an analysis will be presented in Chapter 6.

If we examine the individual results in Table 5.3 it appears that only one multiple negative indefinite combination is noticeably less acceptable than the others, namely the combination *niks nooit* in item 6 (with a mean acceptability of 55%). One possible explanation for why this combination is not as acceptable as the others relates to the fact that standard Afrikaans has a strict word order with regard to the object and adverbs of time, manner and place. Specifically, adverbs of time precede the object, which precedes adverbs of manner, which in turn precede adverbs of place. This can be illustrated by the sentences in (5.19), in which the indefinite *iets* ("something") is the object of the sentence, while *toe* ("then") is an adverb of time.

(5.19) (a) **Hy sê dat hy iets toe gedoen het.*
he say that he something then do-PST have.

(b) *Hy sê dat hy toe iets gedoen het.*
he say that he then something do-PST have.
"He says that he then did something."

This strict ordering relation can also possibly explain why the combination *niemand nooit* (in item 3) has a slightly lower acceptability mean than its counterpart *nooit vir niemand* (in item 8) – 73% as opposed to 87%. However, there is almost no difference in mean acceptability between *nooit nêrens* (in item 11) and *nêrens nooit*, (in item 14) or between the mean acceptability of *niemand nêrens* (in item 4) versus *nêrens niemand* (in item 13), although we would expect one. Furthermore the combination *nêrens niks* (in item 12) is slightly less acceptable than its counterpart *niks nêrens* (in item 7), a situation that is contrary to what we would expect, as adverbs of place should follow the object, according to the rules of standard Afrikaans. What we can conclude from these observations is that where there is a preference for a particular order of negative indefinites, it is probably a result of the word order rules of Afrikaans. However, we need to keep in mind that multiple negative indefinite combinations are themselves a non-standard phenomenon and so are not necessarily subject to the rules of standard Afrikaans.

So, from the percentages in Table 5.3, it appears that multiple negative indefinite combinations in Afrikaans are generally acceptable to native speakers, despite their non-standard, colloquial nature, when presented as auditory stimuli. However, as discussed in Chapters one and two, multiple indefinites in the scope of negation are generally realised, in standard Afrikaans, by a single negative indefinite with n-1 indefinites in its scope, as illustrated by (5.20).

(5.20)	*Hulle*	*het*	*nooit*	*iemand*	*daar*	*gekry*	*nie.*
	they	have	never	anyone	there	get-PST	SN
	"They never found anyone there."						

The question now is how this standard Afrikaans form for expressing multiple indefinites in the scope of negation compares, in terms of level of acceptability, to multiple negative indefinite combinations. In order to determine whether there is a difference between the level of acceptability of multiple negative indefinite combinations and combinations of negative indefinites and ordinary indefinites, the results from the acceptability judgements of utterances containing combinations of negative indefinites and ordinary indefinites were compared to the results for the acceptability judgements of utterances containing multiple negative indefinite combinations. Unsurprisingly, it was determined that there is a statistically significant difference between the mean acceptability of utterances containing multiple negative indefinite combinations and the mean acceptability of utterances containing a negative indefinite and an ordinary indefinite ($p < .01$). Specifically, utterances containing a negative indefinite and an ordinary indefinite had a significantly higher mean acceptability (93.8%) than utterances containing multiple negative indefinite combinations (80.7%). This is illustrated in Figure 5.13.

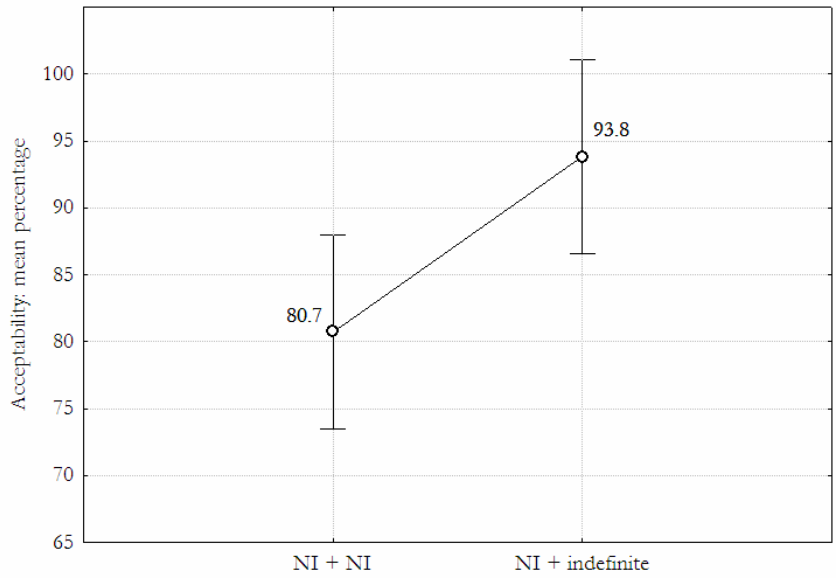

Figure 5.13: Acceptability means – multiple NI combinations vs. NI + indefinite combinations

In Figure 5.13, the mean acceptability for utterances containing multiple negative indefinite combinations is 80.7%, while the mean acceptability for utterances containing combinations of negative indefinites and ordinary indefinites is 93.8%. The error bars represent 95% confidence intervals. These results show that although multiple negative indefinite combinations are generally acceptable to native speakers when presented as auditory stimuli, they are still not as acceptable as the standard Afrikaans form for expressing multiple indefinites in the scope of negation, namely by a single negative indefinite with n-1 indefinites in its scope.

Now we can examine the results for the acceptability judgements of utterances containing negative indefinite combinations with *g'n* and *geen* respectively. These results will form a key component of the analysis of the negative indefinite *g'n* presented in Chapter 7. As described in section 5.3.2, the questionnaire in the perception experiment contained six utterances containing negative indefinite combinations with *g'n*, and four utterances containing negative indefinite combinations with *geen*. All these utterances were read twice, once with an NC prosodic contour and

once with a DN prosodic contour. The mean acceptability percentages for utterances containing negative indefinite combinations with *g'n* are given in Table 5.4. These figures represent the combined results for utterances read with an NC prosodic contour and utterances read with a DN prosodic contour in the first version of the perception experiment.

Item no.	Utterance	N*	Mean %	Std Deviation
1	*G'n niemand hou daarvan nie* no nobody like there-of SN	32	69.3%	35.19
2	*Dit is g'n niemand se skuld nie* it is no nobody POSS fault SN	32	78.7%	24.40
3	*Daar is g'n niks kos in die yskas nie* there is no nothing food in the fridge SN	31	68.3%	35.84
4	*Die seun het g'n niks gesteel nie* the boy have no nothing steal-PST SN	32	78.7%	26.85
5	*Die man het g'n nooit sy hare gewas nie* the man have no never his hair wash-PST SN	32	67.2%	35.03
6	*Die band is g'n nêrens op toer nie* the band is no nowhere on tour SN	32	71.4%	31.46
Total		191	72.1%	31.68

Table 5.4: Acceptability judgements of NI combinations with *g'n*
*****Note. Where N is less than 32, it means one (or more) participant(s) failed to provide a judgement for a particular utterance.

As we can see from the results in Table 5.4, utterances containing negative indefinite combinations with *g'n* in Afrikaans are generally acceptable to native speakers, with a total mean acceptability of 72.3%. A result that clearly motivates the necessity of an analysis to account for the occurrence of negative indefinite combinations with *g'n* in colloquial Afrikaans, an analysis which will be presented in Chapter 7. Interestingly, this mean acceptability is somewhat lower than the mean acceptability for multiple negative indefinite combinations, as shown in Table 5.3. This is somewhat of a contradiction when we consider that *g'n niks* was the highest occurring negative indefinite combination found in the corpus. However, if we compare the mean acceptability of negative indefinite combinations with *g'n* to the mean acceptability of multiple

negative indefinite combinations we find that the difference is not statistically significant (p = .21). This is illustrated in Figure 5.14.

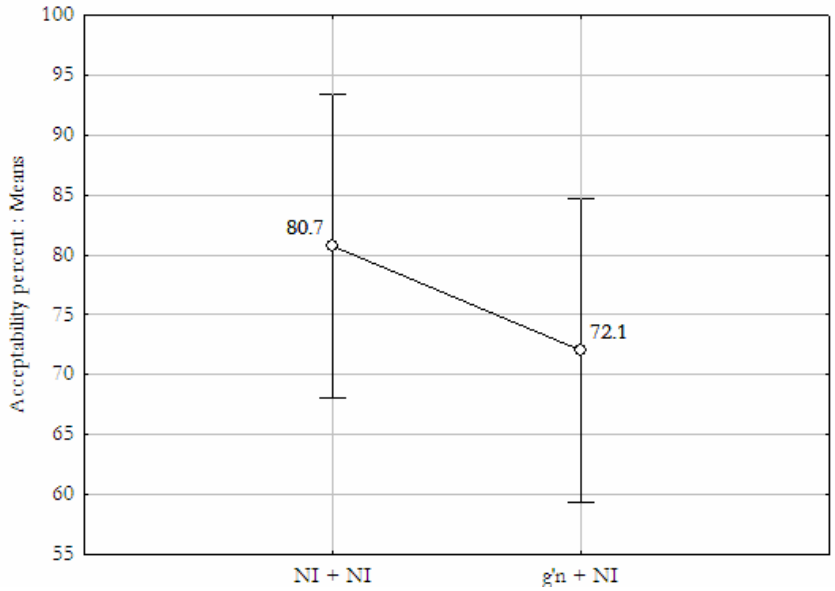

Figure 5.14: Acceptability means – multiple NI combinations vs. NI combinations with *g'n*

In Figure 5.14, the mean acceptability for utterances containing negative indefinite combinations with *g'n* is 72.1%, while the mean acceptability for utterances containing multiple negative indefinite combinations is 80.7%. The error bars represent 95% confidence intervals.

As was done with the multiple negative indefinite combinations above, the results for the acceptability judgements of utterances containing negative indefinite combinations with *g'n*, as shown in Table 5.4, were compared to the results from the acceptability judgements of utterances containing combinations of *g'n* and ordinary indefinites. This was done in order to determine whether negative indefinite combinations with *g'n* behave similarly to multiple negative indefinite combinations with regard to their standard Afrikaans equivalents. As was the case with the comparison of multiple negative indefinite combinations and combinations of negative indefinites and ordinary indefinites, there was a statistically significant difference between the mean acceptability of

utterances containing negative indefinite combinations with *g'n* and the mean acceptability of utterances containing combinations of *g'n* and an ordinary indefinite ($p < .01$). However, unlike with the multiple negative indefinite combinations discussed above, utterances containing *g'n* and an ordinary indefinite had a significantly lower mean acceptability (46.9%) than utterances containing negative indefinite combinations with *g'n* (72.1%). This is illustrated in Figure 5.13.

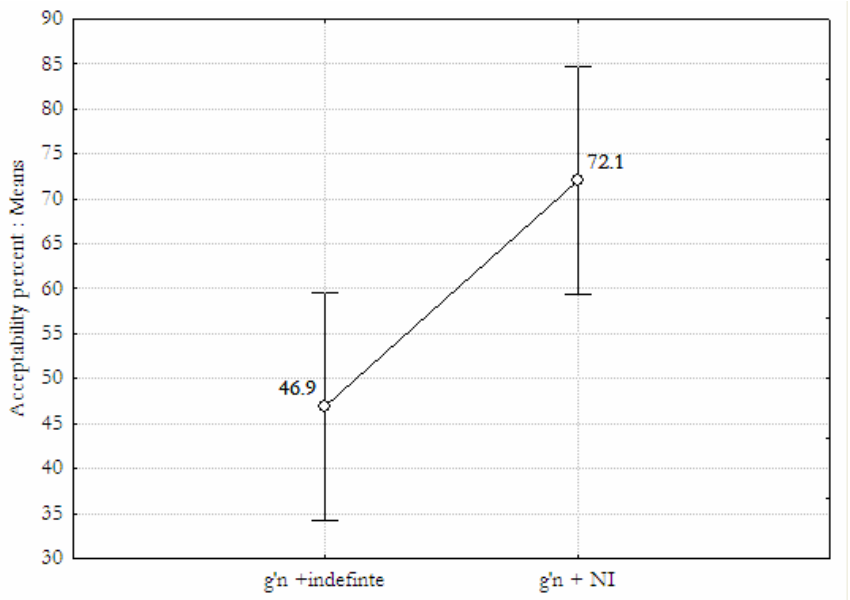

Figure 5.15: Acceptability means – NI combinations with *g'n* vs. *g'n* + indefinite combinations

In Figure 5.15, the mean acceptability for utterances containing negative indefinite combinations with *g'n* is 72.1%, while the mean acceptability for utterances containing combinations of *g'n* and ordinary indefinites is 46.9%. The error bars represent 95% confidence intervals.

What is very clear from these results is that utterances containing a combination of *g'n* and an ordinary indefinite are far less acceptable than utterances containing a negative indefinite and an ordinary indefinite (93.8% - see Figure 5.14). In fact they could be considered largely unacceptable in Afrikaans with a mean acceptability of less than 50%.

Furthermore, utterances containing combinations of *g'n* and an ordinary indefinite are far less acceptable than utterances containing negative indefinite combinations with *g'n*, which is a different result from that attained with the comparison of utterances containing multiple negative indefinite combinations and utterances containing a negative indefinite and an ordinary indefinite. This is convincing motivation for analysing negative indefinite combinations with *g'n* separately from multiple negative indefinite combinations, as I will do in Chapter 7.

Finally, let us examine the results for the acceptability judgements of utterances containing negative indefinite combinations with *geen*. The mean acceptability percentages for such utterances are given in Table 5.5. Once again, these figures represent the combined results for utterances read with an NC prosodic contour and utterances read with a DN prosodic contour in the first version of the perception experiment.

Item no.	Utterance	N*	Mean %	Std Deviation
1	*Ons het geen niemand by die strand gesien nie* we have no nobody at the beach see-PST SN	32	54.7%	36.47
2	*Die polisie kon geen niks doen nie* the police could no nothing do SN	32	39.6%	38.97
3	*Die kinders het geen nooit lekkers gekry nie* the children have no never sweets get-PST SN	31	42.5%	38.21
4	*Die ou tannie het geen nêrens op vakansie gegaan nie* the old aunt have no nowhere on vacation go-PST SN	32	52.6%	36.44
Total		127	47.7%	37.65

Table 5.5: Acceptability judgements of NI combinations with *geen*
*****Note. Where N is less than 32, it means one (or more) participant(s) failed to provide a judgement for a particular utterance.

The results in Table 5.5 show clearly that utterances containing negative indefinite combinations with *geen* in Afrikaans are not nearly as acceptable to native speakers as either utterances containing negative indefinite combinations with *g'n* or utterances containing multiple negative indefinites. In fact, with a total mean acceptability of 47.38%, one can say that utterances containing negative indefinite combinations with *geen* are considered largely unacceptable to native speakers. Of the four utterances in Table 5.5, only two have a mean acceptability of more

than 50%. This result provides motivation for considering negative indefinite combinations with *geen* to be fundamentally different from negative indefinite combinations with *g'n*, a position that will be further argued in Chapter 7. This is further supported by the fact that the difference between the mean acceptability of utterances containing negative indefinite combinations with *geen* and the mean acceptability of utterances containing negative indefinite combinations with *g'n*, is statistically significant ($p < .01$), as illustrated in Figure 5.16.

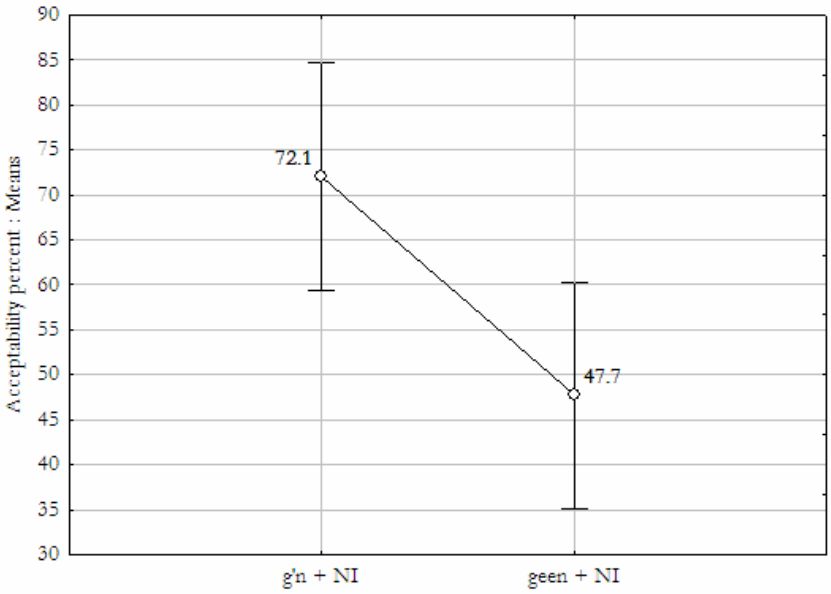

Figure 5.16: Acceptability means – NI combinations with *g'n* vs. NI combinations with *geen*

In Figure 5.16, the mean acceptability for utterances containing negative indefinite combinations with *g'n* is 72.1%, while the mean acceptability for utterances containing negative indefinite combinations with *g'n* is 47.7%. The error bars represent 95% confidence intervals.

From these results we can conclude that, whereas negative indefinite combinations with *g'n* in Afrikaans are generally acceptable to native speakers when presented as auditory stimuli, despite their non-standard, colloquial nature, similar to the multiple negative indefinite combinations

above, negative indefinite combinations with *geen* are far less acceptable, even unacceptable, to native speakers. Interestingly, if we compare the mean acceptability of negative indefinite combinations with *geen* to the mean acceptability of utterances containing combinations of *geen* and an ordinary indefinite, we find that utterances containing combinations of *geen* and an ordinary indefinite are even less acceptable than negative indefinite combinations with *geen*. Specifically, utterances containing *geen* and an ordinary indefinite have a significantly lower mean acceptability than utterances containing negative indefinite combinations with *geen* (p = .02). This is illustrated in Figure 5.13.

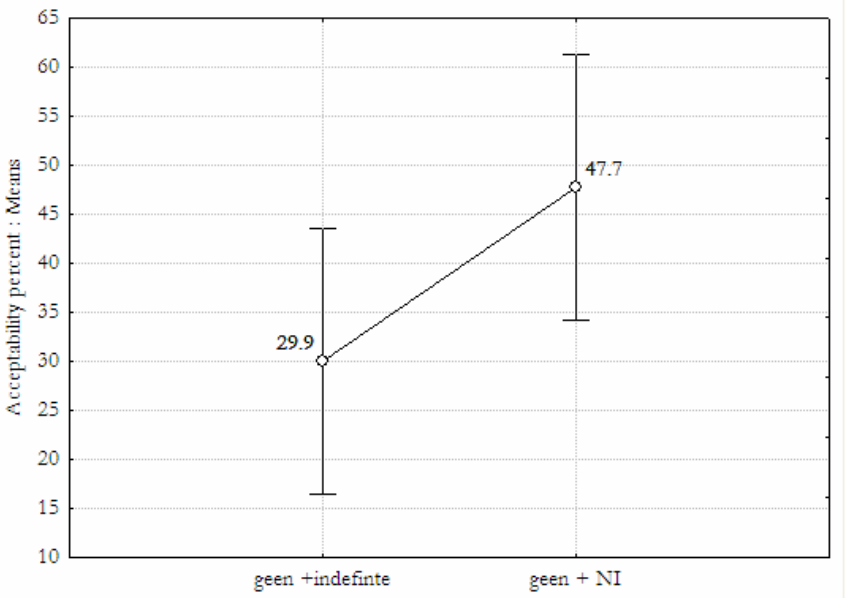

Figure 5.17: Acceptability means – NI combinations with *geen* vs. *geen* + indefinite combinations

In Figure 5.17, the mean acceptability for utterances containing negative indefinite combinations with *geen* is 47.7%, while the mean acceptability for utterances containing combinations of *geen* and an ordinary indefinite is 29.9%. The error bars represent 95% confidence intervals.

What is very clear from these results is that utterances containing combinations of *g'n* or *geen* and an ordinary indefinite are far less acceptable than utterances containing a negative indefinite and an

ordinary indefinite. In fact they can be considered unacceptable in Afrikaans. This is a completely different result from that attained with the comparison of utterances containing multiple negative indefinite combinations and utterances containing a negative indefinite and an ordinary indefinite. A summary of the results of the acceptability judgements discussed in this section is given in Figure 5.18.

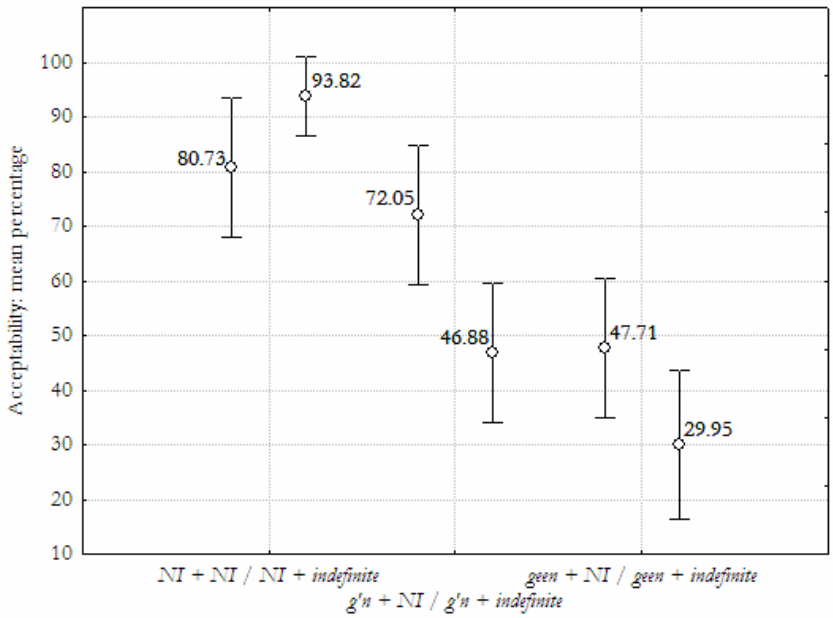

Figure 5.18: Acceptability means – NI combinations

The graph in Figure 5.18 shows the different acceptability means for the various possible combinations of negative indefinites and ordinary indefinites. What is clear from this graph is that combinations of negative indefinites and ordinary indefinites are by far the most acceptable combinations, as they should be, being the standard Afrikaans form for realising multiple indefinites in the scope of negation. The most significant observation, for the present study, is that multiple negative indefinite combinations and negative indefinite combinations with *g'n* are largely acceptable in (spoken) Afrikaans. In contrast, negative indefinite combinations with *geen* can be considered to be largely unacceptable in Afrikaans. This observation will play a crucial role in Chapter 7 in

distinguishing between negative indefinite combinations with *g'n* and negative indefinite combinations with *geen*. Finally, combinations of *g'n* and *geen* with ordinary indefinites are also largely unacceptable in Afrikaans. As with the distinction between negative indefinite combinations with *g'n* and negative indefinite combinations with *geen*, this last observation will also play an important role in Chapter 7 in that it will allow us to distinguish between multiple negative indefinite combinations and negative indefinite combinations with *g'n* and *geen*.

5.4.2 Results: meaning judgements

In this section I first examine the results of the meaning judgements for all relevant utterances (i.e. utterances containing multiple negative indefinite combinations, and utterances containing negative indefinite combinations with *g'n* and *geen*) from both versions of the perception experiment, produced with either a neutral, or NC, prosodic contour, or a DN prosodic contour. This will allow me, firstly, to determine whether prosodic contour, i.e. whether utterances were produced with a neutral (i.e. NC) or a DN prosodic contour, had an effect on meaning judgements. Secondly, I will be able to determine whether there was a difference in participants' judgements of the meaning of the relevant utterances between the two versions of the perception experiment. This will be followed by a discussion of the results of the meaning judgements of utterances containing multiple negative indefinite combinations, produced with both an NC and a DN prosodic contour, and of the results of the meaning judgements of utterances containing negative indefinite combinations with *g'n* and *geen*.

As noted in section 5.3.1, the prosodic contour needed to elicit DN interpretations of multiple negative indefinite combinations is a very specific one, essential for the accurate interpretation of DN multiple negative indefinite combinations. And, as discussed in the introduction to section 5.3, subsequent examination of the test instrument called into question whether the speaker who produced the test items for the first perception experiment did in fact produce a clear enough prosodic contour, or even the correct prosodic contour, for (some of) the DN readings. In order to determine whether a more precise, or consistent, prosodic contour could elicit better results the experiment was re-run with a second female postgraduate research assistant reading the items.

This time greater care was taken to ensure that the DN prosody was as accurate as possible.

Statistical tests were run to determine, firstly, whether there was a difference between the percentage of correct meaning judgements of utterances produced with a neutral, or NC, prosodic contour and those produced with a DN prosodic contour, and secondly, whether there was a difference between the percentage of correct meaning judgements in the first version of the perception experiment and the second version of the perception experiment. The results of these tests are given in Figure 5.19.

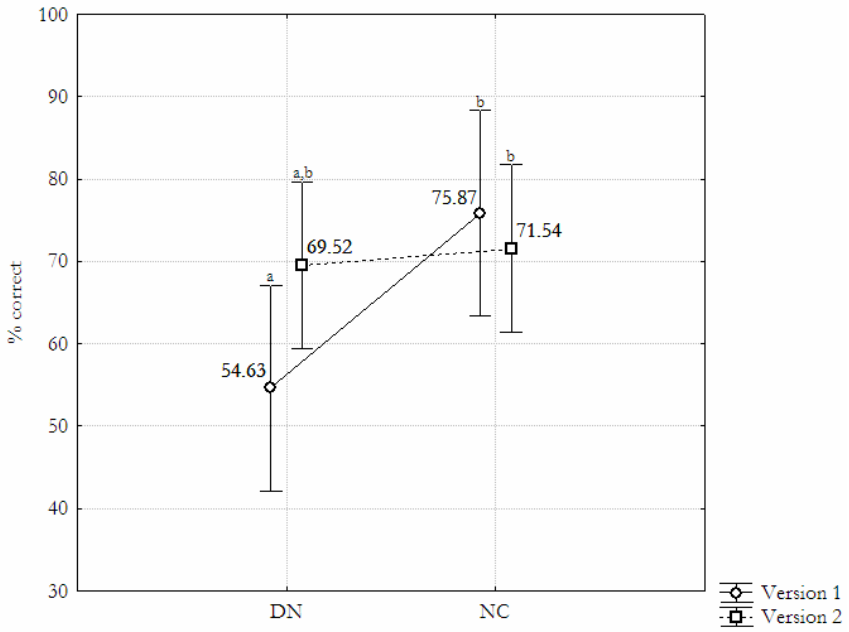

Figure 5.19: Percentage correct – meaning judgements of NC vs. DN utterances*

*Note. Letters indicate significant differences on a 5% ($p<0.05$) significance level.

In Figure 5.19 the circle points represent the results of the first version of the perception experiment, while the square points represent the results of the second version of the perception experiment. Results that show no statistically significant difference are marked with the same

letter (*a* or *b*), while results that show a significant difference are marked with different letter (*a* or *b*). We can see from this graph that in the first version of the perception experiment, participants were statistically more accurate at identifying the correct interpretation of utterances produced with a neutral, or NC, prosodic contour, than they were at identifying the correct interpretation of utterances produced with a DN prosodic contour. Furthermore, we can see that there was a visible improvement in the accuracy of participants in identifying the correct interpretation for utterances produced with a DN prosodic contour in the second version of the perception experiment, although this difference was not statistically significant. Interestingly, the improvement in the accuracy of participants at identifying correct DN interpretations in the second version of the perception experiment meant that there was no statistically significant difference between the accuracy of participants in identifying the correct interpretation for utterances produced with a DN prosodic contour and their accuracy in identifying the correct interpretation for utterances produced with a neutral, or NC, prosodic contour. This shows that the improvement in the production of the DN prosodic contour in the second version of the perception experiment did have a significant effect on the correct interpretation of DN utterances.

Let us now examine the results for the meaning judgements of utterances containing multiple negative indefinite combinations. These results will play a crucial role in Chapter 6 in support of the observations from the corpus study. As noted in the introduction to this section, section 5.4, the statistical asymmetries observed in the perception experiment data will inform the stochastic (overlapping) constraint ranking which (partially) determines the interpretation of multiple negative indefinite combinations in the bidirectional stochastic OT analysis proposed in Chapter 6. Table 5.6 provides the frequencies for the assignment of NC and DN interpretations to the utterances produced with neutral, or NC, prosody in the first version of the perception experiment. Statistical tests show that there is a clear difference between the occurrence of NC and DN interpretations ($\chi 2 = 98.67$; $df = 1$; $p < 0.001$).

Frequencies for MNIs with NC prosody	No. of occurrences	Percentage of total
NC interpretation	185	83 %
DN interpretation	37	17 %
Total	222	100 %

Table 5.6: Frequencies for MNI combinations with NC prosody

If we examine the specific results, given in Table 5.7, we can see that all fourteen utterances containing multiple negative indefinites produced with an NC, or neutral, prosody were accurately identified as having an NC interpretation by the majority of the participants. In fact, two utterances, utterances 1 and 5, were given an NC interpretation by all the participants. Only one utterance, utterance 9, was given an NC interpretation by less than 75% of the participants. One participant failed to identify a meaning for utterance 12, while one participant indicated that neither of the meanings (single or double negation) provided for utterance 4 were appropriate. This clearly illustrates that interpreting multiple negative indefinites with NC, or neutral, prosody is largely unproblematic.

With regard to the results in Table 5.7, statistical tests show that there is a main effect of NC versus DN, with utterances on average being interpreted more frequently as NC ($\chi 2 = 105.5$; $df = 1$; $p < .001$). Neither an effect of utterance, ($\chi 2 = 0.1$; $df = 13$; $p = 1.00$), nor an interaction effect between utterance and interpretation in terms of NC or DN can be shown ($\chi 2 = 13.59$; $df = 13$; $p = 0.40$).

Item no.	Utterance	NC		DN	
		N	%	N	%
1	*Hy vra vir niemand niks nie* he asks for nobody nothing SN	16	100%	0	0%
2	*Ek weet dat niemand niks gesê het nie* I know that nobody nothing said had SN	14	88%	2	13%
3	*Ek het niemand nooit daar sien loop nie* I have nobody never there seen walk SN	12	75%	4	25%
4*	*Hy het gesê dat ons niemand nêrens sal vind nie* he has said that we nobody nowhere will find SN	13	81%	2	13%
5	*Sy steek niks vir niemand weg nie* she hides nothing for nobody away SN	16	100%	0	0%
6	*Die speurder het niks nooit daar gevind nie* the detective has nothing never there found SN	13	81%	3	19%
7	*Ek het niks nêrens gekoop nie* I have nothing nowhere bought SN	12	75%	4	25%
8	*Jy het nooit vir niemand omgegee nie* you have never for nobody cared SN	14	88%	2	13%
9	*Hulle het nooit niemand daar gekry nie* they have never nobody there found SN	10	63%	6	38%
10	*Ouma het nooit niks gevra nie* grandma has never nothing asked SN	14	88%	2	13%
11	*Die kinders het nooit nêrens gegaan nie* the children have never nowhere gone SN	13	81%	3	19%
12*	*Die Skerpioene het nêrens niks gevind nie* the scorpions have nowhere nothing found SN	12	75%	3	19%
13	*Die man beweer dat daar nêrens niemand was nie* the man alleges that there nowhere nobody was SN	14	88%	2	13%
14	*In die woestyn is daar nêrens nooit 'n blom of 'n blaar nie* in the desert is there nowhere never a flower or a leaf SN	12	75%	4	25%

Table 5.7: Interpretation of utterances produced with NC, or neutral, prosody

*Note. One participant considered neither the NC nor the DN interpretation appropriate for item 4; while one participant did not provide an answer for item 12.

The percentages in Table 5.6 and Table 5.7 clearly illustrate that interpreting multiple negative indefinites with neutral, or NC, prosody is largely unproblematic. However, although there is a clear preference for NC interpretations of multiple negative indefinite combinations, some of these utterances are still assigned DN interpretations by some of the participants.

If we examine the frequencies for the assignment of NC and DN interpretations to the utterances produced with DN prosody, given in Table 5.8 below, we can see that it was much more difficult to elicit DN interpretations of multiple negative indefinite constructions in the first perception experiment than NC interpretations. Here there is an almost equal split between NC and DN interpretations. In this case no difference can be assessed between both types of interpretation ($\chi 2 = 0.07$; df = 1; p = 0.79).

Frequencies for MNIs with DN prosody	No. of occurrences	Percentage of total
NC interpretation	113	51%
DN interpretation	109	49%
Total	222	100%

Table 5.8: Frequencies for MNI combinations with DN prosody

Even though the results of the perception experiment are not as clear-cut for the DN utterances as they are for the NC utterances, there is a clear difference between the interpretations of utterances produced with a DN prosody and the interpretations of NC utterances. Statistical tests showed that NC vs. DN prosodic contour did indeed have a significant effect on the correct interpretation of the relevant utterances ($p < .01$). In fact if we exclude the three participants who had a clear bias towards NC interpretations (not selecting a DN interpretation for any of the utterances) we end up with a 60/40 split in favour of the DN interpretation for utterances produced with a DN prosody. In this case the occurrence of NC and DN interpretations differs significantly ($\chi 2 = 6.77$; df = 1; p = 0.009). Figure 5.20 below shows the percentage of correct meaning judgements for the interpretation of multiple negative indefinite combinations produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the first version of the perception experiment, excluding the three biased participants.

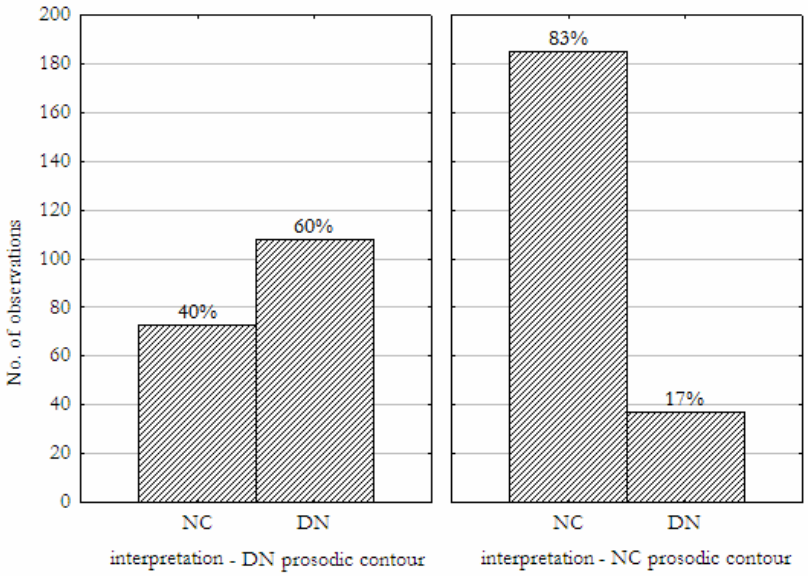

Figure 5.20: Percentage correct – meaning judgements of MNI combinations (1st experiment)[45]

If we examine the actual results for the fourteen utterances produced with DN prosody, given in Table 5.9 below, we can see that only one utterance, utterance 28, was accurately identified by more than 90% of the participants as having a DN interpretation, with none of the utterances being given a DN interpretation by all the participants. Seven of the other utterances, utterances 16, 20 and 22 – 26, were accurately identified as having a DN interpretation by more than 60% of the participants. Furthermore, two utterances, utterances 21 and 27, were split nearly 50/50 as regards interpretation, while four utterances, utterances 15 and 17 – 19, were actually identified by the majority of participants as having an NC interpretation, although in the case of utterances 15 and 17 the split is closer to 50/50.

With regard to the results in Table 5.9, statistical tests show that there is a main effect of the distinction between NC and DN interpretation ($\chi 2 = 10.02$; df = 1; p = 0.002). Furthermore, there is an interaction between

[45] The first graph in Figure 5.20 excludes three participants who had a clear bias towards NC interpretations (not selecting a DN interpretation for any of the utterances).

utterance and interpretation ($\chi 2 = 41.68$; df = 13; $p < 0.001$), with utterances 4 and 5 being given an NC interpretation much more frequently in comparison to the other utterances.

Item no.	Utterance	NC		DN	
		N	%	N	%
1	*Hy vra vir niemand niks nie* he asks for nobody nothing SN	7	54%	6	46%
2	*Ek weet dat niemand niks gesê het nie* I know that nobody nothing said had SN	4	31%	9	69%
3	*Ek het niemand nooit daar sien loop nie* I have nobody never there seen walk SN	7	54%	6	46%
4	*Hy het gesê dat ons niemand nêrens sal vind nie* he has said that we nobody nowhere will find SN	11	85%	2	15%
5	*Sy steek niks vir niemand weg nie* she hides nothing for nobody away SN	10	77%	3	23%
6	*Die speurder het niks nooit daar gevind nie* the detective has nothing never there found SN	5	39%	8	62%
7	*Ek het niks nêrens gekoop nie* I have nothing nowhere bought SN	6	46%	7	54%
8	*Jy het nooit vir niemand omgegee nie* you have never for nobody cared SN	5	39%	8	62%
9*	*Hulle het nooit niemand daar gekry nie* they have never nobody there found SN	2	15%	10	77%
10	*Ouma het nooit niks gevra nie* grandma has never nothing asked SN	3	23%	10	77%
11	*Die kinders het nooit nêrens gegaan nie* the children have never nowhere gone SN	3	23%	10	77%
12*	*Die Skerpioene het nêrens niks gevind nie* the scorpions have nowhere nothing found SN	3	23%	10	77%
13	*Die man beweer dat daar nêrens niemand was nie* the man alleges that there nowhere nobody was SN	6	46%	7	54%
14	*In die woestyn is daar nêrens nooit 'n blom of 'n blaar nie* in the desert is there nowhere never a flower or a leaf SN	1	8%	12	92%

Table 5.9: Interpretation of utterances produced with DN prosody

*Note. One participant did not provide an answer for item 9[46].

[46] The results in Table 6.7 exclude three participants who only chose NC interpretations for all the utterances presented in the questionnaire as a whole, as they were considered unreliable for the evaluation of DN constructions.

The second version of the perception experiment was run in order to determine whether a more accurate DN prosodic contour would elicit more accurate meaning judgements from participants. Figure 5.21 below shows the percentage of correct meaning judgements for the interpretation of multiple negative indefinite combinations produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the second version of the perception experiment. We can see that now there is an almost 70/30 split in favour of the DN interpretation for utterances produced with a DN prosody. Statistical tests show that with regard to utterances produced with a DN prosody there is a clear difference between the number of occurrences of NC versus DN interpretations ($\chi 2 = 30.81$; $df = 1$; $p < 0.001$). In terms of utterances produced with a neutral, or NC, prosodic contour, the results are the same as those from the first perception experiment, with an 80/20 split in favour of the NC interpretation.

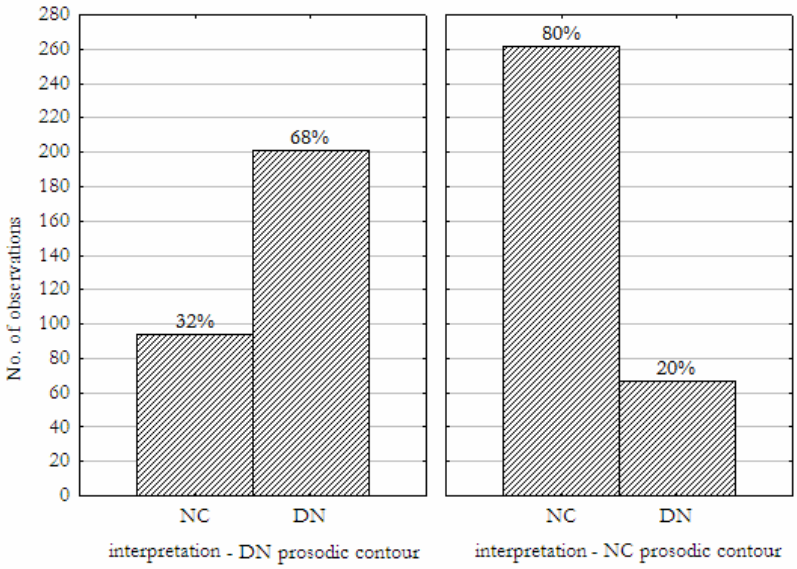

Figure 5.21: Percentage correct – meaning judgements of MNI combinations (2nd experiment)[47]

[47] The first graph in Figure 5.21 excludes two participants who had a clear bias towards NC interpretations (not selecting a DN interpretation for any of the utterances).

These results mirror the evidence presented in Figure 5.19 that participants were more accurate in identifying the correct interpretation for utterances produced with a DN prosodic contour in the second version of the perception experiment. The actual results for the fourteen utterances produced with DN prosody are given in Table 5.10.

Item no.	Utterance	NC		DN	
		N	%	N	%
1*	*Hy vra vir niemand niks nie* he asks for nobody nothing SN	9	41%	12	55%
2*	*Ek weet dat niemand niks gesê het nie* I know that nobody nothing said had SN	14	64%	7	32%
3	*Ek het niemand nooit daar sien loop nie* I have nobody never there seen walk SN	6	27%	16	73%
4*	*Hy het gesê dat ons niemand nêrens sal vind nie* he has said that we nobody nowhere will find SN	6	27%	12	55%
5*	*Sy steek niks vir niemand weg nie* she hides nothing for nobody away SN	13	59%	8	36%
6	*Die speurder het niks nooit daar gevind nie* the detective has nothing never there found SN	9	41%	12	55%
7	*Ek het niks nêrens gekoop nie* I have nothing nowhere bought SN	13	59%	7	32%
8	*Jy het nooit vir niemand omgegee nie* you have never for nobody cared SN	4	18%	17	77%
9	*Hulle het nooit niemand daar gekry nie* they have never nobody there found SN	3	14%	19	86%
10	*Ouma het nooit niks gevra nie* grandma has never nothing asked SN	2	9%	20	91%
11	*Die kinders het nooit nêrens gegaan nie* the children have never nowhere gone SN	2	9%	19	86%
12*	*Die Skerpioene het nêrens niks gevind nie* the scorpions have nowhere nothing found SN	4	18%	18	82%
13	*Die man beweer dat daar nêrens niemand was nie* the man alleges that there nowhere nobody was SN	7	32%	14	64%
14	*In die woestyn is daar nêrens nooit 'n blom of 'n blaar nie* in the desert is there nowhere never a flower or a leaf SN	2	9%	20	91%

Table 5.10: Interpretation of utterances produced with DN prosody (second experiment)

*Note. One participant did not provide an answer for items 1, 2 & 4; while three participants considered neither the NC nor the DN interpretation appropriate for item

4, two participants considered neither the NC nor the DN interpretation appropriate for item 7 and one participant considered neither the NC nor the DN interpretation appropriate for items 5, 6, 8, 11 & 13[48].

If we examine these results, we can see that the percentages assigned to the DN interpretations are generally higher for the majority of the utterances than in the first experiment (Table 5.9). In the second experiment utterances 10 and 14 were accurately identified by more than 90% of the participants as having a DN interpretation, while nine of the utterances were accurately identified as having a DN interpretation by more than 50% of the participants. Statistical tests show that there is a main effect between NC and DN interpretations ($\chi 2 = 34.23$; $df = 1$; $p < 0.001$). While there is no main effect of utterance ($\chi 2 = 3.85$; $df = 13$; $p = 0.99$), there is an interaction between utterance and interpretation ($\chi 2 = 59.41$; $df = 13$; $p < 0.001$), with utterances 2 and 5 showing significantly more NC interpretations that the other utterances. Interestingly, utterance 2 was identified by the majority of participants as having a DN interpretation in the first experiment.

Let us now examine the meaning judgement results for the utterances containing negative indefinite combinations with *g'n* and *geen*. As pointed out in the introduction to this section, section 5.4, these results do not form an integral part of the analyses presented in this dissertation and so they will only be briefly discussed, for the sake of completeness. Figure 5.22 below shows the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *g'n* produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the first version of the perception experiment.

[48] The results in Table 6.9 exclude two participants who only chose NC interpretations for all the utterances presented in the questionnaire as a whole.

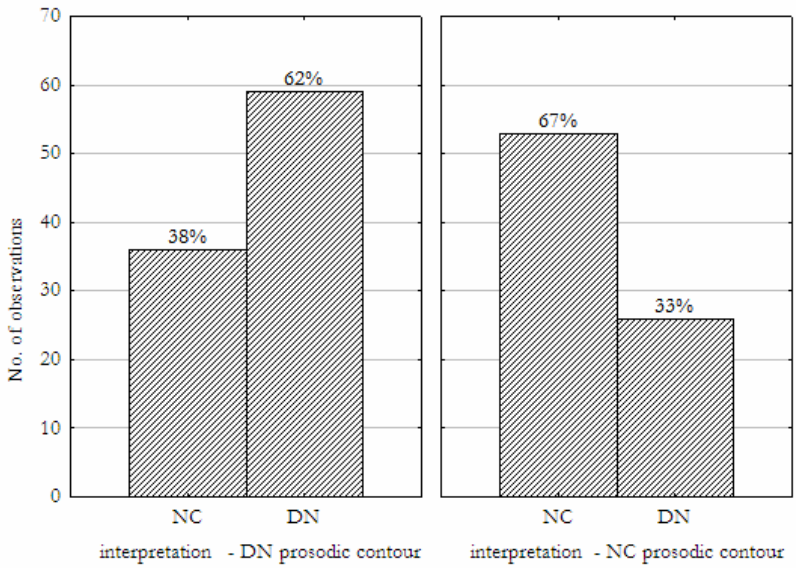

Figure 5.22: Percentage correct – meaning judgements of NI combinations with *g'n* (1st experiment)[49]

From the graphs in Figure 5.22 we can see that there is an approximate 60/40 split in favour of the DN interpretation for utterances produced with a DN prosodic contour, and an approximate 70/30 split in favour of the NC interpretation for utterances produced with an NC prosody. These results show that while participants were less accurate in identifying the correct interpretation for negative indefinite combinations with *g'n* produced with an NC prosody than they were for multiple negative indefinite combinations in the first perception experiment (cf. Table 5.6), the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *g'n* produced with a DN prosodic contour is much the same as that observed for the interpretation of multiple negative indefinite combinations in the first version of the perception experiment, excluding the biased participants (cf. Figure 5.20).

[49] The second graph in Figure 5.22 excludes one NC utterance produced with an incorrect prosodic contour. Specifically, the speaker in the first perception experiment produced a DN prosodic contour, with a H* nuclear pitch accent on *g'n*, rather than the neutral, NC prosodic contour with the H* nuclear pitch accent on the negative indefinite following the *g'n* (cf. section 55.3.1).

Figure 5.23 below shows the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *g'n* produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the second version of the perception experiment.

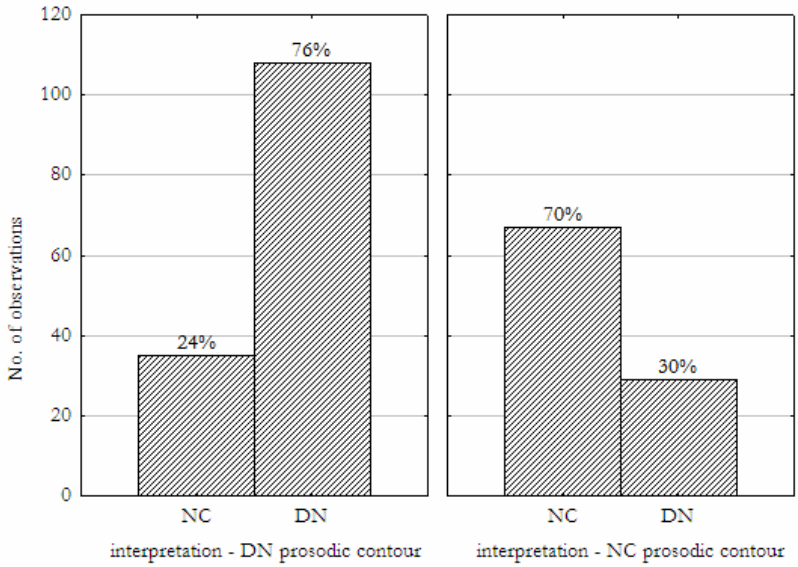

Figure 5.23: Percentage correct – meaning judgements of NI combinations with *g'n* (2nd experiment)[50]

As with the results for the utterances containing multiple negative indefinites (cf. Figure 5.21), these results are consistent with the conclusion that participants were more accurate in identifying the correct interpretation for utterances produced with a DN prosodic contour in the second version of the perception experiment. From the graphs in Figure 5.23 we can see that there is now an approximate 75/25 split in favour of the DN interpretation for utterances produced with a DN prosodic contour. The interpretation of utterances produced with an NC

[50] The second graph in Figure 5.23 excludes two NC utterances produced with an incorrect prosodic contour. Specifically, the speaker in the second perception experiment produced a DN prosodic contour, with a H* nuclear pitch accent on *g'n*, rather than the neutral, NC prosodic contour with the H* nuclear pitch accent on the negative indefinite following the *g'n* (cf. section 55.3.1).

prosody remains the same as in the first version of the experiment, with a 70/30 split in favour of the NC interpretation.

With regard to the interpretation of utterances containing negative indefinite combinations with *geen*, Figure 5.24 below shows the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *geen* produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the first version of the perception experiment.

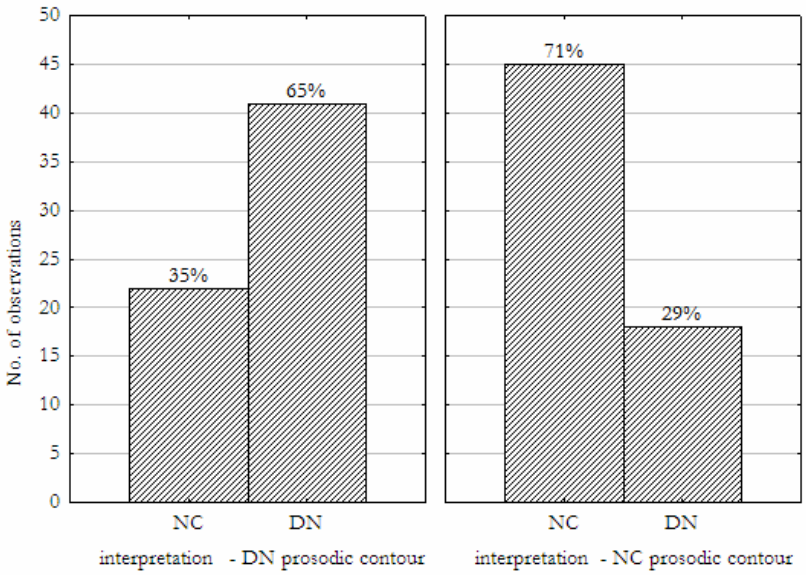

Figure 5.24: Percentage correct – meaning judgements of NI combinations with *geen* (1st experiment)

These results clearly show participants' preference for the NC interpretation of negative indefinite combinations with *geen* produced with a NC prosodic contour, with an approximate 70/30 split in favour of the NC interpretation, as well as their preference for the DN interpretation of negative indefinite combinations with *geen* produced with a DN prosodic contour, albeit with a 65/35 split in favour of a DN interpretation.

Figure 5.25 below shows the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *geen* produced with a DN prosodic contour, and a neutral, or NC, prosodic contour in the second version of the perception experiment.

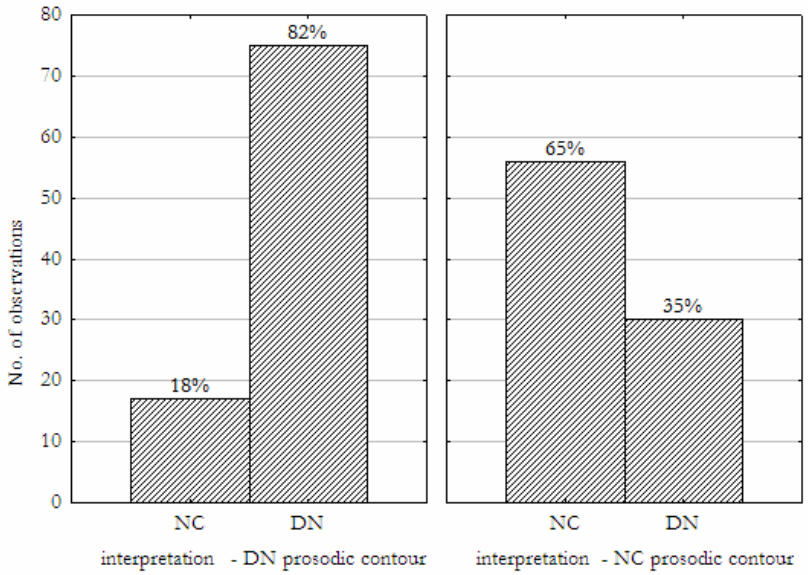

Figure 5.25: Percentage correct – meaning judgements of NI combinations with *geen* (2nd experiment)

We can see that now there is an approximate 80/20 split in favour of the DN interpretation for utterances produced with a DN prosody. Interestingly, however, the percentage of correct meaning judgements for the interpretation of negative indefinite combinations with *geen* produced with a neutral, or NC, prosodic contour in the second version of the perception experiment is slightly less than it was in the first version of the experiment. These results show that, as with the meaning judgement results for multiple negative indefinite combinations and negative indefinite combinations with *g'n*, more participants correctly identified a DN meaning for the utterances produced with a DN prosodic contour in the second perception experiment than in the first perception experiment. Of course is it questionable whether the meaning judgement results of negative indefinite combinations with *geen* should even be considered, taking into account the fact that these combinations

are judged largely unacceptable by native speakers of Afrikaans, cf. section 5.4.1.

5.4.3 Concluding remarks

In this section I examined the results of the perception experiment undertaken to obtain acceptability and meaning judgements of spoken utterances containing negative indefinite combinations. These results will be used in the analyses presented in Chapters six and seven, to supplement and support the observations from the corpus study.

Firstly, the results of the acceptability judgments show that multiple negative indefinite combinations and negative indefinite combinations with *g'n* are generally acceptable to Afrikaans native speakers, when presented as auditory stimuli. However, it was shown that multiple negative indefinite combinations are still less acceptable than the standard form for expressing multiple indefinites in the scope of negation, i.e. with a negative indefinite and one or more ordinary indefinite. The results showed further that negative indefinite combinations with *geen* are generally unacceptable to native speakers of Afrikaans. Interestingly, whereas the standard Afrikaans form for realising multiple indefinites in the scope of negation was clearly more acceptable than the colloquial multiple negative indefinite combinations, the combinations of *g'n* (and *geen*) with ordinary indefinites were significantly less acceptable than the negative indefinite combinations with *g'n* (and *geen*).

These results provide a strong motivation for developing analyses to account for the occurrence, in colloquial Afrikaans, of multiple negative indefinite combinations, and of negative indefinite combinations with *g'n*. The analysis of multiple negative indefinite combinations will be presented in Chapter 6, with the analysis of negative indefinite combinations with *g'n* presented in Chapter 7.

Secondly, the results of the meaning judgements of utterances containing multiple negative indefinite combinations, negative indefinite combinations with *g'n*, and negative indefinite combinations with *geen* show that participants have a definite preference for NC interpretations of negative indefinite combinations when produced with a neutral, or

NC, prosodic contour. These results also show that it is possible to elicit DN interpretations of negative indefinite combinations when they are produced with a specific DN prosodic contour. However, what these results indicate, further, is that this DN prosodic contour must be precise for the accurate interpretation of DN multiple negative indefinite combinations and that when this prosodic contour is missing, or unclear, the default interpretation for multiple negative indefinites is an NC interpretation.

From the results of the meaning judgments it is evident that the interpretation of multiple negative indefinite combinations produced with a neutral, or NC, prosodic contour, displays a statistical asymmetry, with a 80/20 split in favour of the NC interpretation. This statistical asymmetry will be used to inform the stochastic (overlapping) constraint ranking which (partially) determines the interpretation of multiple negative indefinite combinations in the bidirectional stochastic OT analysis proposed in Chapter 6.

As noted in section 5.3.1, studies are generally in agreement that naïve listeners can reliably use prosody to disambiguate structurally ambiguous sentences. The results of the meaning judgments discussed in section 5.4.2, show that this is true in the case of semantic ambiguity, i.e. the interpretation of negative indefinite combinations, only to a certain extent. The perception experiment showed that participants were not always able to use the DN prosodic cues to disambiguate the intended DN meaning of an utterance containing multiple negative indefinites, presented out of context. Furthermore, the results show that more participants correctly identified a DN meaning for the utterances produced with a DN prosodic contour in the second perception experiment than in the first perception experiment. It is assumed that this is due to the speaker producing a more precise DN prosodic contour in the second experiment. That the speaker in the second experiment was more successful than the speaker in the first experiment calls into question whether native speakers do in fact always produce an accurate DN prosody for DN meanings. For this reason a production experiment to determine how reliably native speakers of Afrikaans produce disambiguating prosodic cues for sentences containing multiple negative indefinite combinations with DN interpretations was undertaken. This experiment will be discussed in the next section.

5.5 Production experiment

Despite there being evidence that naïve listeners are highly accurate at disambiguating syntactically ambiguous utterances in the presence of prosodic cues (Price et al. 1991; Misono et al. 1997; Schafer et al. 2000; Kraljic & Brennan 2005), the results from the perception experiment show that when it comes to the disambiguation of utterances containing negative indefinite combinations, i.e. semantically ambiguous utterances, listeners are not always able to accurately identify the meaning of an utterance out of context, even when prosodic cues are available. In order to explore whether naïve speakers do in fact, themselves, produce disambiguating prosodic cues for multiple negative indefinite combinations, specifically those with a DN meaning, in everyday contextualised speech, a production experiment was undertaken. This experiment aimed to determine how reliably native speakers of Afrikaans produce disambiguating prosodic cues for sentences containing multiple negative indefinite combinations with a DN interpretation.

As noted in section 5.3.1, researchers are divided on the extent and effectiveness of the use of prosody in utterance disambiguation. Specifically, there is no consensus on the extent to which naïve speakers use prosodic cues to signal the intended interpretation of a structurally ambiguous utterance. On the one hand, studies by Allbritton et al. (1996) and Snedeker & Trueswell (2003) found that naïve speakers do not reliably and spontaneously signal syntactic structure prosodically, although Snedeker & Trueswell note that when the context does not strongly support the intended meaning, or when speakers become aware of the potential for ambiguity, they may produce reliable prosodic cues. On the other hand, studies by Schafer et al (2000) and Kraljic & Brennan (2005) have shown that speakers do in fact spontaneously mark the structure of syntactically ambiguous utterances using prosody, even when referential context supports only one interpretation. However, it is questionable, taking into account the results of the perception experiment, whether naïve speakers of Afrikaans will in fact use prosodic cues to signal the intended interpretation of an utterance containing multiple negative indefinites that would be semantically ambiguous out of context.

5.5.1 Participants

The participants in the production experiment were twenty postgraduate and undergraduate students who were (or had been in the past) registered for either General Linguistics or Afrikaans and Dutch at Stellenbosch University. All participants were native speakers of Afrikaans and ranged in age from 18 to 25 years old. Sixteen of the participants were participants from the first version of the perception experiment.

5.5.2 Design of the experiment

Two hour-long appointments were scheduled with each participant, during which recordings were made of each participant reading a number of sentences containing multiple negative indefinite combinations. Each sentence was embedded in a disambiguating context, which was read along with the target sentence, and sufficient distractor contexts were also constructed for counterbalancing. Some of these contexts were taken from newspaper articles (found as a result of the corpus study), while others were constructed specifically for the experiment. In total one hundred and six paragraphs were constructed, with fifty-three being read at each session. Thirty-eight of the paragraphs contained sentences with multiple negative indefinite combinations, half with an NC interpretation and half with a DN interpretation. Of these thirty-eight sentences, eight contained negative indefinite combinations with *g'n* and six contained negative indefinite combinations with *geen*.

Participants were seated in front of a computer screen and the experiment was administered using PowerPoint. Each paragraph was presented on an individual slide and participants were instructed to read the paragraph to themselves, before reading it out loud for the recording. Once the paragraph had been read out loud and recorded, the participant clicked on to the next slide, which presented a new paragraph. An example of a paragraph containing a multiple negative indefinite combination with an NC interpretation in a disambiguating context is presented in (5.21), while (5.22) presents a paragraph containing a multiple negative indefinite combination with a DN interpretation in a disambiguating context.

(5.21) *Rassie Erasmus, kaptein van die Katte, het op 'n vraag oor die voorval geantwoord dat niemand niks oor die voorval sou gesê het nie indien Mulder in 'n Springbok-trui was. Maar provinsialisme vloei dik in SA rugby en die Kapenaars is nou ontsteld omdat hul pak gekry het.*
"Rassie Erasmus, captain of the Cats, answered a question about the incident, saying that nobody would have said anything about the incident if Mulder had been in a Springbok jersey. But provincialism runs deep in SA rugby and the Capetonians are now upset because they were given a hiding."
(Rapport 2001-02-25)

(5.22) *Ek het nog nooit niks gesien nie. Selfs nie in die Kalahari ná 'n verwoestende veldbrand waar die laaste grasspriet en rosyntjiebos afgebrand het nie. Selfs dan, my lieve mens, is daar iéts.*
"I have never seen nothing. Not even in the Kalahari after a destructive bush fire has burnt up the last blade of grass and little raisin bush. Even then, my dear, there is something."
(Landbouweekblad 2005-07-22)

Once the recording sessions were completed the relevant sentences containing the negative indefinite combinations were extracted from the contexts in which they occurred. In total there were two hundred and thirty-four instances of sentences containing multiple negative indefinite combinations presented in an NC context, two hundred and thirty-three instances of sentences containing multiple negative indefinite combinations presented in a DN context, seventy-eight instances of sentences containing negative indefinite combinations with *g'n* presented in an NC context, seventy-six instances of sentences containing negative indefinite combinations with *g'n* presented in a DN context, fifty-eight instances of sentences containing negative indefinite combinations with *geen* presented in an NC context, and fifty-seven instances of sentences containing negative indefinite combinations with *geen* presented in a DN context.

In order to analyse the prosodic contours of the various sentences with multiple negative indefinite combinations the relevant sentences were each examined using PRAAT to determine the prosodic contour used for each sentence by each participant, following the ToBI guidelines.

The results of these prosodic analyses are presented in the following section, section 5.5.3.

5.5.3 Results of the prosodic analyses

The results of the perception experiment, discussed in 5.4.2, show that native speakers of Afrikaans are reasonably accurate in identifying the correct interpretation of utterances containing negative indefinite combinations produced with a neutral prosodic contour. For this reason it was expected that participants in the production experiment would produce sentences, in a context that resulted in an NC interpretation, with a neutral prosodic contour. This was confirmed by the prosodic analyses of the three hundred and seventy utterances containing negative indefinite combinations presented in a NC context. With the exception of three sentences containing multiple negative indefinite combinations which were read with an approximate DN prosodic contour, all the sentences presented in NC contexts were read with a neutral, or NC, prosodic contour. Figure 5.26 provides an example of a prosodic analysis undertaken for the utterance in (5.23), showing a clear neutral, or NC, prosodic contour (H* L-L%), cf. section 5.3.1.

(5.23) *Jy het nog nooit vir niemand omgegee nie*
you have yet never for nobody cared SN
"You have never cared about anybody."

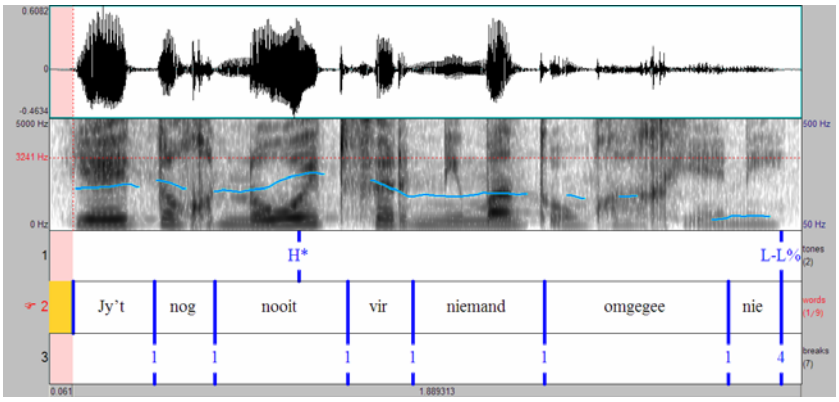

Figure 5.26: Prosodic contour for representative NC utterance (participant 4)

Table 5.11 below presents the frequencies for sentences, presented in an NC context, produced with a neutral (NC) or a DN prosodic contour.

Frequencies for sentences produced with NC prosody	No. of sentences	No. with correct prosody	% of total
MNI combinations (NC interpretation)	234	231	99%
NI combinations with g'n *(NC interpretation)*	78	78	100%
NI combinations with geen *(NC interpretation)*	58	58	100%
Total	370	367	99%

Table 5.11: Frequencies for NC sentences produced with neutral (NC) prosody

When it came to the sentences presented in DN contexts, however, the results were less clear-cut. Table 5.12 presents the frequencies for sentences, presented in a DN context, produced with a neutral (NC) or a DN prosodic contour.

Frequencies for sentences produced with DN prosody	No. of sentences[51]	No. with correct prosody	% of total
MNI combinations (DN interpretation)	233	49	21%
NI combinations with g'n *(DN interpretation)*	76	43	57%
NI combinations with geen *(DN interpretation)*	57	18	32%
Total	366	110	30%

Table 5.12: Frequencies for DN sentences produced with DN prosody

[51] The total number of sentences differs between Table 5.8 and Table 5.9 as a result of some sentences not being read accurately by some participants.

We can see from the figures in Table 5.12 that, firstly, only forty-nine of the sentences containing multiple negative indefinite combinations presented in a DN context were read with a clear DN prosodic contour, which equates to 21% of the total number of sentences containing multiple negative indefinite combinations presented in a DN context, while only eighteen of the sentences containing negative indefinite combinations with *geen* presented in a DN context were read with a clear DN prosodic contour (32%). The results for sentences containing negative indefinite combinations with *g'n* presented in a DN context were better, however, with forty-three of the sentences being read with a DN prosodic contour (57%). So in total only 30% of sentences containing negative indefinite combinations presented in a DN context were read with the correct, DN, prosodic contour.

Figure 5.27 provides an example of a prosodic analysis undertaken for the utterance in (5.24), showing a clear DN prosodic contour (H* L* L-H%), cf. section 5.3.1. This utterance was read by participant 16.

(5.24) *Maar hy het nooit nêrens gegaan nie*
but he has never nowhere gone SN
"But he hasn't ever gone nowhere." (= He has gone somewhere)

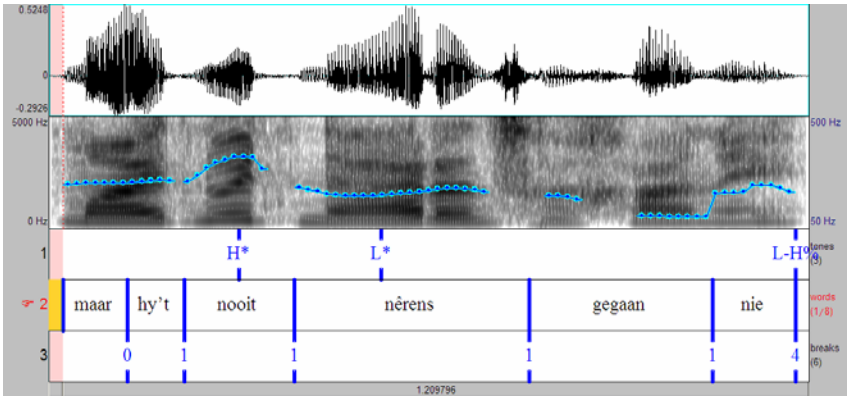

Figure 5.27: Prosodic contour for representative DN utterance

On examining the individual results it was found that, while no participant failed to read at least one sentence with a correct DN prosodic contour, no participant read every sentence with a DN prosodic contour. Table 5.13 presents a summary of the individual

results for the production of sentences containing negative indefinite combinations presented in a DN context.

Part	MNI (DN context)		*g'n* + NI (DN context)		*geen* + NI (DN context)		Total
	N (N_T)[52]	% correct	N (N_T)	% correct	N (N_T)	% correct	
01	0 (11)	0%	3 (4)	75%	0 (2)	0%	18%
02	1 (12)	8%	0 (4)	0%	0 (3)	0%	5%
03	1 (9)	11%	2 (3)	67%	0 (1)	0%	23%
04	6 (12)	50%	1 (4)	25%	2 (3)	67%	47%
05	4 (11)	36%	3 (3)	100%	2 (3)	67%	53%
06	1 (12)	8%	2 (4)	50%	0 (3)	0%	16%
07	1 (12)	8%	4 (4)	100%	2 (3)	67%	37%
08	2 (12)	17%	2 (4)	50%	0 (3)	0%	21%
09	0 (12)	0%	3 (4)	75%	1 (3)	33%	21%
10	0 (12)	0%	2 (4)	50%	2 (3)	67%	21%
11	1 (12)	8%	4 (4)	100%	1 (3)	33%	32%
12	1 (12)	8%	0 (4)	0%	0 (3)	0%	5%
13	9 (11)	90%	3 (3)	100%	2 (3)	67%	82%
14	2 (12)	17%	0 (4)	0%	0 (3)	0%	11%
15	1 (12)	8%	1 (4)	25%	0 (3)	0%	11%
16	11 (12)	92%	4 (4)	100%	1 (3)	33%	84%
17	0 (11)	0%	3 (3)	100%	1 (3)	33%	24%
18	8 (12)	67%	4 (4)	100%	3 (3)	100%	79%
19	0 (12)	0%	1 (4)	25%	1 (3)	33%	11%
20	0 (12)	0%	1 (4)	25%	0 (3)	0%	5%

Table 5.13: Individual frequencies for DN sentences produced with a DN prosodic contour

[52] N stands for the number of sentences produced with a DN prosodic contour, while N_T stands for the total number of sentences read. The total number of sentences read differs from participant to participant as some sentences were not read accurately by some participants.

From the figures in Table 5.13 we can see that for sentences containing multiple negative indefinite combinations, only two participants (13 and 16) read 90% of the sentences with a DN prosodic contour. Of the remaining eighteen participants one participant (18) read eight of the sentences with a DN prosodic contour (67%), one participant (4) read half the sentences with a DN prosodic contour, ten participants read between one and four of the sentences with a DN prosodic contour (8% - 36%), while six participants did not read a single sentence with DN prosody. For the sentences containing negative indefinite combinations with *g'n* presented in a DN context, seven participants read all four sentences with a DN prosodic contour, two participants read three out of the four sentences with a DN prosodic contour, four participants read two out of the four sentences with a DN prosodic contour, four participants read one of the four sentences with a DN prosodic contour, while three participants did not read a single sentence with a DN prosodic contour. Finally, with regard to the sentences containing negative indefinite combinations with *geen* presented in a DN context, only one participant (18) read all three sentences with a DN prosodic contour, five participants read two of the three sentences with a DN prosodic contour, five participants read one sentences with a DN prosodic contour, while nine participants failed to read any of the sentences with a DN prosodic contour.

If we examine the totals given in Table 5.13, we see that only three participants, or 15%, read more than 78% of the sentences, presented in a DN context, with a DN prosodic contour. One participant read just over half of all the sentences, presented in a DN context, with a DN prosodic contour, while the rest, 80% of the participants, produced a DN prosodic contour for less than half of the sentences presented in a DN context.

5.5.4 Concluding remarks

In this section I examined the data from the sentence production experiment, undertaken to determine how reliably naïve speakers produce disambiguating prosodic cues for multiple negative indefinite combinations with a DN meaning in everyday contextualised speech. The results from the production experiment provide support for studies that argue that naïve speakers do not reliably and spontaneously provide prosodic cues for the disambiguation of utterances in everyday

conversation. The fact that the participants in the production experiment generally failed to provide disambiguating prosody for sentences containing multiple negative indefinite combinations presented in a DN context is furthermore in line with the results from the perception experiment, namely that listeners are not always able to accurately identify the meaning of an utterance even when prosodic cues are available.

5.6 Conclusion

In this chapter I have presented data from three sources which will be used to inform the analysis of negative indefinites in Afrikaans to be undertaken in the next two chapters, Chapters six and seven. In section 5.2 I examined data from a corpus study, undertaken to determine the prevalence of multiple negative indefinite combinations in (written) Afrikaans. It was observed that, of the 2.800 negative sentences containing multiple adjacent existentially quantified variables found in the corpus, 96% contained a combination of a negative indefinite and an ordinary indefinite or NPI. The remaining 4% of these sentences contained multiple adjacent negative indefinites. Furthermore, of the sentences containing multiple negative indefinites found in the corpus 96% had a NC interpretation, while only 4% had a DN interpretation. So, although the corpus data is very informative, and, as we will see in Chapters six and seven, very useful in supporting various theoretical observations, it is not wholly sufficient when it comes to providing evidence for what is essentially a spoken language phenomenon, namely, the occurrence of multiple negative indefinite combinations with NC interpretations in colloquial Afrikaans. For this reason it was determined that native speaker judgements of multiple negative indefinite combinations would have to be elicited in order to supplement the corpus study.

The speaker judgement data collection, which took the form of two versions of a perception experiment, undertaken to obtain acceptability judgements, as well as meaning judgements, of auditory stimuli, was described in section 5.3. The results of these experiments, examined in section 5.4, showed that while multiple negative indefinite combinations are generally acceptable to native speakers when presented as auditory stimuli, they are not as acceptable as the standard Afrikaans form for

expressing multiple indefinites in the scope of negation, namely with the combination of a negative indefinite and an ordinary indefinite or NPI. Furthermore, with regard to the meaning of negative indefinite combinations, the results of the perception experiment showed that a very specific prosodic contour is essential for the accurate interpretation of DN multiple negative indefinite combinations in Afrikaans, and that when this prosodic contour is missing, or unclear, the default interpretation for multiple negative indefinites is an NC interpretation. Interestingly, the results of the perception experiments show that the interpretation of spoken multiple negative indefinite combinations, produced with a neutral prosodic contour, reflects a statistical asymmetry similar to that observed in the corpus data. It is the statistical asymmetries observed for the expression and interpretation of indefinites in the scope of negation, as evident from the corpus data and the speaker judgement data that will form the basis for the stochastic (overlapping) constraint rankings that make up a central part of the analysis to be undertaken in Chapter 6.

Finally, in section 5.5, data from a sentence production experiment, undertaken to determine how reliably naïve speakers produce disambiguating prosodic cues for multiple negative indefinite combinations with a DN meaning in everyday contextualised speech was discussed. The results of this experiment showed that speakers generally fail to provide disambiguating prosody for sentences containing multiple negative indefinite combinations presented in a DN context. This is not surprising considering that, while speakers can usually produce prosodic cues to disambiguate otherwise ambiguous utterances, when an utterance is disambiguated by the situational context, there is a general absence of prosodic cues (Snedecker & Trueswell 2003). Furthermore, the results of the perception experiment showed that native speakers of Afrikaans are less accurate at identifying the meaning of utterances produced with a DN prosodic contour, than those produced with a neutral prosodic contour, so it is possibly to be expected that they would fail to produce such a disambiguating contour in a sentence production experiment.

Chapter 6
An analysis of multiple negative indefinites in Afrikaans

6.1 Introduction

The aim of this chapter is to provide an analysis of multiple indefinites in the scope of negation in Afrikaans. This analysis will focus on multiple negative indefinite combinations, such as *niemand nêrens* and *nooit niks*, which can be assigned both a single and a double negation interpretation. In order to account for such potentially ambiguous multiple negative indefinite combinations, I will first provide a description of indefinites in the scope of negation in Afrikaans. This will be followed by a discussion of the empirical data used to inform the analysis. Two possible OT analyses of multiple indefinites in the scope of negation will be proposed and examined, one which makes use of standard ordinal bidirectional OT, while the other makes use of stochastic asymmetric OT. Finally a bidirectional OT grammar for Afrikaans that builds on both proposed OT analyses will be put forward. This will enable me to account for the occurrence of both negative indefinite + indefinite combinations and multiple negative indefinite combinations with single negation interpretations in colloquial Afrikaans, as well as the occurrence of both single and double negation interpretations of multiple negative indefinite combinations.

6.2 Multiple indefinites in the scope of negation

6.2.1 A description of indefinites in the scope of negation

As discussed in chapter 1, negative sentences in Afrikaans generally only ever contain one negative indefinite, together with the sentence-final *nie*. All other existentially quantified variables in a negative sentence are realised by non-negative indefinites, either regular indefinites or negative polarity items (NPIs), as illustrated in (6.1).

(6.1) (a) *Ons het niemand ooit daar gesien nie.*
we have nobody ever there see-PST SN
"We never saw anybody there."

(b) *Niemand gaan êrens heen nie.*
nobody go somewhere towards SN
"Nobody is going anywhere."

(c) *Hulle het niks vir enigiemand gegee nie.*
they have nothing for any-somebody give-PST SN
"They didn't give anything to anybody."

(d) *Hy weet nooit (enig)iets nie.*
he know never (any)something SN
"He never knows anything."

It is however possible, in standard Afrikaans, for negative indefinites to co-occur. In such cases a double negation (DN) meaning, $\neg\exists x_1\neg\exists x_2$, is assigned to these constructions[53]. The sentences in (6.2) represent standard Afrikaans constructions which express a DN meaning. Unsurprisingly, as is the case in typical DN languages like English and Dutch, these DN structures do not occur frequently in standard Afrikaans.

(6.2) (a) *Niemand sien niks nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

(b) *Hy sien nêrens geen probleme nie.*
he see nowhere no problems SN
"Nowhere does he see no problems", i.e. "He sees problems everywhere."

(c) *Hy gee nooit niks nie.*
he give never nothing SN
"He never gives nothing", i.e. "He always gives something."

---

[53] As with sentences containing multiple negative indefinites, sentences in standard Afrikaans that contain both a negative indefinite and sentence-medial *nie* also receive a double negation interpretation.

(i) *Niemand het nie gehelp nie.*
nobody have not helped SN
"Nobody didn't help", i.e. "Everyone did help."

As we saw in Chapter 4, this pattern can be represented with a standard, ordinal bidirectional OT tableau. The generation and interpretation of indefinites under negation is represented in Tableau 6.1. The constraint ranking in this tableau, FNeg >> NegAttract >> IntNeg >> *Neg >> MaxNeg, follows from the discussion of the characteristics of Afrikaans negation in chapter 1 and bidirectional OT in chapter 4. In this tableau various form-meaning pairs for expressing and interpreting multiple indefinites in the scope of negation are given[54]. Each row in the tableau contains an input that is a combination of a form (f) and a meaning (m). The competition represented by this tableau is therefore one between paired forms and meanings ([f,m]). Bidirectional optimization over these form-meaning pairs results in the selection of one or more super-optimal pairs. Pairs that are suboptimal in one or other direction of optimization are blocked. So even though a meaning might be optimal, if its paired form is suboptimal (in relation to another form) the pair is blocked, and likewise if a form is optimal but its paired meaning is suboptimal (in relation to another meaning), then that pair is also blocked.

[54] In the OT tableaux, "indef" is an abbreviation for "indefinite" and refers to ordinary indefinites and/or NPIs, while "neg" is an abbreviation for "negative indefinite". The form "indef + indef" therefore refers to the combination of two (ordinary) indefinites, while "neg + indef" refers to the combination of a negative indefinite and an (ordinary) indefinite and "neg + neg" refers to multiple negative indefinite combinations.

Input [f,m]	FNeg	NegAttract	IntNeg	*Neg	MaxNeg
[indef + indef, $\neg\exists x_1\exists x_2$]	*	*		*	**
[indef + indef, $\neg\exists x_1\neg\exists x_2$]	*	*		**	**
[neg + indef, $\exists x_1\exists x_2$]	*		*	*	
[neg + neg, $\exists x_1\exists x_2$]	*		**	**	
[*nie* + indef + indef, $\neg\exists x_1\exists x_2$]		*		**	**
[*nie* + indef + indef, $\neg\exists x_1\neg\exists x_2$]		*		***	**
[neg + indef, $\neg\exists x_1\exists x_2$] ✌				**	*
[neg + indef, $\neg\exists x_1\neg\exists x_2$]				***	*
[neg + neg, $\neg\exists x_1\exists x_2$]			*	***	
[neg + neg, $\neg\exists x_1\neg\exists x_2$] ✌				****	

Tableau 6.1: Indefinites under negation (production and interpretation)

In Tableau 6.1 the input for the bidirectional optimizations are pairs that consist of a form (f) containing multiple indefinites and a meaning (m) that expresses the interpretation of these indefinites in the scope of negation. Forms that are not marked with any negation, "indef + indef", are immediately excluded as they violate FNeg, the highest ranked faithfulness constraint, which requires that negation in the input be reflected in the output. Likewise, non-negative meanings, $\exists x_1\exists x_2$, are also excluded by FNeg. This means that a negative meaning, whether single or double negation, can never be expressed by the combination of two ordinary indefinites, as we see in (6.3)(a), while a non-negative meaning can never be expressed by a negative form, as we see in (6.3)(b). Although this may seem rather obvious, it is important from the point of view of completeness to show the various possibilities that a language may allow for.

(6.3) (a) *Iemand sien iets.*
somebody see something
"Somebody sees something"
≠ "Nobody sees something."/ "Nobody sees nothing."

(b) *Niemand sien niks nie.* / *Niemand sien iets nie*
no-one sees nothing SN no-one sees anything SN
"No-one sees nothing." / "No-one sees anything."
≠ "Somebody sees something."

Forms that are marked for negation, but with a sentential negation marker *nie*, rather than by the incorporation of negation into the indefinite (*nie* + indef + indef), are also excluded as they violate the highly ranked NegAttract, which requires that clausal negation be realised on an indefinite in argument or adjunct position. At this point we are then left with four possible form-meaning pairs for the expression and interpretation of multiple indefinites in the scope of negation (the last four rows of the tableau). Of these four remaining form-meaning pairs, the form "neg + indef" is the optimal form for expressing the meaning $\neg\exists x_1\exists x_2$. This is a result of the fact that the only other form still left competing to express this meaning, "neg + neg", loses out as it incurs an extra violation of *Neg. *Neg is a constraint that restricts the morphological marking of negation on a particular form and is ranked above the faithfulness constraint MaxNeg, a constraint that requires all indefinites in argument or adjunct position in the scope of negation to be marked formally as negative. The meaning $\neg\exists x_1\exists x_2$, in turn, is suboptimal as an interpretation of the form "neg + neg" as it violates IntNeg, a faithfulness constraint which requires the interpretation of every negative indefinite in a form as contributing a semantic negation. Finally, we are left with two possible forms for expressing the meaning $\neg\exists x_1\neg\exists x_2$, "neg + indef" and "neg + neg". However, in standard Generalized Quantifier theory[55] the interpretation of sequences of quantifiers is derived by function application, which means that in order to derive a meaning consisting of two negations, there would have to be two negative quantifiers in the form. The restrictions that Generalised Quantifier theory place on GEN, therefore exclude the form "neg + indef" as a possible form for expressing the

[55] Cf. De Swart (1998) for an introduction to Generalized Quantifier theory.

meaning $\neg\exists x_1 \neg\exists x_2$ (hence the greyed out row in the tableau). We are therefore left with the form "neg + neg" as the optimal form for expressing the meaning $\neg\exists x_1 \neg\exists x_2$, and vice versa.

However, this does not appear to be the whole story. Although constructions with more than one negative indefinite expressing a DN meaning are not common in Afrikaans, the corpus data discussed in Chapter 4 show that the occurrence of multiple negative indefinites is indeed observed in Afrikaans, albeit largely in colloquial Afrikaans. And, contrary to the expectations established by standard Afrikaans, these multiple negative indefinite constructions are almost always given a single negation, or negative concord (NC) interpretation, making them examples of negative spread[56]. The examples below, in (6.4), are taken from the Pharos corpus, and illustrate the occurrence in Afrikaans of multiple negative indefinites with a single negation interpretation.

(6.4) (a) *Daarom sê ek, ons skuld niemand niks nie!*
therefore say I we owe nobody nothing SN
"Therefore I say that we don't owe anybody anything!"
(Landbouweekblad 2002-10-11)

(b) *Ons hoor nooit niks van die polisie nie.*
we hear never nothing from the police SN
"We never hear anything from the police."
(Beeld 2004-02-24)

(c) *Ek het niemand nooit aangesê om te lieg nie.*
I have nobody never to-say-PST INF to lie SN
"I have never told anybody to lie."
(Volksblad-1998-08-17)

What the sentences in (6.1), (6.2) and (6.4) show is that there is variation in the expression of indefinites in the scope of negation in Afrikaans, as well as in the interpretation of multiple negative indefinite combinations. It is possible to express a single negation with both a negative indefinite + indefinite combination and a multiple negative indefinite combination and it is possible to assign either a DN or an NC interpretation to a

[56] Cf. Chapter 3 for a discussion of negative concord and negative spread.

multiple negative indefinite combination. In order to account for this variation, any analysis proposed must explain the occurrence of two possible forms, namely negative indefinite + indefinite combinations and multiple negative indefinite combinations, to express a single meaning, that of a single negation interpretation. And such an analysis must account for the two possible interpretations of multiple negative indefinite combinations.

One possibility would be to posit an analysis along the lines of Zeijlstra (2004, 2007) and characterise multiple negative indefinite combinations with NC interpretations as non-productive lexicalised expressions, or Emphatic Multiple Negative Expressions (EMNEs). However, multiple negative indefinite combinations in Afrikaans are equivalent to the expression of negation by a negative indefinite and an ordinary indefinite, in other words they generally carry no additional emphasis, and as such fail to fulfill Zeijlstra's crucial characteristic of EMNEs (Zeijlstra 2007: 79). In Chapter 7 I provide a detailed discussion of Zeijlstra's (2007) proposal and clear argumentation for why an analysis along these lines is not appropriate for negative indefinites in Afrikaans. Rather, it is necessary to account for multiple negative indefinite combinations within an integrated theory of negative indefinites in Afrikaans. It will become clear that in order to achieve such an analysis it is necessary to make use of stochastic bidirectional OT, as set out in Chapter 3. But first let us examine the actual distribution of indefinites under negation in Afrikaans as based on data from the corpus discussed in Chapter 4.

6.2.2 Empirical evidence of multiple negative indefinites in Afrikaans

In order to develop an analysis of constructions containing multiple negative indefinites in Afrikaans it is necessary to determine their prevalence, and the default meaning assigned to such constructions. In order to achieve this goal a corpus study was undertaken using the Pharos corpus of written Afrikaans. As discussed in Chapter 5, this corpus consists of articles from the various NasPers Afrikaans-language newspapers (*Beeld*, *Die Burger*, *Landbouweekblad* and *Rapport*) and magazines (*Dit*, *Huisgenoot*, *Insig*, *Sarie* and *TV Plus*), as well as various Afrikaans fiction and non-fiction books published by Pharos. The corpus as a whole covers a time span of 21 years, from 1986 until 2006

and contains a total of 580.191.552 individual words. Using WordSmith Tools a wordlist was compiled for the corpus, as well as concordances for all the possible combinations of negative indefinites in Afrikaans. As a comparison, concordances for possible combinations of negative indefinites and NPIs/indefinites were also compiled. The results for the total number of combinations of negative indefinites found in the corpus are shown in Figure 6.1, while Figure 6.2 shows the total number of combinations of negative indefinites and NPIs/indefinites found.

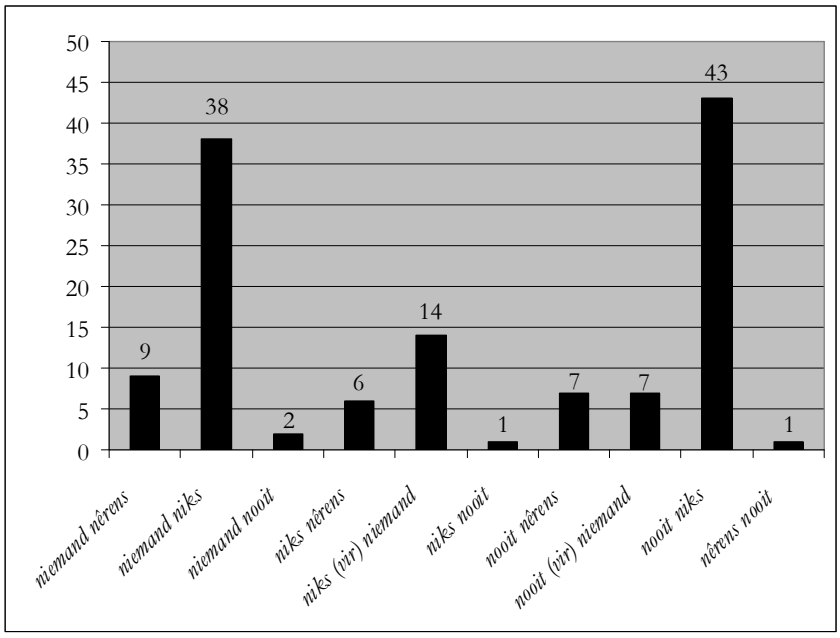

Figure 6.1: Total no. of NI combinations in the corpus

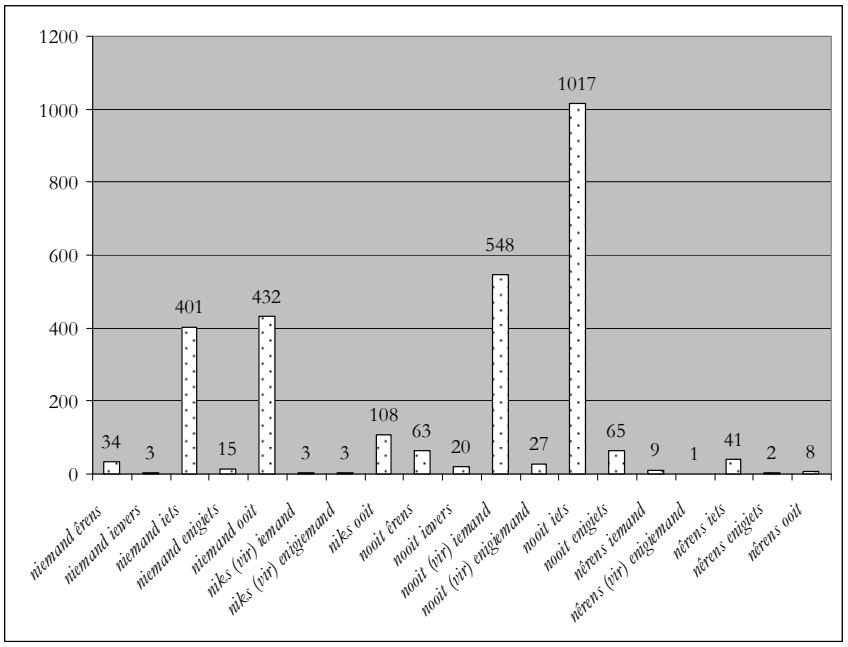

Figure 6.2: Total no. of NI + indefinite combinations in the corpus

In total 2.800 negative sentences containing multiple adjacent existentially quantified variables were found in the corpus. Of these sentences, 96% contained a combination of a negative indefinite and an ordinary indefinite or NPI. The remaining 4% of these sentences contained multiple adjacent negative indefinites. These results are summarised in Table 6.1.

Expression of multiple indefinites under negation	No. of occurrences	Percentage of total
negative indefinite + indefinite	2800	96%
multiple negative indefinites	128	4%

Table 6.1: Frequencies for expression of indefinites under negation

As pointed out in section 6.2.1, it is possible to get combinations of multiple negative indefinites with both a DN and an NC interpretation[57]. What needs to be determined is the prevalence of DN interpretations of multiple negative indefinite combinations in comparison to NC interpretations of these constructions. On close examination of the corpus data it was found that 96% of the sentences containing multiple negative indefinites had a NC interpretation, while only 4% had a DN interpretation. These results are summarised in Table 6.2. Statistical tests showed that there is a significant difference between NC and DN interpretations ($\chi 2 = 108.78$; df=1; $p < 0.001$)

Interpretation of multiple negative indefinite combinations	No. of occurrences	Percentage of total
NC interpretation	123	96 %
DN interpretation	5	3 %

Table 6.2: Frequencies for interpretations of multiple NI combinations

In example (6.5) below, we see the occurrence of a multiple negative indefinite combination, specifically *nooit niks*, with a DN interpretation, while in (6.6) and (6.7) we see the same combination, *nooit niks*, and the combination *nooit niemand*, respectively, in contexts that result in NC interpretations.

(6.5) *As die grondstruktuur reg is, sal jy ook in swak jare 'n oes hê. Dit sal min wees, maar nooit niks, soos wat by konvensionele boere verlede jaar die geval was.*
"If the ground structure is correct, you will still have a harvest in bad years. It will be small, but never nothing, as was the case with conventional farmers last year."
(Landbouweekblad 2000-04-28)

[57] It is important to note that adjacency is not crucial, but is in fact an artefact of the data collection process. Utterances such as *Niemand het niks gesê nie* are also able to express NC meanings.

(6.6) *"Ons hoor nooit niks van die polisie nie. Ek weet nie eens wie ondersoek die saak nou nie -- vier verskillende speurders het dit al gehad. Ek soek geregtigheid."*
"We don't hear anything from the police. I don't even know who is now investigating the case --four different detectives have already been on it. I am looking for justice."
(Beeld 2004-02-24)

(6.7) *"Hulle moes haar vreeslik geslaan het," het hy gesê. "Sy was so 'n saggeaarde kind. Sy sou nooit niemand seergemaak het nie," het mnr. Hill gesê.*
"They must have hit her terribly," he said. "She was such a soft-hearted child. She would never have hurt anybody." Said Mr Hill.
(Beeld 1996-03-29)

What is very striking about this data is the marked asymmetry between the occurrence of negative indefinite + indefinite combinations and multiple negative indefinite combinations, and the inverse asymmetry observed for the interpretation of multiple negative indefinite combinations. The overwhelming preference for the form "neg + indef" for the expression of indefinites in the scope of negation is to be expected, based on the standard OT analysis of indefinites in the scope of negation in Afrikaans represented by Tableau 6.1. This OT analysis is based on the assumption that Afrikaans is a typical DN language when it comes to the expression of indefinites in the scope of negation. However, the fact that the corpus does contain a number of multiple negative indefinite combinations with NC meanings is something that needs to be accounted for. In addition, whereas our initial analysis of indefinites in the scope of negation in Afrikaans would lead us to expect that any occurrences of multiple negative indefinite combinations would be given a DN interpretation, instead we see that there is a marked preference for such combinations to be given an NC interpretation. The corpus data seem to suggest that the NC interpretation of these structures is the more common, or default, interpretation.

An OT account of multiple negative indefinite combinations with DN interpretations has already been discussed in section 6.2.1. In standard bidirectional OT, there is no problem with allocating a marked meaning, namely double negation, to a marked form, namely multiple negative indefinite combinations. However, based on the corpus data discussed

above, that does not appear to be the preferred optimal solution for the expression and interpretation of multiple negative indefinites in colloquial Afrikaans. What needs to be done now is to propose an account of negative indefinites in (colloquial) Afrikaans that reflects the high proportion of NC interpretations of multiple negative indefinite combinations. And although only a small percentage of the total number of combinations of multiple indefinites in the scope of negation are realised by multiple negative indefinite combinations, it is still necessary to account for their occurrence in the corpus data. In the following two sections two different accounts of multiple negative indefinite combinations will be proposed. Each account makes use of a different version of OT, namely standard ordinal bidirectional OT and stochastic OT.

6.3 A standard bidirectional OT account of multiple negative indefinites in Afrikaans

One possible solution to account for the co-occurrence of both negative indefinite + indefinite combinations and multiple negative indefinite combinations with a single negation interpretation would be to posit a standard bidirectional OT account, similar to the account proposed in section 5.1, but with a different constraint ranking. Under this account the constraint *Neg outranks both MaxNeg and IntNeg, and leads to the following constraint ranking:

(6.8) FNeg >> *Neg >> {IntNeg, MaxNeg}

The brackets indicate that the constraints MaxNeg and IntNeg do not interact, as one is a faithfulness constraint that affects the generation of a form, while the other is a faithfulness constraint that affects the interpretation of a form. The effects of this constraint ranking on the expression and interpretation of indefinites in the scope of negation can be represented by the bidirectional OT Tableau 6.2 below.

Meaning $\neg\exists x_1 \exists x_2$	Form	*Neg	IntNeg	MaxNeg
☞	neg + indef	*		*
	neg + neg	**		
Form neg + neg	Meaning	*Neg	IntNeg	MaxNeg
	$\neg\exists x_1 \neg\exists x_2$	**		
☞	$\neg\exists x_1 \exists x_2$	*	*	

Tableau 6.2: *Neg >> {IntNeg, MaxNeg}

This solution works well from an interpretation perspective, as the hearer will have no problem interpreting the use of two negative indefinites in the input as having a single negation meaning. As discussed in Chapter 4, the constraint ranking *Neg >> IntNeg results in a resumptive negative quantifier that binds all the variables in its scope (de Swart & Sag 2002). However, this raises an immediate problem, in that there is no mechanism for interpreting the few cases in which "neg + neg" expresses a DN meaning. The constraint ranking in (6.8) makes no provision for optionality. Furthermore, the use of more than one negative indefinite is not functionally motivated by the ranking of MaxNeg below *Neg. In order to elicit a "neg + neg" form to express a NC meaning, MaxNeg would have to be ranked above *Neg, and then we would run into a similar problem to the one we encountered with the interpretation of DN meanings, namely, that then there would be no motivation for the standard expression of indefinites in the scope of negation, "neg + indef". Once again, the problem with this account is that an ordinal constraint ranking does not allow for any optionality. Taking into account the data discussed above, the analysis proposed here seems to do little but allow for the random association of form and meaning.

According to de Swart (2010: 141), (6.8) is an unstable constraint ranking and therefore results in an inconsistent grammar for Afrikaans. In such an account, the intended form, "neg + neg", is not motivated by the constraint ranking, as a negative indefinite + indefinite construction is the optimal form for a speaker to express multiple indefinites under negation, according to the ranking of *Neg above MaxNeg. Although this criticism is valid for this particular, ordinal, ranking of the constraints, it fails to take into account the intuition that this constraint

ranking captures, namely that if the form "neg + neg" occurs, that is if a multiple negative indefinite combination is produced, that it is generally interpreted as a NC construction.

What is clear from the data is that there is a tendency towards the unmarked. This means that if multiple indefinites are produced in the scope of negation, then the form that they take will generally be a combination of a negative indefinite and an (ordinary) indefinite. As discussed in Chapter 3, negation itself is marked, and so a form that avoids as much negative marking as possible is preferred. The more instances of negation in the form of an utterance, the more marked that utterance becomes. Of course, economy is not the only principle operative in natural language. In opposition to the tendency towards unmarked forms is the tendency towards agreement. One reason for the prevalence of negative spread in natural language is the requirement that all existentially quantified elements in the scope of negation agree w.r.t. negation, a state of affairs that is captured by the faithfulness constraint MaxNeg. This means that although Afrikaans displays a tendency towards minimal negative marking of indefinites in the scope of negation, multiple negative indefinite combinations do occur. This tendency towards the unmarked is also evident in interpretation. Although it is possible to produce DN meanings, such as those in the sentences in (6.2), these are extremely marked and are generally avoided in natural language. What this means is that when multiple negative indefinite combinations are in fact produced in Afrikaans, we see that the preferred interpretation is the unmarked, NC interpretation. Only when there is sufficient evidence to force a DN interpretation does a multiple negative indefinite combination receive such an interpretation.

A different analysis is therefore needed to account for the Afrikaans data. In order to capture the above intuitions, it is necessary to first split the syntax and the semantics and develop an asymmetric account of indefinites in the scope of negation. What this means is that in order to explain the occurrence of both multiple negative indefinite combinations with an NC meaning and negative indefinite + indefinite combinations in Afrikaans, it is necessary to take the speaker's perspective. On the other hand, in order to explain the possibility of assigning both an NC interpretation and a DN interpretation to a multiple negative indefinite combination, it is necessary to take the hearer's perspective. What will

become clear is that Afrikaans has a mixed system when it comes to the expression of indefinites under negation. It will be shown that Afrikaans has an asymmetric overlapping constraint ranking, based on the frequency of particular constructions that results in the two different strategies for expressing indefinites under negation. These two different syntactic strategies in turn have different interpretation correlates, and it falls to the hearer to reconstruct the syntactic construction under interpretation. It will be shown that the frequency of a particular interpretation determines the OT semantics constraint ranking, which results in the hearer aligning her interpretation of a particular construction with the most likely candidate.

6.4 A stochastic OT account of multiple negative indefinites in Afrikaans

6.4.1 Generating two possible forms for expressing one meaning: asymmetric constraint overlap of *Neg and MaxNeg

One way to account for a grammar that allows a degree of optionality in the expression of indefinites under negation is to make use of stochastic OT. According to Mattausch (2007: 109):

> A stochastic OT grammar does not make a simple distinction between grammatical and ungrammatical expressions. Rather, it defines a probability distribution over a set of possible expressions and a particular expression is only technically ungrammatical if the grammar assigns that expression a probability of zero.

There are two main differences between standard, ordinal OT and stochastic OT. The first difference is that the ordinal ranking of constraints is replaced by a continuous ranking of constraints, with each constraint being assigned a ranking value. The ranking values of the various constraints represent the hierarchical ordering of those constraints and also measure the distance between them. The result of replacing the ordinal ranking of standard OT by a continuous ranking of constraints is that constraints can have overlapping ranges. The second difference is that stochastic OT uses stochastic evaluation, which means

that the ranking value of a constraint is modified by the addition of a normally distributed noise value.

The actual evaluation of the relevant candidates for each individual evaluation is always a result of the hierarchical ranking of the constraints after the noise values have been added. This means that if two constraints C_1 and C_2 have overlapping ranges and there is a certain degree of noise in the system, which affects the ranking at every evaluation of an input, we mostly find the order $C_1 >> C_2$ but the order $C_2 >> C_1$ does occur in some cases. If these two different constraint rankings have different optimal candidates, then the output will be affected in each case. It is therefore the degree of overlap that governs the distribution of different optimal candidates. If there is no overlap, that is if the ranking value of C_1 is high enough compared to C_2 that the probability of C_2 outranking C_1 for any given evaluation is virtually zero, we get a constraint ranking $C_1 >> C_2$. If there is total overlap, true free variation is predicted and the optimal candidates for both constraint rankings will each occur in about 50% of the cases. However, if the degree of overlap is smaller, then the different optimal candidates may occur in different distributions.

Mattausch (2005, 2007), for example, uses stochastic bidirectional OT together with Jäger's (2003) Bidirectional Gradual Learning Algorithm (GLA) to model the grammaticalization of pragmatic implicatures, specifically with regard to binding phenomena and strategies of reflexive marking. In this way he is able to derive Horn's division of pragmatic labour, showing how marked expressions pair with rare meanings as a result of hearer-mode learning, when there is a statistical asymmetry between two types of inputs (one rarer and one more common). Although the present study does not make us of the GLA to model possible patterns of negative marking of indefinites in Afrikaans, nor does it make any predictions about the potential grammaticalization of the patterns observed, the insights provided by stochastic OT are invaluable in developing an analysis of multiple indefinites under negation in Afrikaans.

In Afrikaans we see the occurrence of two forms, that is, two optimal candidates, for the expression of multiple indefinites under negation with an NC interpretation. However these two forms are not in free variation,

that is, they do not each occur 50% of the time. Rather they occur in different distributions, as we saw in Table 6.1, in a ratio of 22:1. One can extrapolate from this that there is a small overlap in the range of two constraints, C_1 and C_2, which, because of a certain degree of noise in the system, results in two different constraint rankings, leading to two different optimal candidates. If we take C_1 to be *Neg and C_2 to be MaxNeg then it is possible to capture the distribution of the two different forms with an asymmetric overlap of these two constraints. This situation is represented by the constraint ranking below, where the overlap between two constraints C_1 and C_2 is represented as C_1 0 C_2, with the percentage overlap as a subscript.

(6.9) FaithNeg >> *Neg $0_{96/4}$ MaxNeg

This overlapping constraint ranking means that 96% of the time, *Neg will be ranked higher than MaxNeg, resulting in the form "neg + indef" used to express the meaning $\neg\exists x_1\exists x_2$. However, 4% of the time, MaxNeg will outrank *Neg and the form "neg + neg" will be used to express of the meaning $\neg\exists x_1\exists x_2$. Another way of describing this is to say that for every approximately twenty-two times that the form "neg + indef" occurs (expressing the meaning $\neg\exists x_1\exists x_2$), one instance of the form "neg + neg" will occur. In stochastic terms, then, it is possible to say that in colloquial Afrikaans there is a difference of five units between the ranking value of *Neg and the ranking value of MaxNeg, which corresponds to a 96% chance that *Neg will outrank MaxNeg (Mattausch 2007: 110).

And so, in order to explain the occurrence of two forms for the same meaning in colloquial Afrikaans, insights from stochastic OT have been used to map an asymmetric constraint overlap. The distribution of the overlap has been worked out on the basis of (written) Afrikaans corpus data, and as such has not been modelled by means of an evolutionary bidirectional learning algorithm, along the lines of Jäger (2003) and Mattausch (2005, 2007). No predictions are therefore made about the possible developments that this pattern may take in the future, or about how this pattern developed. In addition, because the corpus is solely made up of written Afrikaans, there is the possibility that the overlap of the two relevant constraints could be different for spoken Afrikaans. Unfortunately there are no spoken corpora available for Afrikaans at this

time, and so determining the ranking values of *Neg and MaxNeg in spoken Afrikaans is currently impossible. What is important to note however is the size of the corpus and the high number of indefinites in the scope of negation that were observed. It is assumed that the asymmetric split in the production of indefinites under negation described above is representative of the register of written Afrikaans found predominantly in newspapers.

6.4.2 Assigning two possible interpretations to one form: asymmetric constraint overlap of *Neg and IntNeg

In the previous section, stochastic OT was used to explain how the expression of multiple indefinites in the scope of negation can be realised both by a negative indefinite and an ordinary indefinite ("neg + indef") and by multiple negative indefinites ("neg + neg"). It is therefore natural to assume that all multiple negative indefinite constructions will be assigned a single negation meaning, in line with the meaning assigned to combinations of negative indefinites and ordinary indefinites. However, as noted in section 6.2.1, it is also possible to assign a DN interpretation to a multiple negative indefinite combination. Table 6.2 showed that in the corpus data, 96% of the sentences containing multiple negative indefinites had a single negation interpretation, while 4% had a DN interpretation, a ratio of 24:1. What can be concluded from this is that there is an asymmetric split with regard to the interpretation of indefinites under negation in Afrikaans, and once again, one can extrapolate from this that there is a small overlap in the range of two constraints, C_1 and C_2, which leads to two different optimal candidates. In this case, if we take C_1 to be *Neg and C_2 to be IntNeg, this split can be captured with an asymmetric overlap of these two constraints, represented by the following constraint ranking:

(6.10) FaithNeg >> *Neg $0_{96/4}$ IntNeg

This means that 96% of the time, *Neg will be ranked higher than IntNeg, resulting in the optimal interpretation candidate $\neg\exists x_1 \exists x_2$ being chosen for the form "neg + neg". However, 4% of the time IntNeg will outrank *Neg and the form "neg + neg" will receive the interpretation $\neg\exists x_1 \neg\exists x_2$. This can also be described in terms of proportions, i.e. for every approximately twenty-four times that the form "neg + neg"

receives the interpretation $\neg\exists x_1 \exists x_2$, it will receive the interpretation $\neg\exists x_1 \neg\exists x_2$ once. As with production, the interpretation of multiple negative indefinite combinations in Afrikaans is the result of an asymmetric constraint overlap, whose distribution has been determined on the basis of (written) Afrikaans corpus data. What must be noted however is the paucity of this data when it comes to the interpretation of multiple negative indefinite combinations. Whereas the number of occurrences in the data of multiple indefinites under negation was large enough to strongly support an analysis of the asymmetric split in production set out in section 6.2.2, the number of occurrences of multiple negative indefinite combinations is such that it cannot be stated as convincingly that the asymmetric split in interpretation described above is representative of Afrikaans (whether written or otherwise).

In order to overcome this lack of sufficient data, which threatens to make the conclusions reached statistically unreliable, an experiment was undertaken to supplement the corpus data. A perception experiment was set up in order to test Afrikaans native speakers' judgements of multiple negative indefinite constructions. The analysis proposed above maintains that there is an asymmetric constraint overlap between *Neg and IntNeg, which results in an asymmetric split in the interpretation of multiple negative indefinite combinations. This split strongly favours the NC interpretation of such constructions, with DN interpretations occurring infrequently (4% of the time). By eliciting judgements on the meaning of various utterances containing negative indefinite combinations the intention is to show that this asymmetric split is in fact motivated by native speaker intuitions. What will become clear from the perception experiment is that the asymmetric constraint overlap observed for the written corpus is borne out by the spoken data, with the NC interpretation of multiple negative indefinite combinations being the preferred interpretation. In fact, what will be proposed is that in order to produce and interpret a DN meaning with multiple negative indefinites in spoken Afrikaans, a very specific prosodic contour is needed.

6.4.3 Empirical support for asymmetric constraint overlap of *Neg and IntNeg

As discussed in chapter 5, the perception experiment involved a questionnaire consisting of 120 utterances, of which 14 contained multiple negative indefinites, as illustrated by the examples in (6.11). These utterances were read twice, once with NC, or neutral, prosody and once with DN prosody.

(6.11) (a) *Hy vra vir niemand niks nie.*
"He doesn't ask anybody anything." (NC)
"He asked nobody nothing." (DN)

(b) *Ek het niks nêrens gekoop nie.*
"I didn't buy anything anywhere." (NC)
"I bought nothing nowhere." (DN)

(c) *Hulle het nooit niemand daar gekry nie.*
"They never found anybody there." (NC)
"They never found nobody there." (DN)

As noted in section 5.3.1, the prosodic contour needed to elicit DN interpretations of multiple negative indefinite combinations is a very specific one, and, as with DN constructions in English and Dutch, appears to be essential for the accurate interpretation of DN multiple negative indefinite combinations. Specifically, a multiple negative indefinite combination expressing a DN meaning needs to be produced with what is termed a "contradiction contour" (Liberman & Sag 1974). For this reason care was taken to make sure all the readings were reliable from a prosodic disambiguation point of view. As discussed in section 5.3.2, subsequent examination of the test instrument called into question whether the speaker who produced the test items for the perception experiment did in fact produce a clear enough prosodic contour, or even the correct prosodic contour, for (some of) the DN readings. In order to determine whether a more precise, or consistent, prosodic contour could elicit better results the experiment was re-run with a second speaker reading the items. This time greater care was taken to ensure that the DN prosody was as accurate as possible.

Table 6.3 below provides the frequencies for the assignment of NC and DN interpretations to the utterances produced with NC, or neural, prosody. Statistical tests show that there is a clear difference between the occurrence of NC and DN interpretations ($\chi 2 = 98.67$; df = 1; $p < 0.001$). From these figures we see a similar pattern to the one observed for the corpus data, given in Table 6.2. In the perception experiment, however, the distribution of NC to DN interpretations occurs in a ratio of 5:1, which is much higher for DN interpretations than that observed in the corpus data. Despite the fact that the percentages are not identical in both data sets, however, the broad observation holds, namely that there is a marked preference for NC interpretations of multiple negative indefinite combinations.

Neutral prosody	No. of occurrences	Percentage of total
NC interpretation	185	83%
DN interpretation	37	17%
Total	222	100%

Table 6.3: Frequencies for utterances produced with neutral, or NC, prosody

As discussed in section 5.4.2, the results for the utterances produced with DN prosody in the first version of the perception experiment were less clear, with an almost equal split between NC and DN interpretations, and show that it is much more difficult to elicit DN interpretations of multiple negative indefinite constructions than NC interpretations. The results for the second version of the perception experiment were much clearer, however. Table 6.4 shows the frequencies for the assignment of NC and DN interpretations to the utterances produced with a DN prosody in the second perception experiment. We can see that there is an almost 70/30 split in favour of the DN interpretation for utterances produced with a DN prosody. Statistical tests show that there is a clear difference between the number of occurrences of NC versus DN interpretations ($\chi 2 = 30.81$; df = 1; $p < 0.001$).

DN prosody (2nd experiment)	No. of occurrences	Percentage of total
NC interpretation	94	32%
DN interpretation	201	68%
Total	295	100%

Table 6.4: Frequencies for utterances produced with DN prosody (second experiment)[58]

The fact that the results for the utterances produced with DN prosody in the first version of the perception experiment were not significant provides evidence for the claim that only a very precise prosodic contour may be able to elicit a DN reading. This claim is further supported by the improvement in accuracy by participants in the second version of the experiment, in response to a more precise DN prosodic contour. What one can also conclude from the results of both versions of the perception experiment is that when in doubt a hearer tends to opt for the NC interpretation as the default interpretation.

These data therefore provide evidence for the claim that the NC interpretation of multiple negative indefinites is the preferred interpretation for these structures in Afrikaans. The results of the two perception experiments, in turn, provide motivation for the analysis proposed in section 6.4.2, that there is an asymmetric constraint overlap between *Neg and IntNeg, which results in an asymmetric split in the interpretation of multiple negative indefinite combinations, favouring the NC interpretation of such constructions. Although the exact percentages are not identical, what is clear is that the asymmetric constraint overlap observed for the written corpus is borne out by the spoken data. One possible reason for the disparity in numbers between the perception experiments and the corpus data is the important role that prosody and context play in the disambiguation of multiple negative indefinite constructions. In the corpus data, as in written language in general, the disambiguation of multiple negative indefinite combinations is easily done on the basis of context, with prosody playing no role. In spoken language, however, both context and prosody play a role, and when there

[58] The results in Table 6.8 exclude two participants who only chose NC interpretations for all the utterances presented in the questionnaire as a whole.

is no context, as was the case for the perception experiments, prosody is the only clue available to the hearer.

It can therefore be postulated that the hearer acts in a co-operative way when interpreting multiple negative indefinites, following the likelihood of the unmarked NC meaning, and only assigning a DN meaning when supplementary information, such as context or clear prosodic marking, makes this interpretation the salient one. Interestingly, this supports the intuition that DN meanings are dispreferred in natural language, possibly due to the strong bias towards NC interpretations of multiple negation, or to the processing problems that DN interpretations may pose. The proposed analysis enables a hearer to accept one interpretation, the single negation interpretation, as the default interpretation, unless strong evidence (contextual or prosodic) is provided for a DN interpretation. This is in line with Blutner et al.'s (2003) proposal regarding compositionality as bidirectional optimization. Their approach proceeds from the strongest meaning, which can then be changed or weakened by contextual information. However the analysis is still not sufficient as a grammar of negative indefinites in Afrikaans as it fails to show how production and interpretation interact. In the following section I propose a bidirectional grammar for negative indefinites in Afrikaans with the aim of providing a syntactically and semantically integrated account of indefinites in the scope of negation.

6.5 Bidirectional grammar of indefinites in the scope of negation in Afrikaans

6.5.1 Developing a bidirectional stochastic OT account of multiple negative indefinites in Afrikaans

In sections 6.3 and 6.4 I presented two possible analyses of multiple negative indefinite combinations in Afrikaans. The first analysis, which made use of ordinal bidirectional OT, captured the intuition that *Neg should be ranked above IntNeg, as when multiple negative indefinite combinations occur in Afrikaans, they are generally assigned an NC interpretation. This analysis also captured the intuition that *Neg should be ranked above MaxNeg, as although multiple negative indefinites do occur in Afrikaans they are not particularly frequent, and the preferred way of realising indefinites in the scope of negation is with one negative

indefinite and one (or more) ordinary indefinite(s) or NPI(s). Unfortunately, because of the strict ranking of constraints in ordinal OT, this analysis was unable to account for the variation that is present in Afrikaans, with regard to the production and interpretation of multiple indefinites in the scope of negation. The second analysis, which made use of stochastic OT was able to overcome this inability to account for the variation observed in Afrikaans by replacing the ordinal ranking of constraints with a continuous ranking of constraints and making use of stochastic evaluation.

In the stochastic OT analysis of multiple indefinites in the scope of negation it was shown that from a speaker's perspective there is an asymmetric constraint overlap between *Neg and MaxNeg, while from a hearer's perspective there is an asymmetric constraint overlap between *Neg and IntNeg. This analysis accounts neatly for the data, both from the corpus and from the perception experiment, which show that speakers[59] produce multiple negative indefinite combinations a small percentage of the time, and that when confronted with a multiple negative indefinite combination, a hearer will generally assign it an NC interpretation. One shortcoming of this analysis, however, is that it involves unidirectional optimization, separating expressive optimization, the generation of a syntactic output, from interpretative optimization, the interpretation of a syntactic input. As pointed out in Chapter 3, many theorists argue in favour of bidirectional optimization. Blutner (2000), maintains that OT accounts of natural language interpretation have to take both the hearers' and the speakers' perspective at the same time. The goal of this section is therefore to develop a bidirectional OT analysis for multiple indefinites in the scope of negation. Consider again the two asymmetric overlapping constraint rankings proposed to account for the expression and interpretation of multiple indefinites in the scope of negation, repeated below as (6.12) and (6.13).

(6.12) FaithNeg >> *Neg $0_{96/4}$ MaxNeg

(6.13) FaithNeg >> *Neg $0_{96/4}$ IntNeg

[59] The terms "speaker" and "hearer" are used here also to refer to writers and readers in the context of a written corpus.

According to these constraint rankings, *Neg has overlapping ranges with both IntNeg and MaxNeg. This grammar can be represented by the bidirectional OT Tableau 6.3 below, where the optimal forms/meanings are indicated by ☞ together with the percentage of their occurrence, the overlapping constraint rankings, given in (6.12) and (6.13), are indicated by the irregular dotted line ┅┄┅┄┅┄┅, and the fact that IntNeg and MaxNeg are not ordered with respect to one another is represented by the dotted line ┈┈┈┈┈┈┈┈┈┈┈┈. This grammar entails that when producing multiple indefinites in the scope of negation, a speaker will generally produce a "neg + indef" form, as a result of the ranking *Neg >> MaxNeg, however, in a small number of cases a speaker may produce the form "neg + neg" as a result of the ranking MaxNeg >> *Neg. This second form is produced, according to the corpus data, approximately 4% of the time. This means that the expression of multiple indefinites in the scope of negation is an arbitrary process, determined by stochastic evaluation.

Meaning $\neg\exists x_1\exists x_2$	Form	FNeg	*Neg	IntNeg	MaxNeg
	indef + indef	*			
96% ☞	neg + indef		*		*
4% ☞	neg + neg		**		
Form neg + indef	Meaning		*Neg	IntNeg	MaxNeg
	$\exists x_1\exists x_2$	*			
☞	$\neg\exists x_1\exists x_2$		*		
	$\neg\exists x_1\neg\exists x_2$		**		
Form neg + neg	Meaning		*Neg	IntNeg	MaxNeg
	$\exists x_1\exists x_2$	*			
96% ☞	$\neg\exists x_1\exists x_2$		*	*	
4% ☞	$\neg\exists x_1\neg\exists x_2$		**		

Tableau 6.3: Bidirectional stochastic grammar of indefinites in the scope of negation

From Tableau 6.3 we can see that when a hearer evaluates the input "neg + indef" she will always assign it the meaning $\neg\exists x_1\exists x_2$. In this case the constraints IntNeg and MaxNeg do not play a role. The shaded out row in the tableau indicates that the meaning $\neg\exists x_1\neg\exists x_2$ for "neg + indef" is

in fact excluded from any evaluation, as noted in section 6.2.1, due to the restrictions placed on GEN by Generalised Quantifier theory. However, when the input is "neg + neg", the interpretation will be determined by stochastic evaluation and the hearer will assign the input an NC meaning ($\neg\exists x_1 \exists x_2$) when the constraint ranking is *Neg >> IntNeg, but will assign a DN meaning ($\neg\exists x_1 \neg\exists x_2$) when this ranking is IntNeg >> *Neg, which again, according to the corpus data, occurs 4% of the time. As is the case with the expression of multiple indefinites in the scope of negation, the interpretation of multiple negative indefinites, according to this tableau, is an arbitrary process.

What is interesting here is that both the syntax and the semantics require a stochastic ranking of constraints. If we compare Afrikaans cross-linguistically with other languages we see that this makes Afrikaans a special case. In French, for example, there is a stochastic ranking of constraints in the semantics. The sentence in (6.14), from de Swart (2010: 217), illustrates how both an NC and a DN interpretation are available for a sentence containing multiple negative indefinites. The interpretation of such an utterance is determined by the overlapping constraint ranking *Neg 0 IntNeg, and depends on whether *Neg outranks IntNeg, or whether IntNeg outranks *Neg for a particular evaluation. However, when it comes to the syntax of negative indefinites in French, the ordering of constraints is strictly ordinal and the constraint MaxNeg >> *Neg holds for all situations, which means that all indefinites in the scope of negation in French will be realised by negative indefinites.

(6.14) *Personne n'a rien payé.* (French)
nobody SN-has nothing paid
"No one has paid anything." [NC]
"Everyone has paid something." [DN]

Catalan, on the other hand, exhibits a stochastic ranking of constraints in the syntax. In Catalan a post-verbal negative indefinite must obligatorily be accompanied by a preverbal marker of negation, while with a pre-verbal negative indefinite, the negation marker is optional. This is illustrated by the sentences in (6.15) from de Swart (2010: 173). De Swart attributes the optionality in (6.15) to an overlapping range of the

constraints MaxSN[60] and *Neg. The constraint ranking in Catalan for the expression of negation is MaxNeg >> NegFirst >> MaxSN 0 *Neg. This means that with preverbal negative indefinites the occurrence of a preverbal marker of negation is dependent on the stochastic optimization for a particular evaluation. However there is no overlapping constraint ranking in the semantics. The interpretation of both possible forms is the result of standard ordinal optimization, with the constraint ranking *Neg >> IntNeg.

(6.15) (a) *En Pere *(no) ha fet res.* (Catalan)
the Peter *(SN) has done nothing

(b) *Ningú (no) ha vist en Joan.*
nobody (SN) has seen the John

Returning to the Afrikaans data, although the stochastic bidirectional grammar works very well from a production perspective, as the choice of a syntactic form is an arbitrary choice, determined by stochastic optimization, there is still something missing from the interpretation perspective. If we look again at Tableau 6.3 we see that the recovery of an input meaning is not guaranteed. Stochastic optimization applies 'blindly' and so a speaker who produced a "neg + neg" form in order to convey a DN meaning could end up being misinterpreted by the hearer who may assign an NC interpretation to the utterance (or vice versa). One way to solve this problem would be to determine whether the use of multiple negative indefinite combinations in Afrikaans is restricted to a particular register. If, for example, multiple negative indefinite combinations were only used in a low register, then a hearer would be able to determine that a speaker, if speaking in a low register, intends an NC meaning of a multiple negative indefinite combination, or if speaking in a high register, intends a DN meaning. There are two problems with this explanation, however. Firstly it is very difficult to determine whether multiple negative indefinite combinations, although colloquial in nature, are in fact restricted to a particular register. Secondly, even though a

[60] MaxSN states that "a negative clause must bear a marker of sentential negation" (de Swart 2010: 203). This constraint is motivated by the desire to realize clausal negation by means of a sentential operator and captures Haspelmath's (1997) intuition that certain NC languages mark the scope and focus of negation with separate elements (negation markers and negative indefinites respectively).

speaker may be using a particular register, it would not necessarily be clear to a hearer that this is the case. There would have to be identifiable markers indicating which register a speaker was employing, and it is not evident that this is possible in (spoken) Afrikaans.

What appears to be crucial here is that the hearer must take a speaker's perspective into account in order to correctly interpret an utterance, as assigning a meaning to an utterance is not an arbitrary exercise and cannot therefore solely be the result of an asymmetric constraint overlap and stochastic optimization. Zeevat (2000), in fact, argues that bidirectional optimization is asymmetric, with production as a unidirectional process and comprehension as a bidirectional process. Under this approach the speaker does not take into account the hearer, however the hearer must reconstruct the speaker's intention in order to interpret the utterance. If we therefore consider the bidirectional grammar proposed above to be asymmetrically bidirectional, we end up with a grammar in which the hearer's optimization involves both the syntactic and semantic constraints governing the expression and interpretation of multiple indefinites in the scope of negation, while the speaker's optimization involves only the syntactic constraints.

6.5.2 Interpretation of multiple negative indefinite combinations in Afrikaans in an asymmetric bidirectional stochastic OT account

In addition to the asymmetric bidirectional stochastic grammar proposed we need some way to ensure the correct interpretation of multiple negative indefinite combinations takes place, independent of the stochastic overlapping constraint ranking of *Neg and IntNeg. It is important here to keep in mind that the hearer knows that, in the asymmetric bidirectional grammar, the speaker may produce "neg + neg" as the syntactic output of two optimization processes: "neg + neg" could be the optimal form to convey the meaning $\neg\exists x_1\exists x_2$ or the meaning $\neg\exists x_1\neg\exists x_2$. The hearer will therefore be deliberately trying to recover the input meaning the speaker intended and will as a result be looking for supplementary clues that the speaker may have provided, to guide her interpretation. This intuition is supported by the observation that the interpretation of utterances containing multiple negative indefinite combinations is heavily reliant on context and, in the case of

DN interpretations, on prosody. And so one way to account for the interpretation of such utterances, on the assumption that the hearer is deliberately looking for clues to help with such an interpretation, would be to posit one or more constraints which would constrain the interpretation of multiple negative indefinite combinations and ensure that the appropriate meaning is assigned in context. Zeevat (2000) posits a constraint CONSISTENCY, which requires that interpretations do not conflict with the context. According to Zeevat, CONSISTENCY plays a role in ambiguity resolution, but can be violated since it is possible to contradict a given context. This general pragmatic constraint is formulated in Hendriks & de Hoop (2001) as AVOID CONTRADICTION, or *CONTRADICTION. If we take it that there is such a pragmatic constraint at work in the interpretation of utterances containing multiple negative indefinite combinations, given in (6.16), then we should be able to account for the accurate interpretation of these utterances in context on the basis of standard optimization.

(6.16) ***CONTRADICTION**
If possible, interpret an utterance such that there is no conflict with its context.

This constraint would then be responsible for the DN interpretation of multiple negative indefinite combinations in utterances such as the one in (6.5), where the context clearly results in a DN reading, while it would also be responsible for multiple negative indefinite combinations in utterances such as those in (6.6) and (6.7) receiving an NC interpretation, as this is the interpretation required by the context.

But a constraint that ensures the accurate interpretation of utterances containing multiple negative indefinite combinations on the basis of context is not sufficient. It is also necessary to account for the fact that even though the results of the perception experiments were not as clear-cut for the DN utterances as they were for the NC utterances, there was a significant difference between the interpretations of utterances produced with a DN prosody and the interpretations of NC utterances. This means that any account of the interpretation of multiple negative indefinite combinations must take into account that DN interpretations require the form to be marked with a clear DN prosody, as described in section 6.4.3. Let us assume that there is a constraint *PROSODY/NC that favours the NC interpretation of multiple negative indefinite

combinations when they are produced with a neutral prosody. If however a specific DN prosodic contour is present, then the DN interpretation wins out. This constraint, given in (6.17), operates on form-meaning combinations, which ensures that utterances with special prosody are interpreted as DN constructions, while utterances with an NC interpretation are not marked with special prosody.

(6.17) ***PROSODY/NC**
A multiple negative indefinite combination with an NC interpretation should not be marked with special prosody.

Taking the results of the perception experiment presented in Table 6.3 in section 6.4.3, we can adjust the constraint overlap between *Neg and IntNeg to reflect the asymmetric split for the interpretation of multiple negative indefinite combinations out of context (with neutral prosodic marking). We can then rank the constraint *CONTRADICTION above *PROSODY/NC, based on the intuition that contextual information is more reliable when disambiguating utterances than prosodic information. As Snedecker & Trueswell (2003) note, untrained speakers can produce prosodic cues to disambiguate otherwise ambiguous utterances, but when an utterance is disambiguated by the situational context, prosodic cues all but disappear.[61] Also, "[w]hen prosodic cues are present, untrained and uninstructed listeners can use them, though their performance clearly suffers when compared with utterances that are lexically disambiguated" (Snedecker & Trueswell 2003: 128). We can then formulate the constraint ranking as in (6.18) below.

(6.18) *CONTRADICTION >> *PROSODY/NC >> *Neg $0_{80/20}$ IntNeg

If an utterance containing a multiple negative indefinite combination occurs in a context favouring a DN interpretation, then that is the interpretation that will be assigned to the utterance (with or without the presence of a DN prosody). If the context favours an NC interpretation, then that in turn will be the interpretation assigned to the utterance. If,

[61] This is supported by the production experiment discussed in Chapter 5 in which only 18 utterances out of a total of 233 utterances containing multiple negative indefinite combinations with a DN meaning in context were produced with a clear DN prosodic contour.

however, the utterance occurs out of context then the overlapping constraints *Neg and IntNeg will come into play, and be subject to stochastic evaluation. In this case we expect to find one DN interpretation for every five NC interpretations, as observed in the perception experiment, depending on the ranking of *Neg and IntNeg for that specific evaluation. If no context is provided, but DN prosody is present, this constraint ranking should result in the assignment of a DN interpretation. However, as we saw from the perception experiment, prosody alone does not always appear sufficient to disambiguate an utterance containing a multiple negative indefinite combination, and so it is expected that when the prosodic contour is not perceived as sufficiently clear by the hearer, then once again the constraints *Neg and IntNeg come into play. What is also predicted by this constraint ranking is that if a multiple negative indefinite combination occurs in a context that favours a NC interpretation, but produced with a DN prosody, that the ranking of *CONTRADICTION above *PROSODY/NC will entail that the utterance be assigned a NC interpretation, rather than a DN interpretation (although this is highly unlikely). The functioning of the two constraints *CONTRADICTION and *PROSODY/NC, and the constraint ranking given above, is illustrated in Tableau 6.4.

Form neg + neg in context favouring NC (no prosodic cues)	Meaning	*CONTRA- DICTION	*PROSODY/ NC	*Neg	IntNeg
☞	$\neg\exists x_1\exists x_2$			*	*
	$\neg\exists x_1\neg\exists x_2$	*		**	
Form neg + neg in context favouring DN (no prosodic cues)	Meaning			*Neg	IntNeg
	$\neg\exists x_1\exists x_2$	*		*	*
☞	$\neg\exists x_1\neg\exists x_2$			**	
Form neg + neg + DN prosody (no context)	Meaning			*Neg	IntNeg
	$\neg\exists x_1\exists x_2$		*	*	*
☞	$\neg\exists x_1\neg\exists x_2$			**	

Tableau 6.4: Disambiguation of multiple NI combinations in context/with prosody

In this tableau we see that for the form "neg + neg", produced in a context that favours a NC interpretation, the optimal meaning is $\neg\exists x_1\exists x_2$, while in a context favouring a DN interpretation, the optimal meaning is $\neg\exists x_1\neg\exists x_2$. In other words, the application of the constraint *CONTRADICTION results in two optimal form-meaning pairs: [neg + neg, $\neg\exists x_1\exists x_2$] and [neg + neg, $\neg\exists x_1\neg\exists x_2$], depending on the context in which an utterance occurs. If no contextual information is present, but the utterance is marked with a specific prosodic contour, then the application of the constraint *PROSODY/NC results in the optimal form-meaning pair [neg + neg, $\neg\exists x_1\neg\exists x_2$], the same optimal pair favoured in a DN context. Although not indicated here, the assumption is that when neither *CONTRADICTION, nor *PROSODY/NC, are relevant, that is where no contextual information is present and there is no special

prosodic marking, the stochastic overlapping constraint ranking of *Neg and IntNeg will come into play, with the hearer strongly favouring an NC interpretation for the form "neg + neg". The motivation for maintaining the stochastic analysis for the interpretation of multiple negative indefinite combinations comes from the fact that in the perception experiments, even with disambiguating prosody, the distribution of NC to DN interpretations occurred in a ratio of 5:1 for negative indefinite combinations produced with a neutral prosody.

So according to the bidirectional OT grammar developed in this section a speaker produces a syntactic form for the expression of multiple indefinites in the scope of negation on the basis of stochastic evaluation, and without taking the hearer into account. In most cases this form consists of one negative indefinite and one or more ordinary indefinites or NPIs, but occasionally this form consists of multiple negative indefinites. The hearer, on the other hand, takes the speaker's perspective into account, and acts in a co-operative way when interpreting multiple negative indefinites. When confronted with an utterance containing multiple negative indefinites she follows the likelihood of the unmarked NC meaning, and only assigns a DN meaning when supplementary information, such as context or clear prosodic marking, makes this interpretation the salient one, or if out of context stochastic evaluation ranks IntNeg higher than *Neg.

6.6 Conclusion

The aim of this chapter was to provide an analysis of multiple indefinites in the scope of negation in Afrikaans. In order to achieve this aim a description of these indefinites was first presented. It was shown that although multiple indefinites in the scope of negation are generally realised by one negative indefinite together with any number of non-negative indefinites, it is possible for multiple negative indefinite constructions to occur in standard Afrikaans. These constructions, although infrequent, are always (prescriptively) assigned a DN interpretation. It was further noted, however, that in colloquial Afrikaans multiple negative indefinite combinations with an NC interpretation do in fact occur, contrary to expectations. This was supported by a discussion of the empirical data, in which it was shown that the corpus data frequencies for multiple negative indefinite combinations with an NC interpretation are such that an analysis to explain their occurrence is

essential if one is to describe and account for the distribution and function of negative indefinites in Afrikaans.

Two possible OT analyses of multiple indefinites in the scope of negation were proposed and examined. Firstly, a standard bidirectional OT account was proposed, however, it was shown that this account was by no means sufficient as the strict ranking of constraints in standard OT did not provide room for the possibility of expressing a single negation meaning with two forms, a negative indefinite + indefinite combination or a multiple negative indefinite combination. Secondly, a stochastic OT account was proposed. Under this account, the occurrence of two possible forms for a single meaning is a result of a continuous ranking of constraints. The ranking values of various constraints, modified by the addition of a normally distributed noise value, results in a degree of overlap in the ranking of different constraints, leading to different constraint rankings for different evaluations of an input. It was determined that there was an asymmetric overlap between *Neg and MaxNeg, which resulted in two possible constraint rankings. The first ranking, in which *Neg outranks MaxNeg, occurs 96% of the time in Afrikaans, leads to the use of the form "neg + indef" for the expression of multiple indefinites under negation. However 4% of the time MaxNeg outranks *Neg and we get the occurrence of multiple negative indefinite constructions, "neg + neg". With regard to the interpretation of these multiple negative indefinite constructions, it was shown that there is also an asymmetric constraint overlap from a hearer's perspective. Although the preferred interpretation of multiple negative indefinite combinations was shown to be that of a NC interpretation (occurring 96% of the time), the asymmetric overlap of *Neg and IntNeg results in a DN meaning being assigned to a multiple negative indefinite combination 4% of the time.

Finally, in order to develop a bidirectional grammar for the expression and interpretation of multiple indefinites in the scope of negation, a stochastic asymmetric bidirectional OT account was proposed, taking into account the insights from both the standard bidirectional OT analysis and the stochastic OT analysis. Under this account a speaker does not take the hearer into account and produces a form for the meaning $\neg\exists x_1 \exists x_2$ on the basis of the stochastic constraint ranking FaithNeg >> *Neg $0_{96/4}$ MaxNeg. Furthermore, it was shown that the

overlapping constraint ranking FNeg >> *Neg $0_{96/4}$ IntNeg is insufficient to account for the variation in the interpretation of multiple indefinites in the scope of negation in Afrikaans, as the hearer optimization is bidirectional. Two constraints, *CONTRADICTION and *PROSODY/NC, were proposed to explain the interpretation of utterances containing multiple negative indefinite combinations in context, and with or without specific prosody. These constraints were ranked above *Neg, and the overlap of *Neg and IntNeg was adjusted to reflect the percentages determined by the perception experiment, resulting in the constraint ranking *CONTRADICTION >> *PROSODY/NC >> *Neg $0_{80/20}$ IntNeg. This constraint ranking accounts for the assignment of both NC and DN interpretations to multiple negative indefinite combinations in Afrikaans.

Chapter 7
More on negative indefinites in Afrikaans: the case of *g'n* and *niks*

7.1 Introduction

In the previous chapter an asymmetric OT analysis of multiple negative indefinite combinations, such as *niemand nêrens* and *nooit niks*, was proposed. This analysis focussed on the expression of indefinites in the scope of negation and used an asymmetric overlapping constraint ranking based on frequency data to account for the occurrence of both negative indefinite + indefinite combinations and multiple negative combinations with single negation interpretations in colloquial Afrikaans. However, one element that was not discussed in the analysis was the negative determiner *g'n*, and its combination with other negative indefinites. In (spoken) Afrikaans, *g'n* is generally characterised as a negative quantifier/determiner, meaning "no", "not any", "not a" and is seen as a phonologically reduced form of *geen*. In fact *g'n* is generally seen as an interchangeable variant of *geen*, used in spoken Afrikaans or in more colloquial registers (Donaldson 1993: 413).

(7.1) (a) *Ons het g'n motors op die pad gesien nie.*
we have no cars on the road see-PST SN
"We didn't see any cars on the road."

(b) *Ons het geen motors op die pad gesien nie.*
we have no cars on the road see-PST SN
"We didn't see any cars on the road."

However, *g'n* also functions differently from the negative quantifier/determiner *geen*. Firstly, it is possible for *g'n*, but not *geen*, to replace sentence-medial *nie* in non-argument binding positions, as illustrated in (7.2) and (7.3). Crucially the appearance of *g'n* in such a construction is restricted to situations where it is a response to a prior assertion of some sort, an observation first made by Biberauer (2009: 110).

(7.2) (a) *Dis g'n lekker nie.*
it-is no nice SN
"It's NOT nice." (as a response to "It is nice")

(b) **Dis geen lekker nie.*

(7.3) (a) *Hy's g'n 'n onderwyser nie.*
he's no a teacher SN
"He's NOT a teacher." (as a response to "He is a teacher")

(b) **Hy's geen 'n onderwyser nie.*

The use of *g'n* in place of *nie* is also a very popular headline-writing device in Afrikaans newspapers, as illustrated in (7.4).

(7.4) (a) *Man G'n Geskiet, Getuig Arts*
"Man Not Shot, Testifies Doctor"
(Beeld 1996-12-03)

Secondly, *g'n* can occur in combination with other negative indefinites, most commonly with *niks*, similar to the multiple negative indefinite combinations discussed in the previous chapter. The combination of *geen* with other negative indefinites, on the other hand, is generally judged to be unacceptable by native speakers of Afrikaans. These observations are illustrated in (7.5).

(7.5) (a) *Ons het g'n niks gesien nie.*
we have no nothing see-PST SN
"We haven't seen anything at all."

(b) *#Ons het geen niks gesien nie.*[62]

It will be shown in section 7.4 that in these constructions *g'n* functions as an intensifier and therefore, unlike the other multiple negative indefinite

[62] The # symbol indicates that, although such constructions are observed in the corpus, and on-line in informal blogs and forums, they are judged unacceptable by most native speakers, even in colloquial contexts. Cf. section 7.3.2 for data from perception judgement experiments supporting this observation.

combinations discussed in Chapter 6, the negation expressed by *g'n niks* is considered to be emphatic (Donaldson 1993; Biberauer 2009).

So the first impulse to analyze *g'n* as merely a reduced form of *geen* is not sufficient to fully account for this element, although this is certainly its origin and one of its uses. It would appear then that there are three types of *g'n*. The first *g'n*, a negative determiner, is unproblematic and functions in the same way as its full phonological form *geen*, as illustrated by (7.1) above. The second *g'n* functions as a sentential negative marker. An analysis of *g'n* requires, therefore, that we explain its (restricted) ability to occur on its own in place of sentence-medial *nie*, as illustrated by (7.2)(a) and (7.3)(a) above. Finally, the third *g'n* functions as an intensifier, in combination with other negative indefinites. As such, an analysis of *g'n* requires an explanation of its ability to occur in negative indefinite combinations, especially with *niks*, as illustrated by (7.5)(a) above. The aim of this chapter is to provide analyses of the latter two types of *g'n*.

In order to achieve this aim I will first examine the fact that *g'n*, on its own, can occur in a restricted way in place of sentence-medial *nie*, specifically that *g'n* is restricted to utterances which are a response to a prior assertion of some kind (cf. Biberauer 2009, Biberauer & Cyrino 2009), whereas *geen* cannot. For example in (7.3)(a) above, the utterance *Hy's g'n 'n onderwyser nie*, can only occur in a context in which the proposition *Hy is 'n onderwyser* ("He is a teacher") has already been established. Biberauer (2009: 110) points out that the restricted use of *g'n* as a sentential negative marker puts one in mind of Schwenter's (2005, 2006) information structural account of non-standard negation. Therefore, in section 7.2, I explore this idea and sketch an information structural analysis to account for this phenomenon, specifically that the use of *g'n* as a sentential negative marker is only felicitous when it is used to deny an activated, salient, discourse-old proposition. Secondly, in section 7.3, I will examine the use of *g'n* in combinations with other negative indefinites, specifically the combination *g'n niks*, as illustrated in (7.5)(a) above. Providing an explanation of the co-occurrence of *g'n* with other negative indefinites will involve, firstly, examining the distinction between negative indefinite combinations with *g'n* and other multiple negative indefinite combinations, such as *niemand niks*, as described in Chapter 5. This distinction will be motivated by both corpus data and data from the perception judgement experiments discussed in Chapter 5.

Secondly, the distinction between *g'n* and *geen*, with reference to their occurrence in negative indefinite combinations, will be examined. As shown in (7.5)(b) above, negative indefinite combinations with *geen* are generally unacceptable in Afrikaans and both corpus data and data from the perception judgement experiments will be provided to motivate this observation. Finally, the claim that only a single negation interpretation of negative indefinite combinations with *g'n* is possible will be motivated by the corpus data, data from the perception judgement experiments and data from the production experiment. In section 7.4, an analysis of *g'n* as it occurs in negative indefinite combinations such as *g'n niks* will be proposed, specifically that *g'n* is an emphatic scalar operator which functions as an intensifier, increasing the grade of the negation. An integral part of this analysis of *g'n niks* will be the role of *niks* in non-standard negative constructions, and so I will in turn provide an analysis of *niks* as it occurs in these constructions. I will show that that *niks* can also function as an emphatic scalar operator, resulting in a stronger negation.

7.2 Negative substitution: an analysis of *g'n* as a sentential negator

7.2.1 The use of *g'n* as a sentential negator

As illustrated above in sentences (7.2)(a) and (7.3)(a), *g'n* can occur in non-argument binding positions, in place of the sentence-medial *nie*, that is, *g'n* does not only function as a negative determiner, as an interchangeable, albeit more colloquial, variant of *geen*, but is able to express sentential negation on its own. It is important to note though that only *g'n* can occur in such a position, the full phonological form *geen* is not acceptable in such constructions, as illustrated in (7.2)(b) and (7.3)(b) above. There is a limitation, however, on the contexts which license the use of *g'n* as a replacement for sentence-medial *nie*. Consider the extract from an on-line letter to a popular Afrikaans website in (7.6) below.

(7.6) *Hy het gehoor hoe sukkel ons [...] met die ooms wat net nie wil verstaan dat "voertuig" 'n ou mankoliekerige sleepwa insluit nie. "Maar boetie, my treilertjie is g'n 'n voertuig nie. Jy moet die ding sien. Die taaiers is nie vol lug nie, dis vol sand. Dit staan die hele jaar onder die afdak en ek gebruik dit een keer 'n jaar om druiwe aan te ry."*[63]
"He heard how we were struggling with the old men that would just not understand that 'vehicle' included an old dilapidated trailer. 'But brother, my little trailer is NOT a vehicle. You must see the thing. The tyres don't have air, it's full of sand. It stands all year under the carport and I use it once a year to transport grapes.'"

The utterance –

(7.7) *my treilertjie is g'n 'n voertuig nie*
my trailer-DIM is no a vehicle SN
"my little trailer is NOT a vehicle"

is a direct response to the proposition "a trailer is a vehicle" which has presumably been uttered in the conversation being reported, but which is left implicit in the letter. As Biberauer (2009: 110) points out, "this calls to mind Schwenter's (2005, 2006) information structural account of non-standard negation structures", as the use of *g'n* in such structures is limited to contexts in which they are a response to a prior assertion of some kind. Biberauer also notes that these structures express non-neutral negation. Although in standard Afrikaans constructions with predicative *be*, such as that in (7.7), usually require the negative determiner *geen*, in this case, the determiner *'n* ("a") precludes the use of *geen* and provides motivation for an analysis in which the *g'n* does not in fact function as a negative determiner, but rather replaces the sentence-medial *nie*. The standard Afrikaans equivalent of this utterance, without any contextual restrictions and without the emphatic nature of the negation is given in (7.8) below.

(7.8) *my treilertjie is nie 'n voertuig nie* (standard Afrikaans)
my trailer-DIM is not a vehicle SN
"my little trailer isn't a vehicle"

[63] http://www.litnet.co.za/cgi-bin/giga.cgi?cmd=cause_dir_news_item&news_id=49500-&cause_id=1270

As further evidence that the *g'n* in these constructions is not equivalent to *geen*, Biberauer (2009: 109) provides the examples in (7.9) and (7.10) below. She points out that the utterance in (7.9), which contains *g'n*, is not equivalent to the utterance in (7.10), which contains *geen*. Whereas (7.9) involves the negation of the proposition that John doesn't write (good) stories, and can only be uttered as a response to a prior assertion, such as *Jan skryf regtig goeie stories* ("John writes really good stories"), (7.10) involves constituent negation, the negation of the NP *goeie stories* ("good stories"), meaning essentially that John only writes bad stories, and can occur without any contextual restrictions.

(7.9) *Hy skryf g'n goeie stories nie!*
he write no good stories SN
"He does NOT write good stories!"

(7.10) *Hy skryf geen goeie stories nie.*
"He writes no good stories."

The examples in (7.11) and (7.12) illustrate how an utterance containing *g'n* in place of sentence-medial *nie* has to occur in a context in which it is a denial of an explicit prior assertion. If this assertion is absent, or implicit, as in (7.11) then the use of *g'n* is infelicitous. However if the assertion being denied has been introduced into the discourse, as in (7.12) then the use of *g'n* is felicitous.

(7.11) [speaker enters a classroom with a broken window]
#Meneer, ek het g'n die ruit gebreek nie!
"Sir, I did NOT break the window!"

(7.12) [same situation as (7.11)]
Meneer: *Neelsie, ek weet jy't die ruit gebreek!*
Neelsie I know you-have the window break-PST
"Neelsie, I know you broke the window!"

Neelsie: *Meneer, ek het g'n die ruit gebreek nie!*
sir I have no the window break-PST SN
"Sir, I did NOT break the window!"

In (7.11) the speaker, Neelsie, on entering the classroom, blurts out that he did not break the window, without actually being accused of such an act. Therefore, because the proposition "you broke the window" is not explicit, the context is not felicitous for the use of *g'n*. In (7.12), however this proposition has been made explicit by the teacher, and so the use of *g'n* is felicitous as a denial of the assertion that he broke the window. To further illustrate the type of linguistic context in which *g'n* can felicitously occur in place of sentence-medial *nie* consider the discourse fragment in (7.13) below. In this case the use of *g'n* is licensed by the presence of an explicit proposition which is then denied.

(7.13) A: *Dis nou 'n lekker bord kos!*
"This is a nice plate of food!"

B: *Dis g'n lekker nie!*
this-is no nice SN
"This is NOT nice!"

Of course the use of *g'n* as a negative determiner, as a reduced form of *geen*, is not subject to any contextual restrictions. For example, the utterance in (7.14) below could be uttered in any context, without any preceding proposition needing to be explicit in order to be negated. In contrast, the utterance in (7.15) has to be uttered in response to an utterance such as *Kom nou my vriend!* ("Come now my friend").

(7.14) *Jy's g'n vriend nie.*
you-be no friend SN
"You're no friend."

(7.15) *Ek's g'n jou vriend nie!*
I-be no your friend SN
"I'm NOT your friend!" Biberauer (2009: 110)

The utterance in (7.14) differs from the utterance in (7.15) in that in the utterance in (7.14) *g'n* functions as a negative determiner, meaning "no", while in (7.15) *g'n* functions as a marker of sentential negation and can be translated as an emphatic "not". Similar to the way in which the determiner *'n* ("a") in (7.7) prevented the analysis of *g'n* as a negative determiner, in (7.15) the pronominal determiner *jou* ("your"), which cannot be analysed as an adjective, prevents the analysis of *g'n* as a

determiner. This also means that in (7.15), as in the other similar examples examined in this section, *g'n* cannot be replaced by *geen*, something which is possible in (7.14), as illustrated by (7.16).

(7.16) *Jy's geen vriend nie.*
"You're no friend."

Following Schwenter (2005, 2006) one can argue that the use of *g'n* as a marker of sentential negation occurs on the basis of information structural considerations. This analysis is based on the fact that the constraints on the use of constructions with *g'n* are similar to the restrictions on non-canonical negation in certain Romance languages, observed by Schwenter. As noted above, this similarity, between the restrictions on the occurrence of *g'n* and those on the use of non-canonical negation, was first pointed out by Biberauer (2009) and the parallel between the use of *não* in Brazillian Portuguese and colloquial *g'n* is also noted in Biberauer & Cyrino (2009). According to Schwenter, the meaning and function of "embracing", non-canonical negative constructions such as *não… não* in Brazilian Portuguese, where the preverbal sentential negation marker is repeated sentence-finally, *no* V *pas* in Catalan and *non* V *mica* in Italian, can be explained on information-structural grounds. In this section I will first discuss Schwenter's informational-structural account of non-canonical negation in Romance languages, specifically in Brazilian Portuguese. I will then examine further data from Afrikaans, showing how the use of *g'n* in colloquial Afrikaans appears to be constrained in the same way as non-canonical negation in Brazilian Portuguese. This will allow me to sketch an informational-structural account of the use of *g'n* in colloquial Afrikaans, thereby fleshing out the proposal first made in Biberauer (2009).

7.2.2 An information-structural account of non-canonical negation in Romance languages

In Brazilian Portuguese, Catalan and Italian, standard canonical negation is expressed with a preverbal sentential negative marker, as illustrated in the sentences in (7.17) from Schwenter (2006).

(7.17) (a) *Avui no fa fred!* (Catalan)
today not makes cold
"Today it's not cold!"

(b) *Gianni non ha la macchina.* (Italian)
Gianni not have the car
"Gianni doesn't have the car."

(c) *A Cláudia não veio à festa.* (Brazilian Portuguese)
the Cláudia not come to party
"Cláudia didn't come to the party."

In these languages, however, it is also possible to express negation with a non-canonical form, namely with both pre- and post-verbal sentential negative markers, as illustrated in the sentences in (7.18) from Schwenter (2006). This pattern of marking negation with a preverbal sentential negation marker together with an (optional) post-verbal negation marker is also characteristic of the second stage of the Jespersen cycle[64].

(7.18) (a) *No, avui no fa pas fred.* Catalan)
no, today not makes SN cold
"No, today it's not cold."

(b) *Gianni non ha mica la macchina.* (Italian)
Gianni not have SN the car
"Gianni doesn't have the car."

(c) *A Cláudia não veio à festa não.* (Brazilian Portuguese)
the Cláudia not come to party SN
"Cláudia didn't come to the party."

In this section I will focus on Schwenter's analysis of non-canonical negation in Brazilian Portuguese (NEG2), showing how the occurrence of NEG2 can be explained on the basis of the information structural properties of negative utterances. Firstly, Schwenter (2005) makes use of Prince's (1992) model of information structure to inform his analysis, which makes a distinction between the DISCOURSE STATUS and HEARER STATUS of an NP referent, each with either the value NEW or OLD.

[64] Cf. Chapter 2.

Schwenter extends this model to the information status of negated propositions, claiming that NEG2 in Brazilian Portuguese is sensitive to discourse status, not hearer status. He illustrates this claim with the example given in (7.19).

(7.19) (a) [speaker walking down the street suddenly remembers she forgot to turn off the stove]
Nossa! Eu não desliguei o fogão (#não)!
"Damn! I didn't turn off the stove!"

(b) [same situation as (a)]
A: *Você desligou o fogão, né?*
"You turned off the stove, right?"
B: *Nossa! Não desliguei não!*
"Damn! I didn't turn it off!"
(Schwenter 2005: 1434-1435)

According to Schwenter, although the underlying implicit expectation that the speaker had turned the stove off is contravened by her utterance in (7.19)(a), this is not a felicitous context for NEG2, whether the utterance is self-directed or interlocutor-directed[65]. However, if this expectation has been uttered by another interlocutor, as in (7.19)(b), and is as such discourse-old, NEG2 is felicitous. The only difference then between (7.19)(a) and (7.19)(b) is the discourse-old status of the proposition "B turned off the stove". Of course, because the conception of 'discourse' in Prince's model is a broad one which not only includes the actual linguistic material produced in discourse, but also situational features, discourse-old information does not have to be textually evoked, but can also be contextually (non-linguistically) evoked. For example, a salient non-linguistic action, from which a particular proposition may be inferred, can also license the use of NEG2, as in (7.20) below. In this example, the use of NEG2 "overtly indexes the speaker's perspective on what the interlocutor's reasoning must be in putting on the heavy coat" (Schwenter 2005: 1436).

[65] Schwenter (2005: 1435ff) points out that the underlying proposition must be implicit for NEG2 to be infelicitous. If the speaker had made the proposition explicit by thinking previously that she had turned off the stove then NEG2 would be felicitous as a denial of that proposition.

(7.20) [Speaker sees interlocutor putting on a coat that is much too heavy for the current weather]
Não está muito frio não!
"It's not very cold out!" (Schwenter 2005: 1436)

Schwenter extends his analysis with the aid of Dryer's (1996) model of the informational status of propositions, which distinguishes between the BELIEF STATUS and the ACTIVATION STATUS of propositions. According to Dryer (1996: 484), the activation of a proposition does not necessarily entail the belief in that proposition, and similarly the belief of a proposition does not entail activation. Schwenter argues that the distinction between activated and believed propositions is necessary to account for NEG2 in Brazilian Portuguese as NEG2 is often found in responses to yes/no-questions. The important point to note is that there is no restriction on NEG2 requiring that it only be used to contravene some implicit or explicit expectation of the speaker asking the question, as the example in (7.21) below illustrates, the requirement is simply that the proposition being negated by NEG2 must be activated by the yes/no-question.

(7.21) A: *[O senhor tem-] [(inint)-] o senhor tem vontade de se mudar um dia, daqui?*
"Do you hope to move away some day, from here?"
B: *Não, não tenho vontade não. (latidos)*
"No, I don't."
(Schwenter 2005: 1438)

According to Schwenter there is no necessary prior assumption that A believes or expects that B wants to move away, but the question does activate the proposition "B hopes to move away someday" and B's use of NEG2 is therefore felicitous as a denial of this activated proposition. Schwenter convincingly shows that the use of non-canonical negation constructions in Brazilian Portuguese, and other Romance languages, is constrained on information structural grounds, in that the proposition denied by these constructions must be an activated, salient discourse-old proposition. The proposition denied does not necessarily have to be presupposed by an interlocutor, or necessarily presupposed to be true ("believed") in the prior discourse, but it has to be activated in the discourse (including extra-linguistic) context.

In the following section I examine data from colloquial Afrikaans, showing that the occurrence of *g'n* on it's own as a marker of sentential negation shows similar information structural properties to those observed for NEG2 in Brazilian Portuguese and that an information-structural account can be developed to explain the use of *g'n* as a sentential negation marker.

7.2.3 An information-structural account of the use of *g'n*

The examples analysed in this section, as well as those discussed in section 7.2.1 above, include a mix of constructed occurrences of *g'n* as a marker of sentential negation and of occurrences found in the Pharos corpus of written Afrikaans and in on-line Afrikaans blogs[66]. The aim is to show that *g'n* can be employed in place of *nie* in denials of discourse-old propositions that have either been activated explicitly (linguistically) in the discourse context, or can be inferred from other discourse-old information (situationally activated). Firstly, consider again the utterance in (7.11) above, repeated below as (7.22).

(7.22) [speaker enters a classroom with a broken window]
#Meneer, ek het g'n die ruit gebreek nie!
"Sir, I did NOT break the window!"

In this scenario a learner enters a class and, in an attempt to deny responsibility for a broken window, utters the sentence given in (7.22). The utterance *Ek het g'n die ruit gebreek nie* is felicitous in a context in which it is a response to a previous assertion, as we saw in (7.12). However, if it is uttered in such an "out-of-the-blue" way by the learner, the use of *g'n* is then infelicitous, as the proposition being denied stems form speaker-based "expectations" that are new to the discourse. The appropriate negation in such "out-of-the blue" contexts would be the standard Afrikaans negation, as given in (7.23).

[66] A blog is an on-line personal journal website on which an individual posts commentaries, descriptions of events, or other material such as pictures or video. Entries are usually displayed in reverse chronological order and each entry is often commented on by members of the blog community, creating an on-line conversation.

(7.23) *Meneer, ek het nie die ruit gebreek nie.*
"Sir, I did not break the window."

Now consider the example in (7.24) below, where the use of *g'n* as a marker of sentential negation in place of sentence medial *nie* is felicitous. In this example, the salient linguistic action is the man calling the woman *antie* ("Auntie"). The fact that the proposition "I can address you as 'Auntie'" is activated and therefore accessible to serve as a "trigger", licenses the use of *g'n* to negate this proposition.

(7.24) *Voor die 1994 verkiesing het mnr. Leon Wessels hier op Piketberg op 'n NP vergadering in vrae-tyd, mense wat merkbaar ouer as hyself was in sy antwoorde as "oom", "tannie" of "antie" aangespreek. Mense se reaksie hierop was nogal interessant en voorspelbaar. 'n Vrou wat net voor my gesit het, se reaksie was: "Ek is g'n jou antie nie."*
"Before the 1994 elections, Mr Leon Wessels, during question time at a NP meeting here in Piketberg, addressed people clearly older than him as 'uncle', 'aunt' or 'auntie'. People's reactions to this were interesting and predictable. A woman, sitting just in front of me, reacted with: 'I am not your auntie.'"
(Die Burger 1996-03-30)

In (7.25), we have an utterance taken off an Afrikaans blog in response to a particular post and its accompanying picture.

(7.25) *Daai is g'n die pous se klere nie, dis een van jou ma se Elvispakkies!!!!!*[67]
that is no the pope POSS clothes SN it-is one of your mom POSS Elvis-suit-DIM-PL
"Those are not the Pope's clothes, it's one of your mom's Elvis suits!"

In the blog post a young man had described how he had gone to school dressed as the Pope. In this case, the negated proposition ("the young man is dressed as the Pope") has been activated both linguistically, by the blogger's description of himself dressed as the Pope, given in (7.26), and contextually, by the picture of the blogger dressed as the Pope, in a long white Papal gown with ornate gold trim. The discourse-old status of

[67] http://gormendizer.co.za/2006/12/23/100-redes-om-nie-te-swot-nie

the proposition therefore licenses the use of *g'n* in (7.25) as a marker of sentential negation.

(7.26) *Ek het as die pous gegaan, met 'n bypassende bordjie waarop daar "Go To Hell" staan.*
"I went as the Pope, with an accompanying sign on which was written 'Go To Hell'."

The analysis of *g'n*, as it is used to replace sentence-medial *nie*, is therefore one based on information structure. What is needed for *g'n* to be felicitous in place of sentence-medial *nie* is that it must occur as a denial of a proposition that can be derived from an immediately preceding utterance, that is discourse-old information, or that can be inferred on the basis of other (linguistic or non-linguistic) discourse-old content.

7.2.4 The use of *g'n* in newspaper headlines

One context in which the use of *g'n* in place of *nie* is quite common, especially in the Pharos corpus, is the use of *g'n* in headlines. Schwenter argues against an analysis that accounts for non-canonical negation used as a response to a proposition that is entailed by the common ground (Zanuttini 1997:61). He maintains that it is the manner in which the proposition becomes part of the common ground that is crucial to the felicitous use of non-canonical negation, that is, the proposition must be discourse-old and salient in the discourse context. The use of *g'n* in headlines, however, seems to contradict Schwenter's objection to an idea of "entailed by the common ground" as sufficient for the felicitous use of non-canonical negation. In the examples in (7.29) - (7.28), *g'n* replaces the sentence-medial *nie* in order to deny a proposition that appears to be part of the common ground, but which, at first glance, is not explicitly activated or discourse-old, as the context is that of a newspaper headline which has no preceding linguistic or discourse context. This is not surprising as headlines commonly draw part of their meaning from "what is assumed to be the readers' shared cultural, political and general knowledge" (MacRitchie and Seedat 2008).

(7.27) *Man G'n Geskiet, Getuig Arts*
"Man Not Shot, Testifies Doctor" (Beeld 1996-12-03)

(7.28) *Staat Sal G'n Met Bendes Vergader*
"State Won't Meet With Gangs" (Beeld 1996-10-15)

(7.29) *Baie Vis 'Red Jou Hart G'n*[68]
"Lots of Fish 'Won't Save Your Heart" Beeld 1995-04-13)

If one considers the discourse context of a newspaper article, however, to include previous articles on the same topic, or to include activated knowledge about a particular topic or incident, then a proposition entailed by the discourse context of a particular article can be considered contextually activated and so can be denied felicitously by the use of *g'n*. In these cases the headline makes use of *g'n* in order to signal in an overt fashion the negation of a contextually activated proposition entailed by the discourse context of the article itself, which includes previous articles on the relevant issue and/or activated knowledge about the issue. For example, consider the headline in (7.30).

(7.30) *Ons gaan g'n meer opdok vir vrotsige inhoud*
"We won't foot the bill for rotten content anymore"
(Beeld 2009-11-03)

This is the headline of an opinion piece written about a proposed new tax to be implemented by the government as a substitute for the TV licenses which are issued by the South African Broadcast Company (SABC). This headline makes reference to an article published the previous day in the news section, the headline of which is given in (7.31), and is as such negating the proposition that South Africans have to fund the national television broadcaster, no matter the quality of the content provided.

(7.31) *Geld uit jóú sak om SAUK te red*
"Money out of YOUR pocket to save the SABC"
(Beeld 2009-11-02)

Interestingly, the idea that the discourse context of a newspaper headline includes previous articles on the same topic is reinforced by the headline

[68] Although at first glance *g'n* is not in sentence-medial position, it does in fact function as the sentential negator. In this case the object of the sentence *jou hart* ("your heart") has been scrambled above the negation (Cf. Chapter 1).

of an article on the following day, given in (7.32), which deals with the same topic, and which makes specific reference to the headline of the previous day's opinion piece, the headline in (7.30).

(7.32) *Dís hoekom mense vir SAUK moet opdok*
"THIS is why people should foot the bill for the SABC"
(Beeld 2009-11-04)

The use of *g'n* in place of sentence-medial *nie* is a very popular headline-writing device in Afrikaans newspapers, and as such could be seen as a specialised use of *g'n*. Van Dijk (1985: 77) notes that headlines are used to express or to infer the theme or topic of a news item, and as such they make extensive use of exophoric devices. Exophoric devices are devices used to increase text cohesion and involve reference to elements outside the text. It could be argued that the use of *g'n* in headlines to overtly index a negated proposition is an example of such an exophoric device, as it refers to the immediate context of the discourse, to something which is not presented in the text but only in the situation the text describes.

7.2.5 Concluding remarks

In this section I have shown how the occurrence of *g'n* on its own as a marker of sentential negation, the second type of *g'n*, is constrained by information structural properties similar to those observed for NEG2 in Brazilian Portuguese. This has allowed me to sketch an information-structural account to explain the use of *g'n* as a sentential negation marker, following the idea first proposed in Biberauer (2009). In colloquial Afrikaans *g'n* can be used in place of sentence medial *nie* with the restriction that the proposition denied must be an activated, salient discourse-old proposition. As is the case in Brazilian Portuguese, and other Romance languages, the proposition does not necessarily have to be presupposed by an interlocutor, or necessarily presupposed to be true in the prior discourse, but it has to be activated in the linguistic and/or extra-linguistic discourse context. In the case of newspaper headlines, this discourse context includes previous articles on, or activated knowledge about, the topic of the newspaper item. The use of *g'n* in newspaper headlines in turn can be analysed as an exophoric device, and is as such a specialised instance of the occurrence of *g'n* as a marker of

sentential negation. In the next section I examine the third type of *g'n*, namely that *g'n* can function as an intensifier, in combination with other negative indefinites, such as *niks*.

7.3 The nature and distribution of *g'n niks* in the corpus

In colloquial Afrikaans *g'n* can be combined with other negative indefinites, most commonly with *niks*, to express a single negation, similar to the negative indefinites examined in Chapter 5. In section 7.4 I provide an analysis of *g'n* as it occurs in negative indefinite combinations, specifically in the combination *g'n niks*. First, however, I will examine the nature and distribution of *g'n niks* as it occurs in the Pharos corpus, as described in Chapter 5, in order to provide the data to motivate the analysis provided in section 7.4. In section 7.3.1 I will provide a description of the corpus data as it relates to negative indefinite combinations with *g'n*, providing motivation for focussing the analysis on *g'n niks*. In section 7.3.3, distribution patterns from the corpus data and native speaker judgments will be used to show that a distinction between negative indefinite combinations with *g'n* and other multiple negative indefinite combinations should be made, while in section 7.3.3, evidence in support of the position that *g'n* is different from *geen* in these constructions will be discussed. In section 7.3.4, the claim that only a single negation interpretation of negative indefinite combinations with *g'n* is possible will be motivated by the corpus data, data from the perception judgement experiments and data from the production experiment. It will be shown that in instances where *g'n niks* is given a DN reading, *g'n* can be analysed as a sentential negative marker, subject to the same contextual restrictions discussed in section 7.2. Finally, in section 7.3.5, I will discuss the nature of the occurrences of *g'n niks* in the corpus and provide examples from the corpus of the various constructions in which *g'n niks* can occur.

7.3.1 Occurrences of negative indefinite combinations with *g'n* in the corpus

As can be seen in Figure 7.1 below, one hundred and thirty-eight instances of the combination *g'n niks* were found in the corpus. If this is compared to the negative indefinite combinations examined in Chapter 5 it can be seen that this is by far the highest total for any negative indefinite combination. The high frequency of *g'n niks* in comparison to

other negative indefinite combinations, such as *niemand niks*, supports making a distinction between *g'n niks* and other negative indefinite combinations, something which will be done in section 6.3.2. The combination *g'n niemand* also occurred relatively frequently in the corpus, with sixty-one instances found. Other than one occurrence of the combination *g'n nooit*, no other negative indefinite combinations with *g'n* were found in the corpus.

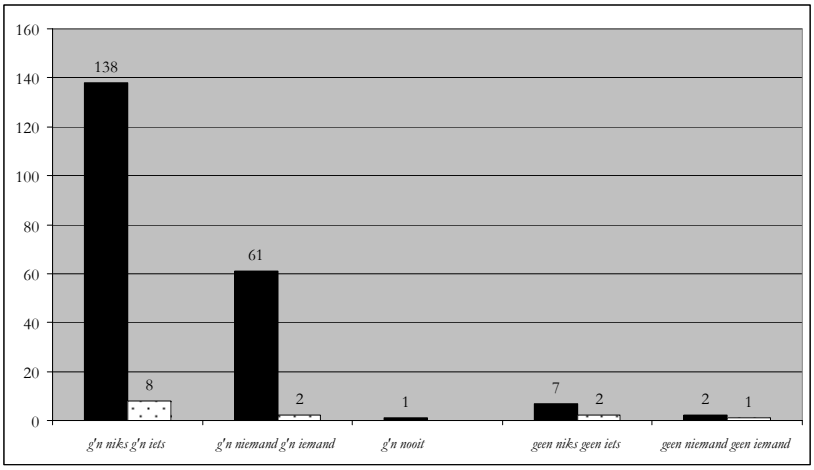

Figure 7.1: Total number of combinations with *g'n* and *geen* found in the corpus

In (7.33) we see examples of sentences containing *g'n niks* and *g'n niemand* taken from the corpus.

(7.33) (a) *Hy kry g'n niks gedoen nie.*
he get no nothing do-PST SN
"He doesn't get anything at all done."
(Rapport 1999-05-23)

(b) *Maar g'n niemand kon my dan sê waar Skulpiesbaai is nie!*
but no nobody could me then say where Shell-bay is SN
"But nobody could tell me where Shell Bay was!"
(Beeld 1991-08-12)

As all negative indefinite combinations, including those with *g'n*, are essentially colloquial in nature, the relatively low totals to be found in a written corpus are not surprising. If one looks at more informal written sources, such as on-line blogs and forums we do find instances of other negative indefinite combinations with *g'n*, as the examples in (7.34) illustrate. Although the focus in this section, and of the analysis in section 7.4, will be primarily on *g'n niks*, motivated by the relative frequency of this combination in the corpus, it is assumed that the analysis proposed can be extended to account for all combinations of *g'n* and a negative indefinite, such as *g'n niemand*, *g'n nêrens* and so on.

(7.34) (a) *Het g'n niks vannag geslaap nie.*[69]
have no nothing tonight sleep-PST SN
"Haven't slept at all tonight."

(b) *G'n niemand op dié forum weet die nuwe naam*[70]
no nobody on this forum know the new name
"Absolutely no-one on this forum knows the new name"

(c) *Maar ek gaan dit g'n nooit doen nie.*[71]
but I go it no never do SN
"But I will never ever do that."

(d) *Hy sê nog heeltyd hy kamp g'n nêrens nie*[72]
he say still all-the-time he camp no nowhere SN
"He still says constantly that he will not camp anywhere at all"

What is interesting to note in Figure 7.1 is that the relative frequency of *g'n niks* is in sharp contrast to the fact that the supposedly equivalent expression, *g'n iets*, containing an ordinary indefinite in place of the negative indefinite *niks*, occurs only eight times in the corpus. Similarly, only two instances of *g'n iemand* were found in the corpus (and no instances of any other combination of *g'n* with other ordinary indefinites

[69] http://www.sarugby.com/news/News/articla/sid=7919.html
[70] http://www.sacanada.org/lofiversion/index.php/t12059.html
[71] http://www.kletskerk.co.za/viewtopic.php?f=1&t=1765&start=45
[72] http://winecountry.co.za/fynproe/index.php?option=com_content&task=view&id=150&Itemid=293

or NPIs, such as *g'n ooit*). As pointed out in Chapter 1, multiple indefinites in the scope of negation are usually realized by one negative indefinite and one or more ordinary indefinites or NPIs, so one would expect the combination *g'n iets* to occur more often than *g'n niks*, as was the case with other multiple indefinite combinations in the scope of negation, discussed in Chapter 5. Examples of combinations of *g'n* and ordinary indefinites or NPIs are also scarce in more informal sources, such as on-line blogs and forums, although they do occur, as the examples in (7.35) illustrate.

(7.35) (a) *Daar's g'n iets soos 200 persent nie.*[73]
there-is no something as 200 percent SN
"There's no such thing as 200 percent."

(b) *Hy's g'n iemand se oom nie.*[74]
he-is no somebody POSS uncle SN
"He's nobody's uncle."

I will return to these examples in section 7.3.3 with the examination of the distinction between negative indefinite combinations with *g'n* and other negative indefinite combinations.

7.3.2 Establishing the difference between *g'n* and *geen* in negative indefinite combinations

As pointed out in Chapter 1, although *g'n* is generally viewed as an interchangeable variant of *geen* (Donaldson 1993: 413) there is evidence to suggest that this is not the case. One source of evidence, related to the use of *g'n* in negative indefinite combinations, is the corpus data. In Figure 7.1 above, it can be seen that only seven instances of *geen niks* and two instances of *geen niemand* were found in the corpus (and no instances of any other negative indefinite occurring together with *geen*). This frequency data therefore supports a distinction between *g'n* and *geen* in combinations with other negative indefinites.

---

[73] http://www.kletskerk.co.za/viewtopic.php?f=2&t=846&start=30
[74] http://www.woes.co.za/kortverhale/vertoon/59494_%E2%80%98n_Gif_vir_Sofie.htm

Secondly, evidence in support of the distinction between the use of *g'n* and *geen* in negative indefinite combinations comes from the perception experiment. As described in Chapter 5, the questionnaire in the perception experiment contained six utterances containing negative indefinite combinations with *g'n*, and four utterances containing negative indefinite combinations with *geen*. Participants were instructed to listen to an utterance and then score the utterance on a scale of 1 to 7, with 1 being acceptable in Afrikaans and 7 being highly unacceptable in Afrikaans. Table 7.1 presents the results of the acceptability judgements of the utterances containing negative indefinite combinations with *g'n*, items 1 – 6, while Table 7.2 presents the results of the acceptability judgements of the utterances containing negative indefinite combinations with *geen*, items 7 – 12. If we compare the mean acceptability of negative indefinite combinations with *g'n*, with the mean acceptability of utterances containing negative indefinite combinations with *geen* we can see that whereas participants judged negative indefinite combinations with *g'n* to be largely acceptable, utterances containing negative indefinite combinations with *geen* were judged to be far less acceptable.

Item no.	Utterance	N	Mean %	Std Deviation
1	*G'n niemand hou daarvan nie* no nobody like there-of SN	16	71.88	33.18
2	*Dit is g'n niemand se skuld nie* it is no nobody POSS fault SN	16	85.42	18.13
3	*Daar is g'n niks kos in die yskas nie* there is no nothing food in the fridge SN	16	64.58	36.96
4	*Die seun het g'n niks gesteel nie* the boy have no nothing steal-PST SN	16	82.29	22.33
5	*Die man het g'n nooit sy hare gewas nie* the man have no never his hair wash-PST SN	16	63.54	39.07
6	*Die band is g'n nêrens op toer nie* the band is no nowhere on tour SN	16	65.63	33.59

Table 7.1: Perception study acceptability judgements of NI combinations with *g'n*

Item no.	Utterance	N	Mean %	Std Deviation
7	*Ons het geen niemand by die strand gesien nie* we have no nobody at the beach see-PST SN	16	47.92	37.45
8	*Die polisie kon geen niks doen nie* the police could no nothing do SN	16	41.67	40.37
9	*Die kinders het geen nooit lekkers gekry nie* the children have no never sweets get-PST SN	16	41.11	39.77
10	*Die ou tannie het geen nêrens op vakansie gegaan nie* the old aunt have no nowhere on vacation go-PST SN	16	52.08	35.42

Table 7.2: Perception study acceptability judgements of NI combinations with *geen*

A one-way ANOVA for within-group effects determined that there was no significant difference between the combinations with *g'n*, items 1 – 6 (F (5,95) = 1.461; p = .21), nor was there any significant difference between the combinations with *geen*, items 7 to 10 (F (3,62) = .297; p = .83). The one-way ANOVA for between-group effects, however, found significant difference between combinations with *g'n* and combinations with *geen* (F (1,158) = 22.685; p < .01). This data, together with the disproportionate distribution of *g'n* and *geen* in the corpus data, provide valid reasons for the focus of this section, and of the analysis presented in section 7.4, to be exclusively on negative indefinite combinations with *g'n*.

In the following section, the distribution patterns from the corpus data described in section 7.3.1, together with native speaker judgments, will be used to show that a distinction between negative indefinite combinations with *g'n*, specifically *g'n niks*, and other multiple negative indefinite combinations, such as *niemand niks*, should be made.

7.3.3 Establishing the difference between *g'n niks* and other multiple negative indefinite combinations

Let us return to the distribution of *g'n niks* in comparison with its supposedly equivalent expression, *g'n iets*, which differs from the distribution pattern observed for multiple negative indefinite combinations and their negative indefinite + indefinite equivalents.

Recall that in Chapter 5 it was shown that multiple negative indefinite combinations occur far less frequently in the corpus than the equivalent combinations of negative indefinite and ordinary indefinite (Cf. Figure 5.1 and 5.2 in Chapter 5). This is not the case for combinations with *g'n*. As shown in Figure 7.1 in section 7.3.1, *g'n iets* only occurs eight times in the corpus, as compared to the one hundred and thirty-eight times that *g'n niks* occurs. If negative indefinite combinations with *g'n* were to function in the same way as other multiple negative indefinite combinations, we would expect to find a similar distribution pattern of *g'n* + negative indefinite combinations (e.g. *g'n niks*) versus *g'n* + indefinite combinations (e.g. *g'n iets*) to that found between other multiple negative indefinite combinations (e.g. *niemand nooit*) and their equivalent negative indefinite + indefinite combinations (e.g. *niemand ooit*). For example, the multiple negative indefinite combinations *niemand niks* and *nooit niks* occurred thirty-eight and forty-three times respectively, while the corresponding combinations *niemand iets* and *nooit iets* occurred four hundred and one times and one thousand and seventeen times respectively. As this is not the case for combinations with *g'n*, we are left with the intuition that the function of negative indefinite combinations with *g'n* differs from the function of other multiple negative indefinite combinations, an intuition that will be confirmed in section 7.4.

That the distribution facts show that negative indefinite combinations with *g'n* differ from other multiple negative indefinite combinations is further supported by data from the perception experiment. As described in Chapter 5, the questionnaire in the perception experiment contained six utterances containing negative indefinite combinations with *g'n*, and six utterances containing combinations of *g'n* with an ordinary indefinite. If we compare the mean acceptability of negative indefinite combinations with *g'n*, given in the previous section in Table 7.1 (items 1 – 6), with the mean acceptability of the utterances containing combinations of *g'n* with an ordinary indefinite, given in Table 7.3 below (items 11 – 16), there is a clear difference in level of acceptability, with utterances containing combinations of *g'n* with an ordinary indefinite being significantly less acceptable than utterances containing negative indefinite combinations with *g'n*.

Item no.	Utterance	N	Mean %	Std Deviation
11	*G'n iemand hou daarvan nie* no somebody like there-of SN	15	47.78	40.76
12	*Dit is g'n iemand se skuld nie* it is no somebody POSS fault SN	16	62.50	38.25
13	*Daar is g'n iets kos in die yskas nie* there is no something food in the fridge SN	16	10.42	22.67
14	*Die seun het g'n iets gesteel nie* the boy have no something steal-PST SN	16	60.42	41.22
15	*Die man het g'n ooit sy hare gewas nie* the man have no ever his hair wash-PST SN	16	48.96	36.75
16	*Die band is g'n êrens op toer nie* the band is no anywhere on tour SN	16	54.17	40.14

Table 7.3: Perception study acceptability judgements of *g'n* + indefinite combinations

A one-way ANOVA for within-group effects determined that there was no significant difference between the combinations with *g'n*, items 1 to 6 (F (5,95) = 1.461; p = .21), nor was there any significant difference between the utterances containing combinations of *g'n* with an ordinary indefinite, items 11 to 16 (F (4,79) = .572; p = .65). Item 13, the utterance *Daar is g'n iets kos in die yskas nie*, was excluded from the statistical analysis as it is an ungrammatical utterance. Whereas in colloquial Afrikaans it is possible to use (*g'n*) *niks* in place of the negative determiner *geen*, the corresponding sentence with an ordinary indefinite, *iets*, is not possible. In this case the *iets* (something/anything) contributes an argument that has no theta-role assigned to it (there are too many arguments in the sentence) and so the utterance is ungrammatical. The one-way ANOVA for between-group effects found a significant difference between utterances containing negative indefinite combinations with *g'n* and utterances containing combinations of *g'n* with an ordinary indefinite (F (1,175) = 11.390; $p < .01$).

The low acceptability of utterances containing combinations of *g'n* with an ordinary indefinite can be starkly contrasted with the acceptability of other negative indefinite + indefinite combinations (items 17 – 30), given in Table 7.4 below, which are the equivalents of the multiple negative

indefinite combinations, such as *niemand niks* and *nooit nêrens*, discussed in Chapter 5.

Item no.	Utterance	N	Mean %	Std Deviation
17	*Hy vra vir niemand iets nie* he ask for nobody something SN	16	97.92	5.69
18	*Ek weet dat niemand iets gesê het nie* I know that nobody something say-PST have SN	16	97.92	5.69
19	*Ek het niemand ooit daar sien loop nie* I have nobody ever there see walk SN	16	100.00	.00
20	*Hy het gesê dat ons niemand êrens sal vind nie* he have say-PST that we nobody anywhere will find SN	16	80.21	28.69
21	*Sy steek niks vir iemand weg nie* she hide nothing for somebody away SN	16	96.88	9.07
22	*Die speurder het niks ooit daar gevind nie* the detective have nothing ever there find-PST SN	16	80.21	32.33
23	*Ek het niks êrens gekoop nie* I have nothing anywhere buy-PST SN	16	81.25	27.81
24	*Jy het nooit vir iemand omgegee nie* you have never for somebody about-give-PST SN	16	97.92	8.33
25	*Hulle het nooit iemand daar gekry nie* they have never somebody there get-PST SN	16	100.00	.00
26	*Ouma het nooit iets gevra nie* grandma have never something ask-PST SN	16	98.96	4.17
27	*Die kinders het nooit êrens gegaan nie* the children have never anywhere go-PST SN	16	88.54	24.88
28	*Die skerpioene het nêrens iets gevind nie* the scorpions have never something find-PST SN	16	100.00	.00
29	*Die man beweer dat daar nêrens iemand was nie* the man maintain that there nowhere somebody was SN	16	98.96	4.17
30	*In die woestyn is daar nêrens ooit 'n blom of 'n blaar nie* in the desert is there nowhere ever a flower or a leaf SN	16	94.79	13.22

Table 7.4: Perception study acceptability judgements of NI + indefinite combinations

When we compare the mean acceptability for the items in Table 7.3 with the mean acceptability for the items in Table 7.4 we can see that negative indefinite + indefinite combinations are far more acceptable than *g'n* +

indefinite combinations. A one-way ANOVA determined that there is a significant difference between these two groups (F (1,303) = 148.389; $p < .01$). This provides further evidence for distinguishing between negative indefinite combinations with *g'n* and other multiple negative indefinite combinations.

Of course the disproportionate distribution of negative indefinite combinations with *g'n* versus combinations of *g'n* with ordinary indefinites, and the difference in their level of acceptability to native speakers, could be attributed to the fact that *g'n iets* ("no something/anything") is equivalent to *niks* ("nothing"), while *g'n iemand* ("no somebody/anybody") is equivalent to *niemand* ("nobody"). Speakers may thus prefer to use *niks* and *niemand* because of the morphological incorporation of negation into the indefinite in these forms. As noted in the Optimality theoretic characterization of Afrikaans negation in Chapter 4 and the OT analysis in Chapter 6, NegAttract, a constraint that requires that clausal negation be realized on an indefinite in argument or adjunct position, is highly ranked in Afrikaans. This would then result in the forms *niks* and *niemand* being favoured above *g'n iets* and *g'n iemand*. This constraint, of course, would not play a role in the realization of *g'n niks*, or *g'n niemand*, as in these cases negation is morphologically incorporated into the indefinites.

Another possible reason for the disproportionate distribution between, for example, *g'n niks* and *g'n iets*, and their difference in acceptability is that there is in fact a fundamental difference between the function of *g'n* in these two constructions. Consider again the examples of combinations of *g'n* and ordinary indefinites given in (7.35) repeated below as (7.36).

(7.36) (a) *Daar's g'n iets soos 200 persent nie.*[75]
there-is no something as 200 percent SN
"There's no such thing as 200 percent."

[75] http://www.kletskerk.co.za/viewtopic.php?f=2&t=846&start=30

(b) *Hy's g'n iemand se oom nie.*[76]
he-is no somebody POSS uncle SN
"He's nobody's uncle."

If we examine the conditions under which these examples can occur, it appears that the combination of *g'n* and an ordinary indefinite is not equivalent to the corresponding negative indefinite combination with *g'n*. In all cases the occurrence of *g'n* with an ordinary indefinite, such as *iets* or *iemand*, takes place in a discourse context in which it is a denial of an activated discourse-old proposition. For example, the sentence in (7.36)(a) is a response to a preceding comment, given in (7.37). As such it is a denial of a discourse-old, linguistically activated proposition.

(7.37) *Dis dan 200% né?*
"That's 200% isn't it?"

Similarly, the sentence in (7.36)(b) occurs in response to the utterance in (7.38).

(7.38) *Het oom Jon spesiaal vir my net kom dagsê vanoggend of is daar ietsie anners waarmee ek kan help?*
"Did Uncle Jon just come this morning specially to say hello or is there something else that I can help with?"

In this case the linguistically salient action is the person in question being addressed as *oom* ("uncle"), i.e. the discourse-old proposition being denied is that the person is someone that can be addressed as *oom*, an example that calls to mind the extract in (7.24), in section 7.2.3. These illustrative examples lead us to analyse *g'n*, in combination with an ordinary indefinite such as *iets* or *iemand*, along the same lines as the analysis presented in section 7.2. That is, in combination with ordinary indefinites, *g'n* functions as a substitute for sentence-medial *nie*, as a sentential negation marker, subject to information structural constraints. In contrast, *g'n niks* is not subject to any information structural constraints and does not have to occur as a denial of a discourse-old, (linguistically) activated proposition. Rather *g'n niks* appears to function as a more intense form of negation, as will be shown in section 7.4.

[76] http://www.woes.co.za/kortverhale/vertoon/59494_%E2%80%98n_Gif_vir_Sofie.htm

Whatever the reason for the disproportionate distribution between negative indefinite combinations with *g'n* and combinations of *g'n* with ordinary indefinites, and their difference in acceptability, what is clear is that these facts provide sufficient motivation for distinguishing between negative indefinite combinations with *g'n* and other negative indefinite combinations, as described in Chapter 6.

7.3.4 The interpretation of negative indefinite combinations with *g'n*

One point I have not addressed up until this point, is the interpretation of *g'n niks*. I have claimed that the negative indefinite combination *g'n niks* expresses a single negation, or NC interpretation, which is true for all instances of *g'n niks* observed in the corpus (and on-line). However, it is possible for *g'n niks* to express a DN meaning. Of course, as we saw in Chapter 6, other multiple negative indefinite combinations, such as *niemand niks*, can also express either an NC or a DN meaning, however, we have established that *g'n niks* differs from those constructions, so we would not necessarily expect it to act in a similar way. The important consideration, as with the other multiple negative indefinite combinations discussed in Chapter 6, is prosody.

It is possible to obtain a DN reading of *g'n niks* if it is produced with a specific prosodic contour. Specifically, if *g'n* is produced with a prenuclear H* pitch accent[77], and *niks* is produced with a nuclear accent L*, followed by a L-phrase accent and an H% boundary tone, the so-called "contradiction contour" (Liberman & Sag 1974), then such an utterance will receive a DN reading rather than an NC reading, similar to other multiple negative indefinite combinations. As noted for the multiple negative indefinite combinations discussed in Chapter 6, there may also be a slight pause between *g'n* and *niks*, which serves to emphasise the L* nuclear accent. Figure 7.2 shows the prosodic analysis of the utterance in (7.39) using PRAAT. In this figure we can see the waveform, the F0 contour and the ToBI labelling together with the text of the utterance.

[77] The prosodic notation of the contours was made using the Guidelines for ToBI labelling (Beckman & Elam 1997).

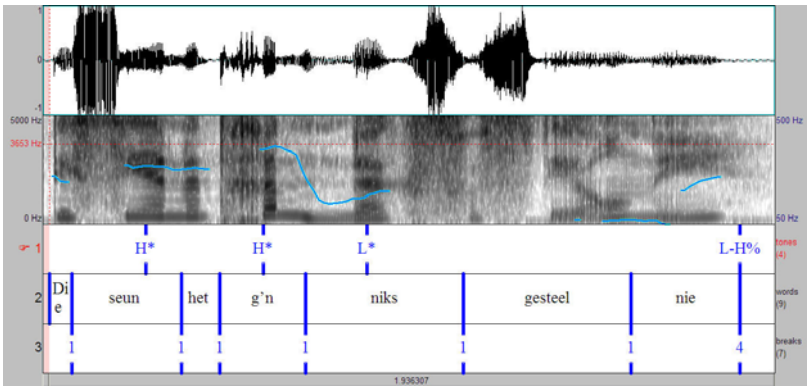

Figure 7.2: Prosodic contour for DN interpretation of *g'n niks*

(7.39) *Die seun het g'n niks gesteel nie.*
the boy have no nothing stolen SN
✖ "The boy didn't steal anything at all."
✓ "The boy didn't steal nothing." (i.e. he did steal something)

This DN prosodic contour can be contrasted with the prosodic contour used most often with multiple negative indefinite constructions with an NC interpretation, including negative indefinite combinations with *g'n*, namely the neutral contour. In the neutral contour the intonation phrase contains one or more H* pitch accents and ends in a sequence of L-phrase accent and L% boundary tone. This contour can be clearly seen in Figure 7.3, which shows the prosodic analysis of the NC reading of the utterance in (7.40) below.

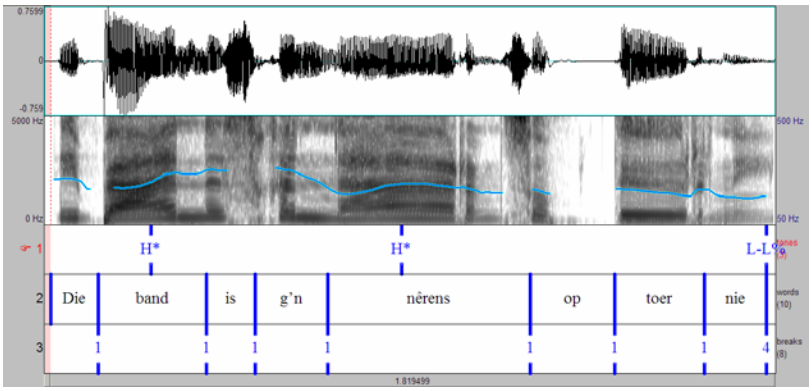

Figure 7.3: Prosodic contour for NC interpretation of *g'n nêrens*

(7.40) *Die band is g'n nêrens op toer nie.*
the band is no nowhere on tour SN
"The band didn't go anywhere at all on tour."

There is a significant difference, however, between *g'n niks* as it expresses a single negation and *g'n niks* as it expresses a double negation. Biberauer & Cyrino (2009) make a distinction between *g'n*, as it occurs together with *niks* to express a DN meaning, and *g'n niks*, as it occurs as a replacement for *nie*, expressing a single negation. They maintain that the difference between the two elements is signalled through prosody, noting that the use of *g'n* in a DN construction, which they label *G'N*, must constitute its own prosodic phrase, separate from *niks*, while *g'n niks*, expressing a single negation, forms a single prosodic phrase. While this prosodic analysis differs from the one presented above, it is motivated by the same observations. Following Biberauer & Cyrino's analysis of *G'N/g'n* as it is used to replace *nie*, it is my contention that what we are dealing with in utterance (7.39) is *g'n* as a marker of sentential negation, co-occurring with *niks*. As such this occurrence of *g'n* is subject to the same information structural constraints that other occurrences of *g'n* as a substitute for sentence-medial *nie* are subject to. Specifically *g'n* can only co-occur with *niks*, expressing a DN meaning, in a discourse context in which it is a denial of an activated discourse-old proposition. For example, in the context in (7.41), the use of *g'n niks* in B's utterance to express a DN meaning is felicitous because it occurs as a denial of a discourse-old, linguistically activated proposition, the proposition expressed by A[78].

(7.41) [Two teachers are discussing the behaviour of one of their students.]
A: *Ek weet hy's stout, maar hy het niks*
I know he's naughty but he have nothing
gesteel nie.
steal-PST SN
"I know he's naughty, but he didn't steal anything."

[78] There were no instances of *g'n niks* with a DN interpretation found in the corpus, however, native speaker judgements support this information structural analysis of *g'n*, as it occurs together with *niks* to express a DN meaning.

B: *Hy het g'n niks gesteel nie! Hy't 'n*
he have no nothing steal-PST SN he-have a
klomp lekkers gesteel!
lot sweets steal-PST
"He did not steal nothing! He stole a bunch of sweets!"

This analysis is furthermore consistent with the fact that the label of the DN prosodic contour, the 'contradiction contour', suggests that "it is used when the speaker intends to contradict something previously said or implied in the discourse" (Chen 2005: 18).

7.3.5 Nature of the occurrences of *g'n niks* in the corpus

Let us now focus on the nature of *g'n niks*, specifically the function it performs in the various sentences found in the corpus. *G'n niks* is a colloquial element and so to determine its function we can compare sentences that contain *g'n niks* with constructions, expressing a similar meaning that one would expect to find in standard Afrikaans. For example, the sentences in (7.42), from the corpus, illustrate the occurrence of *g'n niks* in constructions where one would expect to find *niks* ("nothing") on its own in standard Afrikaans. This construction is the most common one in which *g'n niks* occurs, and as such can be characterised as the most normal or standard occurrence of *g'n niks*.

(7.42) (a) *Hy sê hy het g'n niks met spioene te doen nie.*
he say he have no nothing with spies to do SN
"He says he hasn't anything at all to do with spies."
(Rapport 1997-10-08)

(b) *Ek ruik g'n niks nie.*
I smell no nothing SN
"I don't smell anything at all."
(Die Burger 1992-12-23)

The negation expressed by *g'n niks* in such constructions is stronger, however, than if only *niks* were to occur, as would be the case in standard Afrikaans, as (7.43)(a) illustrates. In order to convey the same meaning as in (7.42)(b), an additional intensifier has to occur, as illustrated by (7.43)(b). In fact it will be shown in the following section, section 7.4, that in the combination *g'n niks*, *g'n* functions as an intensifier of the negation expressed by *niks*.

(7.43) (a) *Ek ruik niks nie.* (standard Afrikaans)
I smell nothing SN
"I don't smell anything."

(b) *Ek ruik absoluut niks nie.*
I smell absolutely nothing SN
"I don't smell anything at all."

It is also possible to find *g'n niks* in constructions where one would expect to find only *geen* in standard Afrikaans, as the sentences in (7.44) illustrate.

(7.44) (a) *Daar is g'n niks misterie aan kos maak nie.*
There is no nothing mystery to food make SN
"There isn't any mystery at all to making food."
(Rapport 2005-09-04)

(b) *Ons het g'n niks deure vir Nicholis Louw*
we have no nothing doors for Nicholis Louw
oopgemaak nie.
open-make SN
"We didn't open any doors at all for Nicholis Louw."
(Rapport 2005-11-27)

If we compare the sentences in (7.44) with the standard Afrikaans equivalent constructions with *geen*, given in (7.45), we can see that the standard Afrikaans sentences do not have the same emphatic negative interpretation that the constructions with *g'n niks* have. In section 7.4.4, it will be shown that constructions such as those in (7.44) involve the replacement of *geen* by *niks*, and subsequent reinforcement of the negation by the addition of the intensifier *g'n*.

(7.45) (a) *Daar is geen misterie aan kos maak nie.* (SA)
there is no mystery to food make SN
"There isn't any mystery to making food."

(7.46) (b) *Ons het geen deure vir Nicholis Louw oopgemaak nie.*
we have no doors for N.L. open-make SN
"We didn't open any doors for Nicholis Louw."

The sentences in (7.47) show that it is also possible for *g'n niks* to occur in non-argument binding positions, in place of the sentence-medial *nie*.

(7.47) (a) *Om so alleen rond te dwaal is g'n niks lekker nie.*
INF so alone around to wander is no nothing nice SN
"To wander around alone like this isn't at all nice."
(Die Burger 1996-03-04)

(b) *Dis g'n niks gratis nie.*
it-is no nothing free SN
"It isn't free at all." (Die Burger 1996-06-15)

(c) *Ek vertrou hom g'n niks, maar het nie veel keuse nie.*
I trust him no nothing but have not much choice SN
"I don't trust him at all, but don't have much choice."
(Die Burger 2005-07-20)

The standard Afrikaans equivalent constructions with sentence-medial *nie* are given in (7.48). As with the previous constructions discussed, the negation expressed by sentences containing *g'n niks* is stronger than the negation expressed by the standard Afrikaans equivalents containing sentence-medial *nie*, unless an additional intensifier is inserted in the standard Afrikaans constructions.

(7.48) (a) *Om so alleen rond te dwaal is (glad) nie lekker nie.* (SA)
INF so alone around to wander is (at-all) not nice SN
"To wander around alone like this isn't nice (at all)."

(b) *Dis (glad) nie gratis nie.*
it-is (at-all) not free SN
"It isn't (at all) free."

(c) *Ek vertrou hom (glad) nie, maar het nie veel*
I trust him (at-all) not, but have not much
keuse nie.
choice SN
"I don't trust him (at all), but don't have much choice."

The use of *g'n niks* in place of sentence-medial *nie* is the least common use of the combination *g'n niks* and it will be shown, in section 7.4.4, that these occurrences of *g'n niks* are a result of the fact that it is possible, in colloquial Afrikaans, to replace the sentence medial *nie* with *niks* for emphasis, and to subsequently reinforce the negation with the intensifier *g'n*.

7.3.6 Concluding remarks

In this section I have examined the nature of *g'n niks* and its distribution in the corpus data. It was observed that the combination *g'n niks* is the most frequent negative indefinite combination found in the corpus and that it occurs in three different constructions. The difference between the distribution pattern of negative indefinite combinations with *g'n* and their supposedly equivalent expressions containing combinations of *g'n* with an ordinary indefinite, and the distribution pattern observed for multiple negative indefinite combinations and their negative indefinite + indefinite equivalents, were examined. These distribution patterns, which are supported by native speaker judgments, provide a reason for establishing a distinction between negative indefinite combinations with *g'n* and other multiple negative indefinite combinations. This distinction in turn provides motivation for the stated aim of this chapter, which is to provide an analysis of *g'n niks* that differs from the analysis proposed in Chapter 5 for multiple negative indefinite combinations. A necessary distinction was also made between negative indefinite combinations with *g'n* and those with *geen*, based on their distribution in the corpus and on native speaker judgments of orally presented utterances. In addition, the interpretation of *g'n niks* was discussed. It was shown that *g'n niks*, as a negative indefinite combination, always expresses a single negation.

What has to be established now is an analysis of *g'n niks* that is compatible with the facts noted above and that complements the analysis of multiple negative indefinites proposed in Chapter 6. As we saw in

section 7.3.5, *g'n niks* occurs in three different constructions: (i) in constructions where one would expect to find *niks* on its own in standard Afrikaans, as in (7.49), (ii) in constructions where one would expect to find *geen* in standard Afrikaans, as in (7.50), and (iii) in non-argument binding positions, in place of the sentence-medial *nie*, as in (7.51).

(7.49) *Hy sê hy het g'n niks met spioene te doen nie.*
"He says he has nothing at all to do with spies."

(7.50) *Daar's g'n niks verskil tussen dié regering en die NP-regering nie.*
"There isn't any difference at all between this government and the NP government."

(7.51) *Dis g'n niks gratis nie.*
"It isn't free at all."

In the following section, section 7.4, an analysis of *g'n* as an intensifier will be developed in order to account for the use and distribution of *g'n niks*. In section 7.4.2 the idea of emphatic negation, with specific reference to van der Wouden's (1994) account of emphatic negation and Zeijlstra's (2007) proposal regarding so-called Emphatic Multiple Negative Expressions (EMNEs), will be examined. It will be shown that Zeijlstra's proposal is not sufficient to account for the negative indefinite combination *g'n niks*. And so in section 7.4.3 an analysis of *g'n niks*, as it occurs most frequently in place of *niks*, will be proposed. In this section the problematic nature of the intuitive notion of emphasis will also be examined. In order to account for the use of *g'n niks* in the more non-standard constructions - (ii) and (iii) above - it will be necessary to expand the analysis presented in section 7.4.3 to include constructions where *g'n niks* replaces the negative determiner *geen* and the sentence-medial *nie*. This will be done in section 7.4.4 through an examination of the role of *niks* in such constructions.

7.4 Negative reinforcement: an analysis of *g'n* as an intensifier

7.4.1 The use of *g'n* in negative indefinite combinations

In colloquial Afrikaans, *g'n* can be combined with other negative indefinites, most commonly with *niks*, to express a single negation, similar to the multiple negative indefinite combinations examined in Chapter 5. In the previous section, however, we determined that *g'n niks* differs from other multiple negative indefinite combinations. Firstly, *g'n niks* occurs far more frequently in the corpus data than any other negative indefinite combination. Secondly, it does not bear the same relationship to the apparent equivalent combination of negative indefinite + ordinary indefinite, *g'n iets*, as other negative indefinite combinations do to their equivalent negative indefinite + ordinary indefinite combinations. However, there is a further distinction between *g'n niks* and other multiple negative indefinite combinations, namely, that the negation expressed by *g'n niks* is considered to be emphatic (Donaldson 1993; Biberauer 2009). The sentences in (7.49) to (7.51) above, for example, are considered to be "stronger" than the corresponding standard Afrikaans form containing either *niks*, *geen* or the sentential negation marker *nie* on its own. This is in contrast to the other negative indefinite combinations discussed in Chapter 5, which are taken to be equivalent to the expression of negation by a negative indefinite and an ordinary indefinite, in other words they generally carry no additional emphasis. Of course the (intuitive) notion of emphasis is itself problematic (cf. Schwenter 2005) and will be addressed in section 7.4.3.

Consider the sentences in (7.52).

(7.52) (a) *Ek ruik dit nie.*
"I don't smell it."

(b) *Ek ruik niks nie.*
"I don't smell anything."

(c) *Ek ruik g'n niks nie.*
"I don't smell anything at all."

(d) *Ek ruik hoegenaamd niks nie.*
"I don't smell anything at all."

In (7.52)(a), the negation is expressed by the sentential negation marker *nie* and is as such the standard, non-emphatic negative form for expressing the meaning "I don't smell it". The use of *niks* in (7.52)(b) extends the scope of negation, in this case there is not one specific thing that the speaker doesn't smell, rather, there is nothing that the speaker can smell. The addition of *g'n* in (7.52)(c) increases the strength of the negation expressed by the sentence, making it emphatic, similar to the way in which the NPI *hoegenaamd* does in the standard Afrikaans equivalent of the sentence in (7.52)(c), given in (7.52)(d).

In contrast to the emphatic nature of *g'n niks*, multiple negative indefinite combinations carry no additional emphasis, and are equivalent to the expression of negation by a negative indefinite and an ordinary indefinite as illustrated by the sentences in (7.53).

(7.53) (a) *Ons het niemand ooit gesien nie.*
"We never saw anybody"

(b) *Ons het niemand nooit gesien nie..*
"We never saw anybody"

The characterisation of *g'n niks* as emphatic in nature should not surprise us. The idea that the co-occurrence of two negative indefinites, or a negative indefinite and a negative adverb, is an expression of emphatic negation has been proposed by both van der Wouden (1994) and Zeijlstra (2007). In the following section I sketch briefly van der Wouden's account of emphatic negation. This is followed by an examination of Zeijlstra's (2007) account of emphatic negation in Dutch in order to determine whether it can be used as an analysis of *g'n niks*.

7.4.2 Emphatic negation and Zeijlstra's (2007) EMNEs

Van der Wouden (1994: 145) maintains that the use of multiple negation to strengthen the force of negation, which he refers to as emphatic negation, is part of a more general pattern of multiple marking, where, in order to stress something, it is repeated, so-called "reinforcement by repetition", as illustrated by the examples in (7.54).

(7.54) (a) *We must necessarily assume that the clock has operated.* [79]

(b) *Klein huisje* (Dutch)
small house-DIM
"Small little house" (van der Wouden 1994: 145)

Van der Wouden argues that the addition of negative elements, as in the colloquial Dutch examples in (7.55) below, adds to the strength of the negation of the utterances, and can be explained by Horn's division of pragmatic labour (cf. Chapter 2). It is his contention that emphatic negation, although heavily restricted lexically, is subject to the same mechanisms that play a role in negative concord, namely that negative quantifiers have context-sensitive semantics and as such are systematically ambiguous between negative universals and positive existentials (van der Wouden 1994: 97)[80]. This means that the examples in (7.55) are in fact NC constructions, surfacing in a DN language.

(7.55) (a) *Dat heb ik nooit niet gezien.* (Dutch)
that have I never not seen
"I never saw that."

(b) *Zij heeft er niks geen verstand van.*
she has there nothing no understanding of
'She no understanding whatsoever of it."
(van der Wouden 1994: 147)

Zeijlstra (2004, 2007), in contrast, argues that emphatic negation is a different phenomenon from negative concord. He proposes that combinations of negative indefinites, such as *nergens geen* ("nowhere no") in Dutch and *nie keine* ("never no") in German, can be characterised as non-productive lexicalised expressions which he refers to as Emphatic Multiple Negative Expressions (EMNEs) (Zeijlstra 2007: 79). According to Zeijlstra, EMNEs differ from standard negative concord constructions in five ways:

[79] Cf. Huitink (2008) for similarities between modal doubling, or "modal concord", and negative doubling and negative concord.
[80] Cf. Chapter 3 for a critical examination of this approach to negative concord.

(7.56) (a) EMNEs have an emphatic reading, negative concord constructions usually do not;
(b) EMNEs are subject to strict adjacency conditions, contrary to negative concord constructions;
(c) The first part of the EMNE must carry stress, otherwise it is ruled out;
(d) The meaning of an EMNE is not always straightforward, contrary to most negative concord expressions;
(e) The formation of EMNEs is not productive; speakers generally differ with respect to which EMNE they accept and which they do not accept.

(Zeijlstra 2007: 80-81)

Zeijlstra argues that EMNEs cannot be analysed as instances of NC that surface in DN languages, and his proposal is that, due to their idiosyncratic nature, EMNEs are in fact single lexical items, despite their complex appearance. According to Zeijlstra, EMNEs express a single, emphatic negation, as illustrated by the contrast in (7.57).

(7.57) (a) *Hij heeft niemand niet gezien.* (Dutch)
he has nobody not seen
"He didn't see ANYbody."

(b) *Hij heeft niemand gezien.*
he has nobody seen
"He didn't see anybody." (Zeijlstra 2007: 81)

The similarity of negative indefinite combinations with *g'n* to emphatic negation in colloquial Dutch could lead one to propose an analysis of *g'n niks* along the lines of Zeijlstra (2007). Firstly, it has been shown that, contrary to other multiple negative indefinite combinations, *g'n niks* is emphatic in nature, as I have argued for example (7.52) and (7.53) above. Secondly, this combination is subject to strict adjacency, as the intervention of other lexical material between *g'n* and *niks* results in a double negation reading, as we see in (7.58).

(7.58) *Die seun het g'n gister niks gesteel nie.*[81]
the boy have no yesterday nothing stolen SN
*"The boy didn't steal anything yesterday."
✓"The boy didn't steal nothing yesterday." (i.e. he did steal something)

Thirdly, if we examine the distribution and meaning of *g'n niks* we see that, similar to Zeijlstra's EMNEs, but contrary to other multiple negative indefinite combinations, the meaning of *g'n niks* is not always compositionally derived. For example if we compare (7.59)(a) with (7.59)(b), we can see that removing *g'n* does not change the meaning of the sentence, although the sentence loses its emphatic effect. Furthermore, in these cases it is not possible to remove *niks* without changing the meaning of the sentence, as we can see from (7.59)(c).

(7.59) (a) *Ons het g'n niks gesien nie.*
we have no nothing seen SN
"We didn't see anything (at all)."

(b) *Ons het niks gesien nie.*
we have nothing seen SN
"We didn't see anything."

(c) *Ons het g'n gesien nie.*
we have no seen SN
*"We didn't see anything."
✓"We didn't see any."
✓ "We didn't see."

In (7.59)(c) the two possible meanings are related to the distinct functions of *g'n* discussed so far. If *g'n* functions in (7.59)(c) as a negative determiner, along the lines of *geen*, then the meaning of *ons het g'n gesien nie* is "we didn't see any", or "we saw none". If *g'n* functions as a sentential negation marker, as discussed in section 7.2, then the meaning of *ons het g'n gesien nie* is "we didn't see". In the latter case, the use of *g'n* is

[81] In this example *g'n* functions as a substitute for sentence-medial *nie*, as described in section 7.2, and this utterance is as such subject to the same information structural restrictions.

restricted by information structural considerations, and can only occur as a denial of a discourse-old, activated proposition, such as *julle het mos gesien, né?* ("you guys did see, didn't you?").

However, there are cases where it is possible to remove either *niks* or *g'n* and still retain a similar interpretation. For example, the utterance in (7.60)(a), containing *g'n niks*, is similar in meaning to the utterance in (7.60)(b) which contains *niks* on its own and (7.60)(c) which contains *g'n* on its own. All of these constructions are considered to be non-standard (emphatic) versions of the construction containing sentence medial *nie*, given in (7.60)(d). The occurrence of *g'n* on its own in constructions such as (7.60)(b) is of course subject to the information structural restrictions discussed in section 7.2.

(7.60) (a) *Ek is g'n niks honger nie.*
I is no nothing hungry SN
"I'm not hungry at all."

(b) *Ek is g'n honger nie.*
I is no hungry SN
"I'm not hungry (at all)."

(c) *Ek is niks honger nie.*
I is nothing hungry SN
"I'm not hungry (at all)."

(d) *Ek is nie honger nie.*
I is not hungry SN
"I'm not hungry."

In other respects though *g'n niks* does not fulfil Zeijlstra's criteria for EMNEs. Firstly, with regard to the requirement that the first element of an EMNE must carry stress, *g'n* is a phonologically reduced form and is generally produced with no additional emphasis or stress. Of course it is still possible to prosodically mark this element. However, unlike with Zeijlstra's EMNEs, producing a stressed *G'N* results in a DN reading (see section 7.3.4).

(7.61) *Die seun het G'N niks gesteel nie.*
the boy have no nothing stolen SN
*"The boy didn't steal anything."
✓ "The boy didn't steal nothing." (i.e. he did steal something)

Secondly, with regard to Zeijlstra's final difference between EMNEs and negative concord constructions, namely productivity, it is not clear that this point is strictly relevant to negative indefinite combinations with *g'n*, as these are in fact only one (type of) construction. However, it is clear from the results of the perception judgement study, given in Table 7.1 in section 7.3.2, that the acceptability of negative indefinite combinations with *g'n* is variable, with some informants finding all combinations acceptable, while some informants found certain combinations only marginally acceptable or not acceptable at all. The corpus data also supports the variation in acceptability of different combinations. As shown in Figure 7.1 in section 7.3.1, only one combination of *g'n* with the negative indefinite *nooit* and none with *nêrens* were observed in the corpus, although as the examples in (7.34) illustrate, these combinations do occur on-line in more informal written sources.

From the preceding discussion we can conclude that there are some similarities between Zeijlstra's EMNEs and *g'n niks*, although not all the proposed characteristics of EMNEs are applicable to *g'n niks*. However, if one examines the typical Dutch constructions that Zeijlstra analyses as EMNEs we see that they do in fact differ lexically and structurally from negative indefinite combinations with *g'n*. Firstly, the most common EMNEs in Dutch appear to be either combinations of a negative indefinite and the sentential negation marker *niet*, as illustrated in (7.62), or combinations of a negative indefinite and the negative determiner *geen*, as illustrated in (7.63).

(7.62) (a) *Hij gaat nooit niet naar school.* (Dutch)
he goes never not to school
"He never ever goes to school."

(b) *Hij heeft niks niet gezegd.*
he has nothing not said
"He didn't say anything at all."

(Zeijlstra 2007: 79 & 82)

(7.63) (a) *Zij heeft nergens geen zin in.* (Dutch)
she has nowhere no lust in
"She doesn't feel like anything at all."

(b) *Ik heb er niks geen aardigheid in.*
I have there nothing no pleasure in
"I don't like it at all." (Zeijlstra 2007: 79 & 83)

This is different from negative indefinite combinations with *g'n* in Afrikaans. Firstly, in Afrikaans the sentence-medial sentential negation marker *nie* is not part of multiple negative indefinite combinations, whether they are combinations with *g'n* or not. Although sentences such as those in (7.64) do occur, according to Biberauer and Cyrino (2009), the "extra" *nie* is an additional sentence-final *nie* (what Biberauer (2009) terms nie_2).

(7.64) (a) *Ek is nooit nie moeg nie.*
I am never SN tired SN
"I am NEVER tired."

(b) *Dit is g'n niks nie so moeilik nie.*
it is no nothing SN so difficult SN
"It's NOT so difficult at all."
(Biberauer & Cyrino 2009)

The reason for not analysing this *nie* as a sentence-medial sentential negation marker is that, firstly, it is optional, secondly, it is not modifiable, as illustrated by (7.65)(a), thirdly, it cannot be substituted by an emphatic form, as illustrated by (7.65)(a), and lastly, it is not stressable, as illustrated by (7.65)(b) (Cf. Chapter 1, section 1.5.6).

(7.65) (a) **Ek is nooit absoluut nie moeg nie.*
I am never absolutely SN tired SN

(b) *Ek is nooit geensins moeg nie.*
I am never not-remotely tired SN
≠"I am NEVER tired."
= "I am never not remotely tired.", i.e. I am always at least a little bit tired.

(c) *Ek is nooit NIE moeg nie.*
I am never not tired SN
≠"I am NEVER tired."
= "I am never NOT tired.", i.e. I am always tired.
(Biberauer & Cyrino 2009)

Secondly, if we consider the corpus data discussed in Chapter 5 we see that constructions with a negative indefinite followed by *g'n* (or *geen*) occur very rarely. Only one instance each of *niemand g'n* and *niks g'n*, two instances of *nooit g'n* and five instances of *nooit geen* (of which two had DN interpretations) were observed in the corpus. Examples of these are given in (7.66).

(7.66) (a) *…al verstaan niemand g'n woord wat ek sê nie.*
even understand nobody no word that I say SN
"...even if nobody understands a single word I'm saying."
(Beeld 2004-10-30)

(b) *Daar was nooit g'n vloek nie.*
there was never no curse SN
"There was never any curse."
(Beeld 2006-08-03)

(c) *Oor die uitslag was daar nooit geen twyfel nie.*
over the result was there never no doubt SN
"There was never any doubt about the result."
(Burger 1988-09-12)

These instances are substantially different from the negative indefinite combinations with *g'n discussed* in this chapter, as in these examples *g'n*/*geen* does not function as a intensifier of the negation expressed by the other negative indefinite. As such, these negative indefinite combinations are better analysed along the lines proposed in Chapter 6 for multiple negative indefinite combinations.

Furthermore, there is an additional problem with Zeijlstra's proposal, namely that his analysis of EMNEs in Dutch is unable to account for the V2 effects observed in both Dutch and Afrikaans (Biberauer, pc). As noted in Chapter 1, Afrikaans and Dutch are assumed to be underlying SOV languages with finite verb movement, or V2, in main clauses. This

difference between the position of the finite verb in embedded and main clauses is illustrated in (7.67). Zeijlstra's claim that EMNEs are subject to strict adjacency cannot account for the occurrence of the finite verb in V2 position, between two negative indefinites. Of course this problem does not apply to an analysis of *g'n niks*, as the finite verb never occurs between these two elements, but it remains a sticking point in Zeijlstra's proposal.

(7.67) (a) *Ek weet dat niemand niks gekoop het nie.*
I know that nobody nothing buy-PST have SN
"I know that nobody bought anything."

(b) *Niemand het niks gekoop nie.*
nobody have nothing buy-PST SN
"Nobody bought anything."

To conclude, in this section I have given an outline of Zeijlstra's (2007) proposed analysis of combinations of negative elements in Dutch as single lexical items, or EMNEs. As I have shown, *g'n niks* does not fit all Zeijlstra's empirical criteria for identifying EMNEs. In addition *g'n niks* differs lexically and structurally from the typical Dutch constructions that Zeijlstra analyses as EMNEs. I consider this sufficient basis for not analysing *g'n niks* as an EMNE. Rather than being a single lexical item, *g'n niks* forms a phrasal constituent with high collocational properties. I have further shown that Zeijlstra's analysis is unable to account for V2 effects in both Afrikaans and Dutch. The conclusion then is that negative indefinite combinations with *g'n* cannot be analysed along the lines of Zeijlstra's EMNEs. However we are still left with the need to provide an analysis for *g'n* as it occurs in the combination *g'n niks*. In the following section I will provide such an analysis, examining at the same time the problematic nature of intuitive notions of emphasis.

7.4.3 *G'n* as an intensifier and the notion of emphasis

In the preceding sub-section I have shown that an analysis of *g'n niks* as a single lexical item following Zeijlstra (2007) is not appropriate, while in section 7.3.3 I showed that *g'n niks* differs from other multiple negative indefinite combinations and so cannot be analysed along the lines proposed in Chapter 6. The analysis of *g'n niks* I propose in this section is based on the contention that *g'n* and *niks* function differently in

combination from how they function in isolation, in colloquial Afrikaans constructions. Let us examine again the most common occurrence of *g'n niks*, illustrated by the sentences in (7.42), repeated below as (7.68), and compare them to what would be the standard Afrikaans equivalents, given in (7.69).

(7.68) (a) *Hy sê hy het g'n niks met spioene te doen nie.*
he say he have no nothing with spies to do SN
"He says he has nothing at all to do with spies."

(b) *Ek ruik g'n niks nie.*
I smell no nothing SN
"I smell nothing at all."

(7.69) (a) *Hy sê hy het hoegenaamd niks met spioene te doen nie.*
he say he have at-all nothing with spies to do SN
"He says he has nothing at all to do with spies."

(b) *Ek ruik hoegenaamd niks nie.*
I smell at-all nothing SN
"I smell nothing at all."

In the sentences in (7.69) the degree adverb *hoegenaamd* is a negative polarity item (NPI). *Hoegenamd* is a weak NPI which occurs in downward entailing contexts, such as in (7.70)(a) and (b), (van der Wouden 1994, 1997). This element cannot be licensed in simple affirmative contexts, as represented by (7.70)(c). In the sentences in (7.69) above, the NPI *hoegenaamd* strengthens the negation expressed by *niks*.

(7.70) (a) *Dit is hoegenaamd nie moontlik nie.*
it is at-all not possible SN
"It is not possible at all/not at all possible."

(b) *Is dit hoegenaamd moontlik?*
is it at-all possible
"Is it at all possible?"

(c) **Dit is hoegenaamd moontlik.*
it is at-all possible

The NPI *hoegenamd* can be analysed as an intensifier, in that it enhances the grade of a predicate (Klein 1998:23). Intensifiers generally function as modifiers of adjectives or adverbs, although they can be modifiers of any clause constituent (Bolinger 1972: 17), and convey the degree to which the qualities conveyed by the relevant item is present. For example, in sentence (7.69)(a), the intensifier indicates that there is absolutely no degree ("at all") to which he has anything to do with spies, while (7.70)(a) indicates that there is absolutely no degree to which something is possible. Expressions, such as *hoegenamd*, which denote a minimal quantity, are typically characterised as emphatic NPIs. Of course, the notion of emphasis is itself problematic. Schwenter (2005: 1429) points out that "emphasis is an intuitive label that is most typically left undefined by those who employ it". He argues that there is not necessarily a correlation between additional sentential elements on a structural level and emphasis (however defined) on the level of interpretation. His criticisms are levelled primarily at the use of the term "emphasis" in explanations of post-verbal forms in non-canonical negation in languages such as Brazilian Portuguese, Catalan and Italian, and at its use in describing the early stages of Jespersen's cycle. Schwenter's analysis is not applicable to an analysis of *g'n niks*, although, as we saw in section 7.2, it is very useful when analysing the occurrence of *g'n* on its own in place of sentence-medial *nie*. However, Schwenter's criticism of the intuitive notion of emphasis is very relevant to an analysis of *g'n niks*, as it requires us to question the characterisation of *g'n niks* as emphatic in nature.

Although Schwenter criticises the use of the notion emphasis in various analyses of non-canonical negation in Romance languages, he does note that one attempt to provide a precise definite of emphasis, that of Israel (1996, 1997, 2001) in his analysis of polarity sensitivity, does address this lack. Although Schwenter subsequently rejects emphasis (both in an intuitive sense and as defined by Israel) as an explanation for the non-canonical negation that he wishes to account for, it is worth examining Israel's notion of emphasis for what it can say about the use of *g'n niks* and to see whether it can in fact provide a firm basis for characterising negative indefinite combinations with *g'n* as emphatic in nature. Israel's scalar model of polarity sensitivity holds that polarity items are a special

class of scalar operators in that they denote an element within a scalar ordering, and are used for particular rhetorical effects. Israel divides polarity items into four types according to their quantitative value, their position within a scalar ordering, and informative value, their inferential relation to a scalar norm, as illustrated in Figure 7.4.

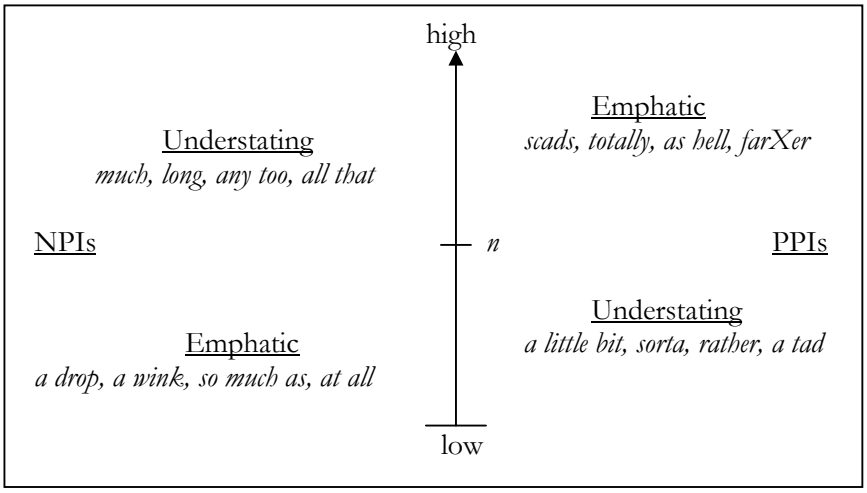

Figure 7.4: Four types of polarity sensitive items (Israel 1996: 628)

According to this model, which assumes that propositions within a scalar model are understood with respect to some scalar norm, a proposition is characterised as emphatic if it is highly informative, that is if it pragmatically entails the scalar norm. "In general, if a proposition entails the norm, its assertion is informative because it exceeds what one would normally expect to be asserted." (Israel 1997: 215). For example, the NPI *a wink* is emphatic in sentence (7.71).

(7.71) *Marianne didn't sleep a wink that night*

This is because the NPI contributes a minimal scalar value and its use results in the proposition expressed being highly informative, as it entail the scalar norm, given in (7.72). In this case the "reference to a minimal scalar degree contributes to the expression of a maximally emphatic proposition" (Israel 2001: 299).

(7.72) *Marianne didn't sleep a normal amount.*

We can apply Israel's reasoning to the Afrikaans NPI *hoegenaamd*, as it occurs, for example, in the sentences in (7.69) and (7.70) above. This NPI, as with its English equivalent *at all*, signal that the predicate holds to a minimal degree, and can only be used in contexts where it yields a maximally informative interpretation, that is where it licenses inferences over all other scalar degrees (Israel 2001: 304). Given that *g'n* functions, in the combination *g'n niks*, in a similar manner to the NPI *hoegenaamd*, we can analyse it in a similar way. For example, in the sentence in (7.42)(b), repeated here as (7.73), *g'n* contributes a minimal scalar value to the asserted proposition.

(7.73) *Ek ruik g'n niks nie.*
I smell no nothing SN
I don't smell anything at all."

The proposition expressed by this sentence can be said to be emphatic because it says something "which goes beyond the default expectation" (Israel 2001: 306). The proposition is therefore highly informative as it entails the scalar norm, which for the proposition in (7.73) would be the sentence given in (7.74).

(7.74) *Ek ruik niks nie.*
I smell nothing SN
"I don't smell anything."

G'n, as it occurs in the negative indefinite combination *g'n niks*, in constructions where one would expect to find *niks* on its own in standard Afrikaans, is therefore analysed as an emphatic scalar operator which functions as an intensifier and as such increases the grade of the negation, resulting in a stronger, emphatic negation, in the sense of Israel's (1996) scalar model. As I will show in the following section, this analysis of *g'n* as an intensifier can be extended to account for the use of *g'n niks* in non-standard constructions where it occurs in a position where one would expect to find *geen* in standard Afrikaans, and where it occurs in non-argument binding positions, in place of the sentence-medial *nie*. In section 6.4.3 I will first examine the role of *niks* in such constructions, showing that, similar to *g'n*, *niks* can function on its own as a prenominal quantifier and as an emphatic marker of sentential

negation (cf. Donaldson 1993, Biberauer 2009). I will then apply the analysis of *g'n* given above to these non-standard constructions containing *g'n niks*.

7.4.4 Negative reinforcement via substitution: *niks*

In sentences such as those in (7.43), repeated below as (7.75)(a) and (b), *g'n niks* occurs in a position where one would expect to find *geen* in standard Afrikaans. The sentences in (a') and (b') give the standard Afrikaans equivalents of these examples (albeit without the emphatic effect that the use of *g'n niks* conveys).

(7.75) (a) *Daar is g'n niks misterie aan kos maak nie.*
There is no nothing mystery to food make SN
"There isn't any mystery at all to making food."

(a') *Daar is geen misterie aan kos maak nie.*
there is no mystery to food make SN
"There isn't any mystery to making food."

(b) *Ons het g'n niks deure vir Nicholis Louw oopgemaak nie.*
we have no nothing doors for Nicholis Louw open-make SN
"We didn't open any doors at all for Nicholis Louw."

(b') *Ons het geen deure vir Nicholis Louw oopgemaak nie.*
we have no doors for Nicholis Louw open-make SN
"We didn't open any doors for Nicholis Louw."

In these sentences the prenominal expression *geen* has been replaced by *niks*. In these cases the substitution of *geen* by *niks* strengthens the negation. Biberauer (2009) notes that the choice of *niks* to serve as a reinforcing negator is not surprising as it corresponds to the smallest element on the quantificational scale. In fact Poletto (2008) points out that elements corresponding to "nothing" commonly serve as a source for sentential negation. *Niks* is then further reinforced by the intensifier

g'n, as described in section 7.4.3, in order to create an emphatic negative utterance.

In sentences such as those in (7.47), repeated below as (7.76), *g'n niks* occurs in a position where one would expect to find the sentence medial *nie* in standard Afrikaans. In these cases *niks* appears to function as a marker of sentential negation.

(7.76) (a) *Om so alleen rond te dwaal is g'n niks lekker nie.*
INF so alone around to wander is no nothing nice SN
"To wander around alone like this isn't at all nice."

(b) *Dis g'n niks gratis nie.*
it-is no nothing free SN
"It isn't free at all."

(c) *Ek vertrou hom g'n niks, maar het nie veel keuse nie.*
I trust him no nothing but have not much choice SN
"I don't trust him at all, but don't have much choice."

The standard Afrikaans equivalents of these sentences (although bleached of their emphatic meaning), with the expected sentence medial *nie* are given in (7.77) below.

(7.77) (a) *Om so alleen rond te dwaal is nie lekker nie.*
INF so alone around to wander is not nice SN
"To wander around alone like this isn't nice."

(b) *Dis nie gratis nie.*
it-is not free SN
"It isn't free."

(c) *Ek vertrou hom nie, maar het nie veel keuse nie.*
I trust him not but have not much choice SN
"I don't trust him, but don't have much choice."

What is interesting is that in colloquial Afrikaans it is also possible to replace the sentence medial *nie* with *niks* (without the preceding *g'n*). The examples in (7.78) below illustrate how *niks* can occur in non-argument binding positions in place of the sentence medial *nie*. In these cases the substitution of *nie* by *niks* again strengthens the negation, resulting, similarly to the utterances in (7.76), in an emphatic interpretation of the negative utterance. Crucially though, although *niks* conveys sentential negation, it is not merely a negative operator, but contributes a minimal scalar value, indicating that the predicate holds to a minimal degree.

(7.78) (a) *Dis niks gratis nie.*
it-is nothing free SN
"It's totally not free." / "It ISN'T free."
[≠ *Niks is gratis nie.* "Nothing is free."]
(*Dis heeltemal nie gratis nie* = SA)

(b) *Ek weet niks sulke dinge nie.*
I know nothing such things SN
"I don't know ANY of those sorts of things"
[≠ *Ek weet niks nie.* "I don't know anything."]
(*Ek weet nie enige sulke dinge nie* = SA)

This substitution of sentential negation by *niks* in colloquial Afrikaans appears to be similar to the use of *niets*, or its variant *niks*, with degree expressions in Dutch, where it is used to indicate the complete absence of a property (Klein 1998: 36), as in (7.79). Van der Wouden (1994: 148) assumes that *niks/niets* functions in such constructions as an adverbial modifier rather than as a quantifier, as "as it cannot mean anything else than 'not at all' here".

(7.79) *Ik vind haar niets aardig.* (Dutch)
I find her nothing nice
"I don't like her at all."
(Van der Wouden 1994: 148)

Interestingly enough, Bayer (2009) observes that the English negative quantifier *nothing* and its correspondents in German and Dutch, can also all occur in non-argument positions, with a so-called "adverbial" use, as

the examples (7.80) to (7.82) illustrate[82]. According to Bayer, *nothing* in these cases "represents sentential negation but at the same time the flavour of emphasis or strengthened negation which is typically found in negative sentences with a NPI" (Bayer 2009: 2)[83].

(7.80) *I have slept nothing for I've been thinking of you.* (Bayer 2009: 3)

(7.81) *Da wird nichts gelogen.* (German)
there becomes nothing lied
"There will/must be no lying." (Bayer 2009: 8)

(7.82) *Ik heb bijna niets geslapen, …* (Dutch)
I have almost nothing slept
"I have almost not slept at all." (Bayer 2009: 10)

Bayer argues that in these non-argument contexts *nothing* encodes (the feature of) sentential negation, and also triggers an NPI-effect, as it gives rise to strengthening without the addition of any additional elements or extra stress. As noted in section 7.4.3, the emphatic nature of NPIs is a result of the fact that they contribute a minimal scalar degree to a proposition (Israel 1996, 1997, 2001). I have already pointed out that in non-argument binding positions *niks* contributes a minimal scalar degree. This would therefore account for what Bayer calls the NPI-effect, the fact that the replacement of *nie* by *niks* in such positions results in an emphatic reading. What the above examples, and Bayer's observations, illustrate is that the substitution of sentential negation by a negative indefinite corresponding to *nothing* in English for emphatic effect is a relatively wide-spread phenomenon in Germanic languages.

The analysis of *niks* as it occurs in non-standard constructions in a non-argument binding position is that it functions as a degree adverb, substituting for sentence medial *nie*, in order to strengthen the negation expressed by an utterance. As a degree adverb, *niks* contributes a

[82] Bayer's (2009) examples are all taken from the internet, and although they may be considered marginal or even unacceptable by most speakers, they presumably represent dialectal variation, or highly colloquial language use.

[83] Of course the sentences in (7.80) – (7.82) all involve intransitive verbs that allow 'false objects', similar to the sentence in (7.69) in section 7.4.2, which does raise questions about Bayer's (2009) analysis of this phenomena in languages like English, German and Dutch.

minimal scalar degree, nothing, to a proposition, resulting in an emphatic negation. This is illustrated by the difference in meaning between (7.83)(a) and (7.83)(b).

(7.83) (a) *Dis nie gratis nie.*
it-is not free SN
"It isn't free."

(b) *Dis niks gratis nie.*
it-is nothing free SN
"It ISN'T free."

While the sentence in (7.83)(a) expresses the simple negation of the proposition "it is free", the sentence in (7.83)(b), in addition to negating the proposition "it is free", has an emphatic effect, which results in a stronger negation than that expressed in (7.83)(a).

But the story does not end there. As we saw in section 7.4.3, in standard constructions containing *niks*, that is where *niks* functions as a negative quantifier, the negation can be reinforced by the insertion of *g'n*, resulting in an emphatic negative utterance, as illustrated by sentence (7.84)(a). This insertion of an intensifier to strengthen the negation expressed by *niks* is also possible in non-standard constructions where *niks* functions as a degree adverb in non-argument binding positions. In sentence (7.84)(b), the insertion of *g'n* further reinforces the negation expressed by the emphatic use of *niks*, resulting in an even more emphatic negative utterance. This can be seen when one compares the meaning of (7.84)(b), with that of (7.83)(b).

(7.84) (a) *Ek ruik g'n niks nie.*
I smell no nothing SN
"I don't smell anything at all."

(b) *Dis g'n niks gratis nie.*
it-is no nothing free SN
"It ISN'T free at all."

The difference then between the most common use *g'n niks* in constructions where one would expect to find *niks* on its own, as in the

sentences in (7.68), and constructions where *g'n niks* occurs in a non-argument binding position, as in the sentences in (7.76), is the replacement of the sentence medial negative marker *nie* by the negative indefinite *niks*. In both these constructions *g'n* functions in exactly the same way as an intensifier that increases the strength of the negation expressed by *niks*.

7.4.5 Concluding remarks

In this section I have examined the notion of emphatic negation, arguing that although constructions in Afrikaans containing *g'n niks* can be described as emphatic in nature, they do not appear to be lexical items along the lines of Zeijlstra's (2007) Emphatic Multiple Negative Expressions. Rather, it has been proposed that the construction *g'n niks* consists of two independent negative indefinites, with *g'n* functioning as an intensifier that reinforces the negation expressed by the negative indefinite *niks*, resulting in an emphatic negation. It has further been argued that where *g'n niks* occurs in positions where one would expect to find sentence-medial *nie* on its own, i.e. non-argument binding positions, it is as a result of the substitution of this sentential negation marker by *niks* and the subsequent reinforcement by *g'n*. It is proposed that *niks* can function as degree adverb which strengthens the negation expressed by an utterance, and as such can also occur on its own as a way to express emphatic sentential negation.

7.5 Conclusion

The aim of this chapter was to provide an analysis of *g'n* to account for its (restricted) ability to occur on its own in place of sentence-medial *nie* and its occurrence in negative indefinite combinations, specifically the combination *g'n niks*, in addition to its standard usage as a negative determiner. In order to achieve this aim it was first shown how constructions which contain *g'n* in place of sentence-medial *nie* are highly sensitive to the informational properties of discourse. Following Biberauer (2009) and Biberauer & Cyrino (2009), the proposal that g'n can only be used felicitously in place of sentence-medial *nie* when negating an activated, discourse-old proposition, similar to Schwenter's (2005, 2006) information structural account of non-canonical negation in certain Romance languages, was explored and fleshed out.

Secondly, on the basis of corpus data and distribution facts, it was shown, firstly, that *g'n niks* (and other negative indefinite combinations with *g'n*) differ from other multiple negative indefinite combinations, such as *niemand niks* and that secondly, *g'n* differs from *geen* in multiple negative indefinite combinations such as *g'n niks*. This entailed the development of an analysis of *g'n niks* which differs substantially from the analysis presented in Chapter 6 for other multiple negative indefinite combinations. In addition, it was shown that *g'n niks* cannot be analysed as a lexical item along the lines of Zeijlstra's EMNEs. In the analysis developed in section 7.4.3 it was argued that *g'n* functions in these combinations as an intensifier, increasing the grade of negation, and resulting in an emphatic negative form made up of two separate negative elements.

In order to explain why *g'n niks* can occur in constructions where one would expect to find *niks* on its own, or the negative determiner *geen*, in standard Afrikaans, as well as in non-standard constructions in place of sentence medial *nie*, it was argued that *niks* itself functions differently in these non-standard constructions containing *g'n niks*. For this reason *niks* was examined on its own. The conclusion reached was that *niks* can in fact function as an emphatic negator itself when used as a substitute for sentence-medial *nie*. In this way, the multiple negative indefinite combination *g'n niks* can be used in non-argument binding positions, with *niks* functioning as an emphatic negator, which is in turn reinforced by *g'n*, or *niks* can occur on its own in non-argument binding positions in order to strengthen the negation by indicating the complete absence of a property. This analysis was motivated by the special status *g'n* and *niks* have in colloquial Afrikaans and so completes the examination of negative indefinites in Afrikaans.

Chapter 8
Conclusion

The aim of this dissertation was to provide a detailed analysis of the nature of negative indefinites in Afrikaans, on the basis of empirical data and theoretical observations. Negative indefinites have received considerable attention in the negation literature, specifically in research focusing on languages that display NC, because of the interesting puzzle they pose from an interpretation perspective. However, these elements have not received a great deal of attention in the literature on Afrikaans and Afrikaans negation. This is despite the fact that they display interesting properties that seem to distinguish them from both n-words in NC languages and negative quantifiers in DN languages.

Within current literature, Afrikaans is characterised as an NC language, rather than a DN language, as all negative structures in Afrikaans require two negative elements, either the seemingly identical negative elements *nie*…*nie*, as illustrated in (8.1), or a negative indefinite and the negative element *nie*, as illustrated in (8.2).

(8.1) *Haar suster het nie haar verjaarsdag vergeet nie.*
her sister has SN her birthday forgotten SN
"Her sister didn't forget her birthday."

(8.2) *Hy het nooit sy broer vergewe nie.*
he has never his brother forgiven SN
"He never forgave his brother."

Most research on negation in Afrikaans focuses on the so-called "double *nie*", illustrated in (8.1). While early studies of negation in Afrikaans were primarily diachronic in nature, focusing on the possible origins of the sentence-final *nie*, more recent contributions tend to be from a syntactic perspective, attempting to explain the occurrence of multiple (apparently identical) sentential markers of negation. Of course the "double *nie*" is an intriguing phenomenon, but equally intriguing is the status and behaviour of negative indefinites in Afrikaans.

With respect to negative indefinites, Afrikaans displays features that distinguish it from both typical NC and typical DN languages. Firstly, standard Afrikaans does not allow negative indefinites to co-occur with a single logical negation interpretation. Any additional existentially quantified variables (i.e. in addition to the first negative indefinite) that occur in the scope of negation are realised by non-negative indefinites or negative polarity items (NPIs), as illustrated in (8.3). If multiple negative indefinites do co-occur, the utterance is given a DN interpretation in standard Afrikaans, as illustrated in (8.4).

(8.3) *Ons het niemand ooit daar gesien nie.*
we have nobody ever there see-PST SN
"We never saw anybody there."

(8.4) *Niemand sien niks nie.*
no-one see nothing SN
"No-one sees nothing", i.e. "Everyone sees something."

This is similar to DN languages such as English and Dutch, as illustrated in (8.5) and (8.6).

(8.5) (a) *I haven't seen nobody.* (English)
≠ "I haven't seen anybody."

(b) *Nobody ate nothing.*
≠ "Nobody ate anything."

(8.6) (a) *Hij heeft niets niet gedaan.* (Dutch)
he have nothing SN done
"There is nothing he didn't do."
≠ "He didn't do anything."

(b) *Niemand heeft niets gezien.*
nobody have nothing seen
"Nobody saw nothing."
≠ "Nobody saw anything."

However, in colloquial Afrikaans multiple negative indefinites can co-occur with a NC interpretation, as (8.7) illustrates.

(8.7) *Ons skuld <u>niemand</u> <u>niks</u> nie*!
we owe nobody nothing SN
"We don't owe anybody anything!"

This is similar to the situation in NC languages such as Czech, French and Italian in which a single logical negation can be expressed by any number of negative indefinites (with or without a marker of sentential negation) as illustrated by the examples in (8.8).

(8.8) (a) *Nikdo nedá nikomu nic.* (Czech)
nobody SN-gives nobody nothing
"Nobody gives anything to anyone."

(b) *Nessuno ha telefonato a nessuno.* (Italian)
nobody has telephoned to nobody
"Nobody called anybody."

(c) *Jean n'a jamais vu personne.* (French)
Jean SN-has never seen nobody
"Jean hasn't ever seen anyone."

(d) *Personne a rien dit.* (Spoken French)
nobody has nothing said
"Nobody said anything."

It is the potential ambiguity between NC and DN interpretations of multiple negative indefinite combinations on the one hand, and the variation in the expression of multiple indefinites in the scope of negation on the other hand, that makes negative indefinites in Afrikaans an intriguing topic of study. From the sentences in (8.3) and (8.7) we can see that it is possible in colloquial Afrikaans to express a single negation both with the combination of a negative indefinite and one or more ordinary indefinites or NPIs and with the combination of multiple negative indefinites. It is also possible to assign either a DN or an NC interpretation to a multiple negative indefinite combination, as the sentences in (8.4) and (8.7) show. It was this ambiguity and variation in that formed the central focus of the dissertation.

In order to account for the occurrence and interpretation of multiple negative indefinites in Afrikaans it was necessary first, in Chapter 2, to sketch an outline of the structure of Afrikaans and of negation in Afrikaans, as well to examine previous accounts of negation in Afrikaans. This provided a starting point for the analyses proposed in this dissertation. Specifically, following Biberauer (2008, 2009), it was assumed that the two *nie*s are fundamentally different, with the sentence-medial *nie* as the locus of negation. Sentence-final *nie* was taken to be an NC element, an obligatory negative marker without semantic content that is present in all sentences that contain sentence-medial *nie* or a negative indefinite, except when deleted as a result of Biberauer's (2008) Afrikaans Syntactic Haplology Mechanism. I remain theoretically neutral on the syntactic status and position of sentence-final *nie*.

As the aim of this dissertation was to account for the behaviour and status of negative indefinites in Afrikaans, Chapter 3 examined the three major approaches to the analysis of negative indefinites, namely, the approach that treats negative indefinites as non-negative, either as NPIs or non-negative indefinites, the approach that treats negative indefinites as ambiguous between a non-negative and a negative interpretation, and the approach that treats negative indefinites as inherently negative quantifiers. On the basis of a critical examination of the various proposals within these three approaches I argued that negative indefinites in all languages, that is both negative quantifiers and n-words, are inherently negative, and that, following de Swart (2010), the difference between DN and NC lies in two different ways of instantiating polyadic quantification.

The analysis of negative indefinites in Afrikaans proposed in this dissertation was formulated in the framework of Optimality Theory (OT), and so Chapter 4 provided a discussion of OT, specifically OT syntax, OT semantics and bi-directional OT. This chapter also provided an exposition of de Swart's (2010) OT typology of negation. It was shown that a bidirectional OT framework can be used (preliminarily) to account for the expression and interpretation negative indefinites in standard Afrikaans.

The analysis of negative indefinites in Afrikaans presented in this dissertation was based on both empirical data and theoretical

observations. The empirical research consisted of a corpus study as well as experiments constructed to elicit native speaker judgements of multiple negative indefinite combinations.

The data from the corpus study provided the statistical asymmetries with regard to the expression and interpretation of negative indefinites in Afrikaans that informed the central analysis of the dissertation. Specifically, of the 2.800 negative sentences containing multiple adjacent existentially quantified variables found in the corpus, 96% contained a combination of a negative indefinite and an ordinary indefinite or NPI. The remaining 4% of these sentences contained multiple adjacent negative indefinites, as shown in Table 8.1.

Expression of multiple indefinites under negation	No. of occurrences	Percentage of total
negative indefinite + indefinite	2800	96 %
multiple negative indefinites	128	4%

Table 8.1: Frequencies for the expression of indefinites under negation

Furthermore, of the sentences containing multiple negative indefinites found in the corpus 96% had a NC interpretation, while only 4% had a DN interpretation, as shown in Table 8.2. This means that there were so few instances of DN interpretations of multiple negative indefinite combinations, that it was difficult to prove the existence of this reading.

Interpretation of multiple negative indefinite combinations	No. of occurrences	Percentage of total
NC interpretation	123	96 %
DN interpretation	5	4%

Table 8.2: Frequencies for interpretations of multiple negative indefinite combinations

So, although the corpus data was very informative, and very useful in supporting various theoretical observations, it was not wholly sufficient when it came to providing evidence for what is essentially a spoken language phenomenon, namely, the occurrence of multiple negative

indefinite combinations with NC interpretations in colloquial Afrikaans. For this reason it was felt that spoken language data was necessary to inform the analysis. As there is currently no corpus of spoken Afrikaans it was determined that native speaker judgements of multiple negative indefinite combinations would have to be elicited. For this reason an initial pilot study was undertaken to elicit native speaker judgements on a range of negative sentences in Afrikaans, as described in Chapter 5. This study was intended to explore the possibilities offered by sentential negation in Afrikaans and to inform the construction of the main data collection experiment.

The main data collection took the form of two versions of a perception experiment. These experiments elicited acceptability judgements, as well as meaning judgements, from native speakers of Afrikaans on a range of spoken utterances containing multiple negative indefinites, produced with different prosodic contours. The results of the perception experiments showed that while multiple negative indefinite combinations are generally acceptable to native speakers when presented as auditory stimuli, they are not as acceptable as the standard Afrikaans form for expressing multiple indefinites in the scope of negation, namely with the combination of a negative indefinite and an ordinary indefinite or NPI. With regard to the meaning of negative indefinite combinations it was found that a very specific prosodic contour is essential for the accurate interpretation of DN multiple negative indefinite combinations in Afrikaans, and that when this prosodic contour is missing, or unclear, the default interpretation for multiple negative indefinites is an NC interpretation. Interestingly, it was seen that even when multiple negative indefinite combinations are produced with a neutral prosodic contour they are still assigned DN interpretations by some speakers. The results of the perception experiments in fact show that the interpretation of spoken multiple negative indefinite combinations reflects a statistical asymmetry similar to that observed in the corpus data, as shown in Table 8.3.

Neutral prosody	No. of occurrences	Percentage of total
NC interpretation	185	83%
DN interpretation	37	17%
Total	222	100%

Table 8.3: Frequencies for utterances produced with neutral prosody

Finally, to determine whether naïve speakers of Afrikaans do in fact produce a disambiguating prosodic contour for DN meanings of negative indefinite combinations in everyday contextualised speech, a sentence production experiment was undertaken. Interestingly the results of this experiment showed that speakers generally fail to provide disambiguating prosody for sentences containing multiple negative indefinite combinations presented in a DN context.

In order to account for the variation in the expression of indefinites in the scope of negation in Afrikaans, as well as in the interpretation of multiple negative indefinite combinations, a stochastic asymmetric bidirectional OT account of negative indefinites in Afrikaans was proposed. Under this account a speaker produces either a negative indefinite + indefinite or a multiple negative indefinite combination on the basis of a stochastic (overlapping) constraint ranking, determined by the statistical asymmetries observed for the expression of indefinites in the scope of negation in the corpus data, noted in Table 8.1. Basically, this means that 96% of the time a speaker will produce a negative indefinite + indefinite form, while 4% of the time, she will produce a multiple negative indefinite combination.

In order to account for the variation in the interpretation of multiple indefinites in the scope of negation in Afrikaans, a similar stochastic constraint ranking was used. Crucially though, a hearer must take a speaker's perspective into account in order to correctly interpret an utterance, as assigning a meaning to an utterance is not an arbitrary exercise and cannot therefore solely be the result of an asymmetric constraint overlap and stochastic optimization. Under this account the interpretation of multiple negative indefinite combinations is determined by two constraints, relating to the effect of context and of prosody on

interpretation, as well as a stochastic constraint ranking determined by the statistical asymmetries observed in the perception experiment data, noted in Table 8.3. This means that in general the interpretation of multiple negative indefinites is determined by the context or by clear prosody, but when there is no context or clear prosody the overlapping constraint ranking comes into play and the distribution of NC to DN interpretations will occur in a ratio of 5:1.

However, one multiple negative indefinite combination that was not addressed in Chapter 6 was that of *g'n niks*. The reasoning for this was two-fold. Firstly, from the corpus data presented in Chapter 5, it was seen that the combination *g'n niks* is the highest occurring negative indefinite combination and that all the instances of *g'n niks* in the corpus received an NC interpretation. The high frequency of *g'n niks* in comparison to other negative indefinite combinations supports making a distinction between *g'n niks* and other negative indefinite combinations. Secondly, as was seen in Chapter 2, and from the data presented in Chapter 5, *g'n niks* functions differently in colloquial Afrikaans to other negative indefinite combinations, in that it can express sentential negation, in place of the sentence-medial *nie*.

For these reasons the multiple negative indefinite combination *g'n niks* was addressed separately. In Chapter 7 an examination of the negative indefinite *g'n* as it occurs in colloquial Afrikaans was presented, showing that there are in fact three types of *g'n*. The first *g'n* is a negative determiner, similar to its full phonological form *geen*. The second *g'n* functions as a sentential negative marker with a restricted ability to occur on its own in place of sentence-medial *nie*, while the third *g'n* functions as an intensifier, in combination with other negative indefinites, such as *niks*. Chapter 7 also presented an analysis of *niks*, accounting for its ability to occur on its own, and in combination with *g'n*, in place of sentence-medial *nie*.

The analysis of *g'n* showed how constructions which contain *g'n* in place of sentence-medial *nie* are highly sensitive to the informational properties of discourse, as illustrated by the examples in (8.9) and (8.10).

(8.9) [speaker enters a classroom with a broken window]
#Meneer, ek het g'n die ruit gebreek nie!
"Sir, I did NOT break the window!"

(8.10) [same situation as (8.9)]
Meneer: *Neelsie, ek weet jy't die ruit gebreek!*
Neelsie I know you-have the window break-PST
"Neelsie, I know you broke the window!"

Neelsie: *Meneer, ek het g'n die ruit gebreek nie!*
sir I have no the window break-PST SN
"Sir, I did NOT break the window!"

Following Biberauer (2009) and Biberauer & Cyrino (2009), the proposal that g'n can only be used felicitously in place of sentence-medial *nie* when negating an activated, discourse-old proposition, similar to Schwenter's (2005, 2006) information structural account of non-canonical negation in certain Romance languages, was explored and fleshed out.

Secondly, I argued that *g'n* functions in combinations with other negative indefinites as an intensifier. As such *g'n* increases the grade of negation expressed by the other negative indefinite. Following Israel (1996, 1997, 2001), *g'n niks* is therefore analysed as an emphatic negative form made up of two separate negative elements, as (8.11) illustrates.

(8.11) *Ek ruik g'n niks nie.*
I smell no nothing SN
"I smell nothing at all."

It was further argued that *niks* itself can also function as an emphatic negator when used as a substitute for sentence-medial *nie*. This means that *niks* can occur on its own in non-argument binding positions in order to strengthen the negation by indicating the complete absence of a property, as in (8.12)(a). It also means that the multiple negative indefinite combination *g'n niks* can be used as a substitute for sentence-medial *nie*, with *niks* functioning as an emphatic negator, which is in turn reinforced by *g'n*, as in (8.12)(b).

(8.12) (a) *Dis niks gratis nie.*
it-is nothing free SN
"It ISN'T free."

(b) *Dis g'n niks gratis nie.*
it-is no nothing free SN
"It ISN'T free at all."

As noted the aim of this dissertation was to provide an analysis of multiple negative indefinite combinations in Afrikaans. This dissertation has shown that the behaviour and status of negative indefinites in Afrikaans is an important and interesting research topic for those interested in negative indefinites in a cross-linguistic perspective as well as those interested in the properties of Afrikaans, and specifically of negation in Afrikaans. It has also made available data that should prove invaluable for such researchers. The analyses presented in this dissertation were based on data from various sources, and as such represent a thorough examination of the possibilities made available by different varieties of Afrikaans. However, there is still room for further research. For example, it would be enormously valuable to determine the distribution and use of multiple negative indefinites in spontaneous occurring naturalistic data Afrikaans, such as one might find in a corpus of spoken Afrikaans.

A further avenue for research would also be the interaction between negative indefinites and sentential negation. It was briefly mentioned in Chapter 2 that, according to Biberauer (2009), it is possible in colloquial Afrikaans to find sentences containing the combination of a negative indefinite together with two markers of sentential negation, resulting in a single logical negation interpretation, as illustrated in (8.13).

(8.13) *Hy het niks nie geld nie.*
he have nothing SN money SN
"He has absolutely no money."

While the status and behaviour of the sentential negative marker *nie* was beyond the scope of this dissertation, such examples provide evidence that the interaction between negative indefinites and sentential negation in Afrikaans, specifically the status and behaviour of sentence-final *nie* in

this regard, remains an important topic of study in research on negation in Afrikaans.

This dissertation has provided a comprehensive description of the behaviour of negative indefinites in Afrikaans, as well as analyses of these elements that account convincingly for their behaviour and status. I have shown that negative indefinites in Afrikaans are inherently negative, but that it is possible for such elements to co-occur in colloquial Afrikaans, expressing a single logical negation. As such, using bidirectional stochastic OT, I have been able to account for the fact that, in colloquial Afrikaans, more than one form is able to express the same meaning, and that one form has more than one possible meaning. This is an unusual situation given the importance of economy considerations assumed to hold in natural language. Furthermore I have given an in-depth characterisation of the negative indefinites *g'n* and *niks* and their different functions. I have shown, for the first time in detail, the restrictions placed on the use of *g'n* as a sentential marker of negation, and in so doing accounted for the special status *g'n* and *niks* have in colloquial Afrikaans. I trust that the reader has found the data presented in this dissertation interesting and the analyses as fascinating to read as I found them to develop.

References

Allbritton, D. W., G. McKoon and R. Ratcliff 1996. Reliability of prosodic cues for resolving syntactic ambiguity. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 22: 714-735.

Anttila, A. and V. Fong. 2000. The partitive constraint in Optimality Theory. *Journal of Semantics* 17(4): 281.

Anttila, A. and V. Fong. 2004. Variation, ambiguity, and noun classes in English. *Lingua* 114(9-10): 1253-1290.

Auwera, J. van der, and G. De Vogelaer. 2008. Negatie en kwantificatie. In S. Barbiers, J. van der Auwera, E. Boef, H. Bennis, G. De Vogelaer and M. van der Ham (eds.). *Syntactische atlas van de Nederlandse dialecten*, dl. II. Amsterdam: Amsterdam University Press.

Bard, E., D. Robertson, and A. Sorace. 1996. Magnitude estimation of linguistic acceptability. *Language* 72(1): 32–68.

Bayer, J. 1990. What Bavarian negative concord reveals about the syntactic structure of German. In J. Mascaro and M. Nespor (eds.). *Grammar in progress*. Dordrecht: Foris, 13-24.

Bayer, J. 2009. Nominal negative quantifiers as adjuncts. *The Journal of Comparative Germanic Linguistics* 12(1): 5–30.

Beckman, M.E. and G.A. Elam. 1997. *Guidelines for ToBI labelling*. Version 3. Columbus: Ohio State University, Department of Linguistics.

Bell, A. 2004. How N-words move: bipartite negation and 'Split-NegP'. In A. Breitbarth and H. van Riemsdijk (eds.) *Triggers*. Amsterdam: Mouton de Gruyter, 77-114.

Benthem, J. van. 1989. Polyadic quantifiers. *Linguistics and Philosophy* 12: 437-464.

Bernini, G. and P. Ramat. 1996. *Negative sentences in the languages of Europe. A typological approach*. Berlin and New York: Mouton de Gruyter.

Besten, J den. 1986. Double negation and the genesis of Afrikaans. In P. Muysken and N. Smith (eds.). *Substrata versus universals in Creole languages*. Amsterdam: John Benjamins, 185-230.

Biberauer, T. 2002. Verb second in Afrikaans: Is this a unitary phenomenon? *Stellenbosch Papers in Linguistics* 34:19-69.

Biberauer, T. 2003. V*erb second (V2) in Afrikaans: a minimalist investigation of word order variation*. Doctoral Dissertation. St John's College, Cambridge.

Biberauer, T. 2007. A closer look at negative concord in Afrikaans. *Stellenbosch Papers in Linguistics PLUS* 35: 1-51.

Biberauer, T. 2008. Doubling and omission: insights from Afrikaans negation. In S. Barbiers, M. van der Ham, O. Koeneman & M. Lekakou (eds.). *Microvariations in Syntactic Doubling*. Bingley: Emerald, 103-140.

Biberauer, T. 2009. Jespersen off course? The case of contemporary Afrikaans negation. In E. van Gelderen. *Cyclical Change*. Amsterdam: John Benjamins, 91-130.

Biberauer, T. & S. Cyrino. 2009. *Negative developments in Afrikaans and Brazilian Portuguese*. Paper presented at the 19th Colloquium on Generative Grammar (Vitoria-Gasteiz, Spain).

Biberauer, T. & H. Zeijlstra. 2009. *Negative concord in Afrikaans: filling the typological gap*. Ms, University of Cambridge & University of Amsterdam. [Available on-line: http://ling.auf.net/lingBuzz/000830]

Blutner, R. 2000. Some aspects of optimality in natural language interpretation. *Journal of Semantics* 17: 189-216.

Blutner, R. 2004. Pragmatics and the lexicon. In L. Horn and G. Ward (eds.). *Handbook of pragmatics*. Oxford: Blackwell, 488-514.

Blutner, R., P. Hendriks, and H. de Hoop. 2003. A new hypothesis on compositionality. *Proceedings of the Joint International Conference on Cognitive Science*: 53-57.

Blutner, R., H. de Hoop, and P. Hendriks. 2006. Optimal communication. Stanford, CA: CSLI Publications.

Breitbarth, A. 2009. A hybrid approach to Jespersen's cycle in West Germanic. *The Journal of Comparative Germanic Linguistics* 12(2): 81–114

Breitbarth, A. and L. Haegeman. 2008. *Not continuity but change: stable stage II in Jespersen's Cycle*. Paper presented at the Continuity and Change conference (Cambridge, UK).

Boersma, P. 1999. *Phonology. Formalizing the interactions between articulatory and perceptual drives*. Doctoral Dissertation. University of Amsterdam.

Boersma, P., and B. Hayes. 2001. Empirical Tests of the Gradual Learning Algorithm. *Linguistic inquiry* 32: 45–86.

Bolinger, D.L.M. 1972. *Degree words*. Berlin: Mouton de Gruyter.
Bosman, D.B. 1923. *Oor die ontstaan van Afrikaans*. Amsterdam: Swets en Zeitlinger.
Chen, A. 2005. *Universal and language-specific perception of paralinguistic intonational meaning*. Doctoral Dissertation. Radboud Universiteit Nijmegen.
Chomsky, N. 1981. *Lectures on government and binding*. Dordrecht: Foris Publications.
Chomsky, N. 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge, Mass.: MIT Press.
Chomsky, N. 1995. *The minimalist program*. Cambridge, Mass.: MIT Press.
Chomsky, N. 2000. Minimalist inquiries: the framework. In R. Martin, D. Michaels, and J. Uriagereka (eds.). *Step by step: essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, Mass.: MIT Press, 89-155.
Chomsky, N. 2001. Derivation by phase. In K. Kenstowicz (ed.). *Ken Hale: A life in languages*. Cambridge, Mass.: MIT Press, 1-52.
Clark, H.H. 1974. Semantics and comprehension. In T.A. Sebeok (ed.). *Current trends in linguistics, vol. 12, Linguistics and adjacent arts and sciences*: 1291-1428. Berlin: Mouton de Gruyter.
Comrie, B. 1996. Markedness. In J-O. Östman and J. Verschueren (ed.). *Handbook of Pragmatics*. Amsterdam: John Benjamins.
Conradie, S. 2005. *Verb movement parameters in Afrikaans: Investigating the Full Transfer Full Access hypothesis*. Doctoral Dissertation. McGill University.
Corblin, F. 1996. Multiple negation processing in natural language. *Theoria* 17: 214-259.
Cornips, L. and W. Jongenburger. 2001. Elicitation techniques in a Dutch syntactic atlas project. *Linguistics in the Netherlands 2001*. Amsterdam: John Benjamins, 53-63.
Cornips, L. and C. Poletto. 2005. On standardising syntactic elicitation techniques (part 1). *Lingua* 115: 939-957.
Cowart, W. 1997. *Experimental syntax: applying objective methods to sentence judgments*. Thousand Oaks, CA.: Sage Publications.
Dąbrowska, E. 2009. Naïve v. expert intuitions: An empirical study of acceptability judgments. *The Linguistic Review*. [Available on-line: http://www.cogling.group.shef.ac.uk/publications/Naive%20v%20expert.pdf]
Dahl, O. 1979. Typology of sentence negation. *Linguistics* 17: 79-106.

Deumert, A. 2004. *Language standardization and language change: the dynamics of Cape Dutch*. Amsterdam: John Benjamins.

Donaldson, B.C. 1993. *A grammar of Afrikaans*. Berlin: Mouton de Gruyter.

Dijk, T.A. van. 1985. Structures of news in the press. In T.A. van Dijk (ed.). *Discourse and communication: new approaches to the analysis of mass media discourse and communication*: 69-93. Berlin: de Gruyter.

Dryer, M. 1996. Focus, pragmatic presupposition, and activated propositions. *Journal of Pragmatics* 26: 475–523.

Feinauer, I. 1994. Die plasing van *nie*-1 en *nie*-2 in die Afrikaanse spreektaal. *Suid Afrikaanse Tydskrif vir Taalkunde Supplement* 19: 92-119.

Giannakidou, A. 1997. *The landscape of polarity items*. Doctoral Dissertation. University of Groningen.

Giannakidou, A. 1998. *Polarity sensitivity as (non)veridical dependency*, Amsterdam: John Benjamins.

Giannakidou, A. 2000. Negative…concord? *Natural Language and Linguistic Theory* 18: 457-523.

Giannakidou, A. 2006. N-words and negative concord. In M. Everaert and H. van Riemsdijk (eds.). 2006. *The Blackwell Companion to Syntax*. Oxford: Blackwell, 327-391.

Godard, D. 2004. French negative dependency. In F. Corblin and H. de Swart (eds.). *Handbook of French semantics*. Stanford: CSLI Publications, 351-390.

Greenberg, J. 1966. *Language universals*. Berlin: Mouton de Gruyter.

Grimshaw, J. 1997. Projection, Heads, and Optimality. *Linguistic Inquiry* 28(3): 373 - 422.

Grimshaw, J., and V. Samek-Lodovici. 1998. Optimal subjects and subject universals. In P. Barbosa, D. Fox, P. Hagstrom, M. McGinnis, and D. Pesetsky (eds.). *Is the best good enough? Optimality and competition in syntax*. Cambridge, Mass.: MIT Press, 193-219.

Haegeman, L. 1995. *The syntax of negation*. Cambridge: Cambridge University Press.

Haegeman, L., and R. Zanuttini. 1991. Negative heads and the Neg Criterion. *The Linguistic Review* 8(2-4): 233–252.

Haegeman, L. and R. Zanuttini. 1996. Negative concord in West Flemish. In A. Belletti and L. Rizzi (eds.). 1996. *Parameters and*

functional heads. Essays in comparative syntax. Oxford: Oxford University Press, 117-180.
Haegeman, L. and T. Lohndal. 2008. *Negative concord and (multiple) agree: a case study of West Flemish*. Ms, University of Lille III and University of Maryland.
Haspelmath, M. 1997. *Indefinite pronouns*. Oxford: Oxford University Press.
Haspelmath, M. 2006. Against markedness (and what to replace it with). *Journal of Linguistics* 42: 25-70.
Heim, I.R. 1982. *The semantics of definite and indefinite noun phrases*. Doctoral Dissertation. University of Massachusetts, Amherst.
Herberger, E. 2001. The negative concord puzzle revisited. *Natural Language Semantics* 9: 289-333.
Hendriks, P. and H. de Hoop. 2001. Optimality theoretic semantics. *Linguistics and Philosophy*. 24: 1-32.
Hendriks, P., H. de Hoop and H. de Swart. 2000. Guest editors' introduction. *Journal of Semantics* 17: 185-187.
Hendriks, P., H. de Hoop, I.Krämer, H.de Swart, J.Zwarts. 2010. *Conflicts in interpretation*. London: Equinox Publishing.
Hoeksema, J. 1997a. Negation and negative concord in middle Dutch. In D. Forget, P. Hirschbühler, F. Martineau and M-L. Rivero (eds.). *Negation and polarity: syntax and semantics*. Amsterdam: John Benjamins, 139-158.
Hoeksema, J. 1997b. *Three systems of negative concord*. Ms. Rijksuniversiteit Groningen.
Hoop, H. de. 1992. *Case configuration and noun phrase interpretation*. Doctoral Dissertation. University of Groningen.
Hoop, H. de, M. Haverkort, and M. van den Noort. 2004. Variation in form versus variation in meaning. *Lingua* 114: 1071-1089.
Horn, L.R. 1978. Some aspects of negation. In J.H. Greenberg (ed.). *Universals of human language. Volume 4: Syntax*. Stanford, CA: Stanford University Press.
Horn, L.R. 1989. *A natural history of negation*. Chicago: University of Chicago Press.
Huitink, J. 2008. *Modals, conditionals and compositionality*. Doctoral Dissertation. Radboud University Nijmegen.
Israel, M. 1996. Polarity sensitivity as lexical semantics. *Linguistics and Philosophy* 19(6): 619–666.
Israel, M. 1997. The scalar model of polarity sensitivity: the case of the aspectual operators. In D. Forget, P. Hirschbühler, F.

Martineau, and M-L. Rivero. *Negation: Syntax and Semantics*. Amsterdam/Philadelphia: John Benjamins, 209–230.

Israel, M. 2001. Minimizers, Maximizers and the Rhetoric of Scalar Reasoning. *Journal of Semantics* 18(4): 297-331.

Jäger, A. 2008. *History of German negation*. Amsterdam: John Benjamins.

Jäger, G. 2002. Some notes on the formal properties of bidirectional optimality theory. *Journal of Logic, Language and Information* 11(4): 427–451.

Jäger, G. 2003. Learning constraint sub-hierarchies. In R. Blutner, and H. Zeevat (eds.). *Optimality theory and pragmatics*. Basingstoke: Palgrave MacMillan, 251-287.

Jespersen, O. 1917. *Negation in English and other languages*. Copenhagen: Host.

Kayne, R.S. 1994. *The antisymmetry of syntax*. Cambridge, Mass.: MIT Press.

Keenan, E. and D. Westerståhl. 1997. Generalized quantifiers in linguistics and logic. In J. van Benthem and A. ter Meulen (eds.). *Handbook of logic & language*. Amsterdam: Elzevier, 837-893.

Keller, F. 2000. *Gradience in grammar: experimental and computational aspects of degrees of grammaticality*. Doctoral Dissertation. University of Edinburgh.

Kirby, S., and J. Hurford. 1997. The evolution of incremental learning: language, development and critical periods. *Edinburgh Occasional Papers in Linguistics* 97(2): 1-33.

Klein, H. 1998. *Adverbs of degree in Dutch and related languages*. Amsterdam: John Benjamins.

Klima, E.S. 1964. Negation in English. In J.A. Fodor and J.J. Katz (eds.). *The structure of language*. Englewood Cliffs, NJ: Prentice-Hall, 246-323.

Koster, J. 1975. Dutch as an SOV language. *Linguistic Analysis* 1: 111-136.

Krahmer, E. and K. van Deemter. 1997. Presuppositions as Anaphors: Towards a Full Understanding of Partial Matches. In P. Dekker, J. van der Does, and H. de Hoop (eds.). *De Dag. Proceedings of the workshop on definites*. Utrecht Institute of Linguistics OTS, Utrecht.

Kraljic, T. and S.E. Brennan. 2005. Prosodic disambiguation of syntactic structure: for the speaker or for the addressee? *Cognitive Psychology* 50: 194-231.

Ladusaw, W.A. 1992. Expressing negation. In C. Barker and D. Dowty (eds.). *Proceedings of SALT* 2: 237–259.

Ladusaw, W.A. 1996. Negation and polarity items. In S. Lappin (ed.). *The handbook of contemporary semantic theory*. Oxford: Blackwell, 321–341.

Laka, I. 1990. *Negation in Syntax*. Doctoral dissertation. MIT.

Legendre, G. 2001. An introduction to Optimality Theory in syntax. In G. Legendre, J. Grimshaw, and S. Vikner (eds.). *Optimality-theoretic syntax*. Cambridge, Mass.: MIT Press, 1–27.

Liberman, M. and Sag, I. 1974. Prosodic form and discourse function. *Proceedings of the Chicago Linguistics Society* 10: 416-427.

MacRitchie, V. and M. Seedat. 2008. Headlines and discourses in newspaper reports on traffic accidents. *South African Journal of Psychology* 38(2): 337-354.

Mattausch, J. 2005. On the optimization and grammaticalization of anaphora. *ZAS Papers in Linguistics* 38:.

Mattausch, J. 2007. Optimality, bidirectionality and the evolution of binding phenomena. *Research on Language and Computation* 5: 103-131.

May, R. 1989. Interpreting logical form. *Linguistics and Philosophy* 12: 387-435.

Mazzon, G. 2004. *A history of English negation*. Harlow: Pearson Longman.

McCarthy, J.J. 2007. What is Optimality Theory? *Language and Linguistics Compass* 1(4): 260- 291.

Miestamo, M. 2006. Negation. In J-O. Östman and J. Verschueren (ed.). *Handbook of pragmatics*. Amsterdam: John Benjamins.

Misono, J., R. Mazuka, T. Kondo and S. Kiritani. 1997. Effects and limitations of prosodic and semantic biases on syntactic disambiguation. *Journal of Psycholingusitic Research* 26: 229-245.

Molnárfi, L. 2002. Die Negationsklammer im Afrikaans. Mehrfachnegation aus formaler und funktionaler Sicht. In W. Abraham and C.J-W. Zwart (eds.). *Issues in formal Germanic typology*. Amsterdam: John Benjamins, 223-261.

Molnárfi, L. 2004. On the interpretation of multiple negation in spoken and written Afrikaans. In A. ter Meulen and W. Abraham (eds.). 2004. *The composition of meaning. From lexeme to discourse*. Amsterdam: John Benjamins, 195-225.

Murphy, V.A. 1997. The effect of modality on a grammaticality judgement task. *Second Language Research* 13(1): 34-65.

Murphy, B. and C. Vogel, 2008. *An Empirical Comparison of Measurement Scales for Judgements of Acceptability*. Poster presented at International Conference on Linguistic Evidence 2008, University of Tübingen, February 2008.

Myers, J. 2009. The design and analysis of small-scale syntactic judgment experiments. *Lingua* 119(3): 425-444.

Newmeyer, F.J. 1980. *Linguistic theory in America: the first quarter century of transformational generative grammar*. New York: Academic Press.

Nienaber, G.S. 1965. Iets naders oor die ontkenning in Afrikaans. In P.J. Nienaber (ed.). *Taalkundige Opstelle*. Cape Town: A.A. Balkema, 22-38.

Oosthuizen, J. 1996. Minimalisme en woordordevariasie in Afrikaans vraagsinne. *Stellenbosch Papers in Linguistics PLUS* 29: 71-98.

Oosthuizen, J. 1998. The final nie in Afrikaans negative sentences. *Stellenbosch Papers in Linguistics* 31: 61-93.

Oosthuizen, J. 2000. Prepositions left and right in Afrikaans. *Stellenbosch Papers in Linguistics* 33:67-90.

Oosthuizen, J. 2007. Verpligte koreferensie in Afrikaans: 'n Minimalistiese verkenning. *Stellenbosch Papers in Linguistics* 35: 87-144.

Oosthuizen, J. and H. Waher. 1994. On the syntax of the *se*-construction in Afrikaans. *Stellenbosch Papers in Linguistics* 28:21-43.

Oosthuizen, J. and H. Waher. 1996. Minimalisme: organisasie, afleiding en woordorde. *Suid-Afrikaanse Tydskrif vir Taalkunde, Supplement* 29: 35-68.

Pauwels, J.L.H. 1958. *Het dialect van Aarschot en omstreken*. Brussels: Belgisch Interuniversitair Centrum voor Neerlandistiek.

Penka, D. 2007. *Negative indefinites*. Doctoral dissertation. University of Tübingen

Poletto, Cecilia. 2008. *On negation splitting and doubling*. Paper presented at NORMS Workshop on Negation (Oslo, 1 March). [Handout available on-line: http://www.hf.uio.no/tekstlab/negasjon07/programme.html]

Pollock, J.Y. 1989. Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20 (33): 365-424.

Ponelis, F.A. 1979. *Afrikaanse sintaksis*. Pretoria: J.L. van Schaik.

Ponelis, F.A. 1993. *The development of Afrikaans*. Frankfurt am Main: Lang.

Price, P.J., M. Ostendorf, S. Shattuck-Hufnagel and C. Fong. 1991. The use of prosody in syntactic disambiguation. *Journal of the Acoustical Society of America* 90: 2956-2970.

Prince, A. and P. Smolensky. 1997. Optimality: from neural networks to universal grammar. *Science* 275: 1604-1610.

Prince, E. 1992. The ZPG letter: subjects, definiteness, and information-status. In S. Thompson and W. Mann, (eds.). *Discourse Description: Diverse Analyses of a Fundraising Text*. Amsterdam: John Benjamins, 295–325.

Raidt, E.H. 1983. *Einfürung in Geschichte und Struktur des Afrikaans*. Darmstadt: Wissenschaftliche Buchgesellschaft.

Raidt, E.H. 1989. Ontwikkeling van vroëe Afrikaans. In T.J.R. Botha et al. (eds.). *Inleiding tot die Afrikaanse taalkunde*. 2nd edition. Pretoria and Cape Town: Academica, 96-126.

Raidt, E.H. 1991. *Afrikaans en sy Europese verlede*. 3rd edition. Cape Town: Nasou.

Robbers, K. 1992. Properties of negation in Afrikaans and Italian. In R. Bok-Bennema and R. van Hout (eds.). 1992. *Linguistics in the Netherlands 1992*. Amsterdam: John Benjamins, 223-234.

Robbers, K. 1997. *Non-finite verbal complements in Afrikaans. A comparative approach*. HIL Dissertations.

Roberge, P.T. 1994. On the origins of the Afrikaans verbal hendiadys. *Stellenbosch Papers in Linguistics* 28:45-81.

Roberge, P.T. 2000. Etymological opacity, hybridization, and the Afrikaans brace negation. *American Journal of Germanic Linguistics and Literatures* 12(1): 101-176.

Roberge, P.T. 2002. Afrikaans: considering origins. In R. Mesthrie. *Language in South Africa*. Cambridge: Cambridge University Press, 79-103.

Rowlett, P. 1998. *Sentential negation in French*. Oxford: Oxford University Press.

Saal, O.E. 1994. *Ontkenning in Malmesbury-Afrikaans: 'n kontekstuele verkenning*. Masters thesis. Universiteit van Wes-Kaapland.

Samek-Lodovici, V. 2006. Optimality theory and the minimalist program. *Linguistics in Potsdam* 25: 77–97.

Samek-Lodovici, V. 2007. An invitation to OT syntax and semantics. *Lingua* 117: 1513-1521.

Schafer, A.J., S. Speer, P. Warren, and S.D. White. 2000. Intonational disambiguation in sentence production and comprehension. *Journal of Psycholinguistic Research* 29: 169-182.

Scholtz, J. du Plessis. 1980. *Wording en ontwikkeling van Afrikaans*. Cape Town: Tafelberg.

Schütze, C.T. 1996. *The empirical base of linguistics: grammaticality judgments and linguistic methodology*. Chicago: University of Chicago Press.

Schwenter, S.A. 2005 The pragmatics of negation in Brazilian Portuguese. *Lingua* 115.1427-56.

Schwenter, S.A. 2006 Fine-tuning Jespersen's Cycle. In B.J. Birner and G. Ward (eds.). *Drawing the Boundaries of Meaning: Neo-Gricean Studies in Pragmatics and Semantics in Honor of Laurence R. Horn*. Amsterdam: Benjamins.

Siemund, P. 2000. *Intensifiers in English and German: a comparison*. London: Routledge.

Sinar, B. 2006. *A History of English Reflexives: from Old English into Early Modern English*. Doctoral Dissertation. University of York.

Snedeker, J., and Trueswell, J. 2003. Using prosody to avoid ambiguity: Effects of speaker awareness and referential context. *Journal of Memory and Language* 48: 103-130.

Sorace, A. and F. Keller. 2005. Gradience in linguistic data. *Lingua* 115(11): 1497-1524.

Stadler, L.G. de. 1989. *Afrikaanse semantiek*. Johannesburg: Southern Boekuitgewers.

Swart, H. de. 1998. *Introduction to natural language semantics*. Stanford: CSLI Publications.

Swart, H. de. 2006. Marking and interpretation of negation: a bi-directional OT approach. In R. Zanuttini, H. Campos, E. Herburger and P. Portner (eds.). *Negation, tense and clausal architecture: cross-linguistic investigations*. Washington, DC: Georgetown University Press, 199-218.

Swart, H. de. 2010. *Expression and interpretation of negation*. Berlin: Springer.

Swart, H. de. and I.A. Sag. 2002. Negation and negative concord in Romance. *Linguistics and Philosophy* 25(4): 373–417.

Tottie, G. 1991. *Negation in English speech and writing: a study in variation*. Academic Press.

Tubau, S. 2008. *Negative Concord in English and Romance: Syntax-Morphology Interface Conditions on the Expression of Negation*. Doctoral Dissertation. Universiteit van Amsterdam.

Valkhoff, M.F. 1966. *Studies in Portuguese and Creole. With special reference to South Africa*. Johannesburg: Witwatersrand University Press.

Waher, H. 1978. *Die problem van die bereik van die ontkenning met spesiale verwysing na Afrikaans*. PhD Thesis. University of Cape Town.

Waher, H. 1982. The position of the finite verb in Afrikaans. *Stellenbosch Papers in Linguistics* 8: 51-79.

Waher, H. 1983. Die tweede ontkenningspartikel in Afrikaans. In A. Sinclair (ed.) *G.S. Nienhaber – 'n huldeblyk*. Cape Town: UWK Printers, 695-703.

Wasow, T. and J. Arnold. 2005. Intuitions in linguistic argumentation. *Lingua* 115: 1481-1496.

Watanabe, A. 2004. The genesis of negative concord: syntax and morphology of negative doubling. *Linguistic Inquiry* 35(4): 559–612.

Webb, V.N. 2002. *Language in South Africa: the role of language in national transformation, reconstruction and development*. Amsterdam: John Benjamins.

Weiß, H. 2002. Three types of negation: a case study in Bavarian. In S. Barbiers, L. Cornips, and S. Van Der Kleij. *Syntactic microvariation*. Amsterdam: Meertens Instituut, 305–332.

Williams, E. 1997. Blocking and Anaphora. *Linguistic Inquiry* 28 (4): 577 - 628.

Wilson, C. 2001. Bidirectional optimization and the theory of anaphora. In G. Legendre, J. Grimshaw, and S. Vikner (eds.). *Optimality-theoretic syntax*. Cambridge, Mass.: MIT Press, 465–507.

Wouden, T. van der. 1994. *Negative contexts*. Doctoral Dissertation. University of Groningen.

Wouden, T. van der and F. Zwarts. 1993. A semantic analysis of negative concord. *Semantics and Linguistics Theory (SALT)* III: 202-219.

Zanuttini, R. 1991. *Syntactic properties of sentential negation. A comparative study of Romance languages*. Doctoral Dissertation. University of Pennsylvania.

Zanuttini, R. 1997. *Negation and Clausal Structure: A Comparative Study of Romance Languages*. Oxford: Oxford University Press.

Zeevat, H. 2000. The asymmetry of optimality theoretic syntax and semantics. *Journal of Semantics* 17(3): 243.

Zeevat, H. 2002. Double bias. In G. Alberti, K. Balogh, and P. Dekker (eds.). *Proceedings of the Seventh Symposium on Logic and Language*. Pécs, 173–181.

Zeevat, H. 2006. Freezing and marking. *Linguistics* 44: 1095-1112.

Zeevat, H. and G. Jäger. 2002. A reinterpretation of syntactic alignment, in D. de Jongh, H. Zeevat and M. Nilsenova (eds.).

Proceedings of the 3rd and 4th International Symposium on Language, Logic and Computation. Amsterdam: ILLC.

Zeijlstra, H. 2004. *Sentential negation and negative concord*. Doctoral Dissertation. Universiteit van Amsterdam.

Zeijlstra, H. 2007. Emphatic multiple negative expressions in Dutch. *ACLC working papers* 2(1): 77-103.

Zeijlstra, H. 2008. *Negative concord is syntactic agreement*. Ms, University of Amsterdam. [Available on-line: http://ling. auf. net/lingBuzz /000645]

Zwart, C.J.W. 1996. *Morphosyntax of verb movement. A minimalist approach*. Dordrecht: Kluwer Academic Publishers.

Samenvatting in het Nederlands

Dit proefschrift gaat over de syntactische en semantische status van negatieve indefinieten in het Afrikaans. De term 'negatieve indefiniet' wordt net als in Penka (2007) gebruikt om op een zuiver beschrijvende manier te verwijzen naar ontkennende onbepaalde voornaamwoorden, zoals het Nederlandse *niemand* of *niets*, als ook naar de zogenaamde n-woorden, een term die Laka (1990) voor het eerst gebruikte voor de ontkennende onbepaalde voornaamwoorden in "negative concord"-talen. Die talen drukken een enkelvoudige ontkenning uit door meer dan één ontkennend element en/of negatieve indefiniet te gebruiken. Het probleem met negatieve indefinieten is dat ze in talen met een dubbele ontkenning (DN) en "negative concord"-talen (NC) verschillend lijken te worden geïnterpreteerd. In DN-talen, zoals het standaard Engels en Nederlands is de interpretatie van de elementen altijd dat ze bijdragen aan de ontkenning. In NC-talen, zoals het Italiaans en Spaans, lijken ze als óf ontkennend óf niet-ontkennend te worden opgevat.

Er is veel aandacht voor negatieve indefinieten in de literatuur over ontkenning, vooral in onderzoek naar NC-talen, maar er is tot nu toe nog maar weinig geschreven over negatieve indefinieten in het Afrikaans. Dat zijn de ontkennende elementen *niemand*, *nooit*, *nêrens* ('nergens'), *niks*, *geen*, *g'n* ('geen') en *geeneen* ('geen een/enkele'). Het gedrag en de status van deze ontkennende elementen vormen het hoofdthema van deze dissertatie. Daarin probeer ik de aard van de negatieve indefinieten in het Afrikaans tot in detail te analyseren, gebaseerd op empirische data en theoretische observaties.

Op basis van eerdere literatuur geeft Hoofdstuk twee een overzicht van de structuur van het Afrikaans en ontkenning in die taal. Ik laat zien dat het Afrikaans getypeerd kan worden als een NC-taal, en niet als een DN-taal, omdat alle ontkennende structuren in het Afrikaans twee ontkennende elementen nodig hebben: de op het oog identieke ontkennende elementen *nie*…*nie*, zoals geïllustreerd in (1), of een negatieve indefiniet plus het ontkennende element *nie*, zoals geïllustreerd in (2).

(1) *Haar suster het* *nie* *haar verjaarsdag vergeet* *nie*.
haar zus heeft SN haar verjaardag vergeten SN
"Haar zus is haar verjaardag niet vergeten."

(2) *Hy het* *nooit* *sy broer vergewe* *nie*.
hij heeft nooit zijn broer vergeven SN
"Hij heeft zijn broer nooit vergeven."

Net als Biberauer (2009) veronderstel ik dat de twee *nie*s fundamenteel van elkaar verschillen. De *nie* in het midden van de zin markeert de plaats van de ontkenning, de *nie* aan het einde van de zin wordt gezien als een NC-element, een verplichte aanduiding van ontkenning zonder semantische inhoud, die voorkomt in alle zinnen met in het midden *nie* of een ontkennend onbepaald voornaamwoord, behalve wanneer die wordt weggelaten vanwege Biberauer's (2008) Afrikaans Syntactic Haplology Mechanism. Mijn standpunt wat betreft de syntactische status en positie van *nie* aan het einde van de zin is theoretisch neutraal.

Het Afrikaans laat wat betreft negatieve indefinieten eigenschappen zien die anders zijn dan die van typische NC- en DN-talen. In tegenstelling tot de meeste NC-talen, en in overeenstemming met DN-talen, leidt een reeks van negatieve indefinieten in het standaard Afrikaans niet tot een NC-interpretatie. Als aan de eerste negatieve indefiniet onbepaalde voornaamwoorden worden toegevoegd die in het bereik van de ontkenning staan, worden deze gerealiseerd door niet-negatieve indefinieten of negatief polaire uitdrukkingen (NPIs), zoals geïllustreerd in (3).

(3) *Ons het* *niemand* *ooit* *daar gesien* *nie*.
we hebben niemand ooit daar gezien SN
"We hebben daar nooit iemand gezien."

Als er meerdere negatieve indefinieten in de zin staan, krijgt de zin in het standaard Afrikaans een DN-interpretatie, zoals in (4).

(4) *Niemand* *sien* *niks* *nie*.
niemand zien niets SN
"Niemand ziet niets", i.e. "Iedereen ziet iets."

In gesproken Afrikaans kunnen meerdere negatieve indefinieten samen in de zin staan en een NC-interpretatie krijgen, zoals (5) laat zien.

(5) *Ons skuld* *niemand* *niks* *nie.*
we schuldig zijn niemand niets SN
"We zijn niemand iets schuldig."

Precies deze potentiële ambiguïteit tussen NC- en DN-interpretaties van combinaties van meerdere negatieve indefinieten aan de ene kant en de variatie in de uitdrukking van meedere indefinieten in het bereik van de ontkenning aan de andere kant, vormt het hoofdthema van de dissertatie.

Omdat het doel van dit proefschrift is om het gedrag en de status van negatieve indefinieten in het Afrikaans te verklaren, verkent Hoofdstuk drie de verschillende benaderingen binnen de analyses van de Afrikaanse negatieve indefinieten. Het begint met een korte uiteenzetting over *negative concord*. Daarna volgt een bespreking van de drie belangrijkste benaderingen van de negatieve indefinieten in het Afrikaans. De eerste beschouwt ze als niet-ontkennend: óf als negatief polaire uitdrukkingen (NPIs) óf als niet-negatieve indefinieten. Volgens de tweede benadering houden ze het midden tussen een niet-ontkennende en een ontkennende interpretatie, en de derde benadering stelt ze volledig gelijk aan ontkennende onbepaalde voornaamwoorden. Op basis van een kritische beschouwing van de verschillende stellingnames beargumenteer ik dat negatieve indefinieten, i.e. ontkennende onbepaalde voornaamwoorden en n-woorden, in alle talen in essentie ontkennend zijn en dat het verschil tussen DN- en NC-talen zit in twee verschillende manieren om polyadische kwantificatie uit te drukken (zie ook De Swart, 2010).

De analyse van negatieve indefinieten in het Afrikaans in dit proefschrift is beschreven binnen het kader van de optimaliteitstheorie (OT). Hoofdstuk vier behandelt OT, in het bijzonder OT-syntaxis, OT-semantiek en bi-directionele OT. Ook wordt De Swart's (2010) OT-typologie van ontkenning uiteengezet. Ik laat zien dat een bi-directioneel OT-kader een eerste verklaring kan geven van het gebruik en de interpretatie van negatieve indefinieten in standaard Afrikaans.

De analyse van negatieve indefinieten in het Afrikaans in dit proefschrift is gebaseerd op empirische data en theoretische observaties. De data die gebruikt worden voor de analyse en om de theoretische observaties te

ondersteunen, worden besproken in Hoofdstuk vijf. De data zijn afkomstig uit drie bronnen. Allereerst is een corpusonderzoek uitgevoerd naar combinaties van meerdere negatieve indefinieten in het geschreven Afrikaans. De data van dat corpusonderzoek leveren de statistische asymmetrieën voor de hoofdanalyse in het proefschrift, van het gedrag en de interpretatie van negatieve indefinieten in het Afrikaans, en staan in Hoofdstuk zes. In het bijzonder blijkt daaruit dat combinaties van meerdere negatieve indefinieten voorkomen in vier procent van de ontkennende zinnen met meerdere, opeenvolgende, in essentie variabelen van hoeveelheid, terwijl het in 96 procent gaat om een combinatie van een negatieve indefiniet met een onbepaald voornaamwoord of NPI. Van de zinnen met meerdere negatieve indefinieten wordt bovendien 96 procent geïnterpreteerd als NC en slechts vier procent als DN.

Ten tweede worden de data van twee versies van een perceptie-experiment naar de oordelen over de aanvaardbaarheid en de betekenis van auditieve stimuli gepresenteerd. De experimenten lokten oordelen uit van moedertaalsprekers van het Afrikaans over zinnen met meerdere negatieve indefinieten die werden geproduceerd met verschillende prosodische structuren. De resultaten van de perceptie-experimenten worden gebruikt om de observaties van het corpusonderzoek in de analyse te ondersteunen. Ze laten zien dat hoewel combinaties van meerdere negatieve indefinieten over het algemeen aanvaardbaar zijn voor moedertaalsprekers als ze auditief worden aangeboden, ze niet de standaard manier zijn om in het Afrikaans meerdere indefinieten uit te drukken in een ontkenning. Dat is namelijk de combinatie van een negatieve indefiniet en een onbepaald voornaamwoord of NPI.

Wat betreft de betekenis van combinaties van negatieve indefinieten blijkt dat een zeer specifieke prosodische structuur nodig is voor een goede interpretatie van combinaties van meerdere DN-negatieve indefinieten in het Afrikaans, en dat wanneer die prosodische structuur er niet is, of onduidelijk is, de meerdere negatieve indefinieten standaard als NC worden geïnterpreteerd. Interessant genoeg werd gevonden dat zelfs wanneer combinaties van meerdere negatieve indefinieten worden uitgesproken met een neutrale prosodische structuur, ze nog steeds door sommige moedertaalsprekers als DN worden geïnterpreteerd. De resultaten van de perceptie-experimenten laten zelfs zien dat de

interpretatie van gesproken combinaties van meerdere negatieve indefinieten op eenzelfde manier statistisch asymmetrisch zijn als waargenomen in de corpusdata. De specifieke ratio van de interpretatie van meerdere negatieve indefinieten als NC en DN is 5:1.

Tenslotte volgen de data van een zinsproductie-experiment, dat werd uitgevoerd om te bepalen hoe betrouwbaar naïeve sprekers prosodisch onderscheid maken tussen verschillende combinaties van negatieve indefinieten die samen een dubbele ontkenning uitdrukken. De resultaten van dit experiment laten zien dat sprekers over het algemeen geen onderscheid maken in prosodie tussen zinnen met combinaties van meerdere negatieve indefinieten in een DN-context, in de alledaagse, gesproken taal.

Hoofdstuk zes presenteert de belangrijkste analyse van het proefschift: een Optimaliteits Theoretische beschouwing van negatieve indefinieten in het Afrikaans, gebaseerd op de data die gepresenteerd zijn in Hoofdstuk vijf, en geplaatst in het OT-framework dat is beschreven in Hoofdstuk vier. Om de variatie in uitdrukking van meerdere indefinieten in het bereik van de ontkenning te kunnen verklaren, maakt de analyse in Hoofdstuk zes gebruik van stochastische asymmetrische bidirectionele OT. De analyse stelt dat er twee mogelijke vormen zijn om een enkele betekenis uit te drukken, namelijk een combinatie van een negatieve indefiniet met een indefiniet en een combinatie van meerdere negatieve indefinieten met een NC-interpretatie. In deze opzet produceert een spreker een negatieve indefiniet + indefiniet of een combinatie van meerdere negatieve indefinieten op basis van een stochastische (overlappende) rangschikking van constraints, die wordt bepaald door de statistische asymmetrieën die voorkomen in de corpusdata voor het uitdrukken van indefinieten in het bereik van de ontkenning. In principe betekent dit dat in 96 procent van de gevallen een spreker een negatieve indefiniet + indefiniete vorm zal produceren, en dat het in 4 procent van de gevallen gaat om een combinatie van meerdere negatieve indefinieten.

De analyse in Hoofdstuk zes geeft ook een verklaring voor het bestaan van twee mogelijke interpretaties, een DN- of een NC-interpretatie, van combinaties van meerdere negatieve indefinieten in gesproken Afrikaans. De interpretatie hiervan wordt bepaald door twee constraints, gerelateerd aan het effect van context en van prosodie op de interpretatie, in samenhang met een stochastische rangschikking van constraints die

berust op de statistische asymmetrieën uit het perceptie-experiment. Dat betekent dat normaal gesproken de context of duidelijke prosodie de interpretatie van meerdere negatieve indefinieten bepalen. In die gevallen waarin informatie van contekst en prosodie ontbreekt leidt de overlappende rangschikking van constraints tot een distributie van NC- en DN-interpretaties die gelijk is aan de ratio 5:1.

Er is één combinatie van meerdere negatieve indefinieten die niet voorkomt in Hoofdstuk zes en dat is *g'n niks*. Daar zijn twee redenen voor. Allereerst zien we in de corpusdata van Hoofdstuk vijf dat de combinatie *g'n niks* de meest voorkomende combinatie van negatieve indefinieten is en dat die altijd een NC-interpretatie krijgt. Dat *g'n niks* zoveel voorkomt in vergelijking tot andere negatieve indefinieten maakt het aannemelijk om een verschil te maken tussen *g'n niks* en andere combinatie van negatieve indefinieten. Daarnaast zien we in Hoofdstuk twee en Hoofdstuk vijf dat *g'n niks* in gesproken Afrikaans afwijkt van andere combinaties van negatieve indefinieten, omdat het zinsontkenning kan uitdrukken in de plaats van *nie* middenin de zin.

Hoofdstuk zeven onderzoekt de voorkomens van de negatieve indefiniet *g'n* in gesproken Afrikaans en laat zien dat er eigenlijk drie types *g'n* zijn. Het eerste type is een ontkennend bepalend element, vergelijkbaar met zijn volledige fonologische vorm *geen*, zoals in (6).

(6) *Ons het g'n motors op die pad gesien nie.*
we hebben geen auto's op de weg gezien SN
"We hebben geen auto's op de weg gezien."

Het tweede *g'n* functioneert als een markeerder van zinsontkenning met een beperkte mogelijkheid om zelfstandig op de plek van *nie* middenin de zin te staan (Biberauer 2009). De analyse laat zien hoe constructies met *g'n* in de plaats van *nie* middenin de zin zeer gevoelig zijn voor de informatie structuur van de discourse. In navolging van Schwenter (2005, 2006), stel ik vast dat *g'n* alleen op de plek van *nie* in het midden van de zin kan komen als het de ontkenning vormt van een geactiveerde, discourse-old propositie. Dit kan worden verduidelijkt door de voorbeelden in (7) en (8).

(7) [de spreker gaat een klaslokaal binnen met een gebroken raam]
#Meneer, ek het g'n die ruit gebreek nie!
"Meneer, ik heb het raam NIET gebroken!"

(8) [zelfde situatie als (7)]
Meneer: *Neelsie, ek weet jy't die ruit gebreek!*
Neelsie ik weet jij-hebt het raam gebroken
"Neelsie, ik weet dat je het raam hebt gebroken!"

Neelsie: *Meneer, ek het g'n die ruit gebreek nie!*
meneer ik heb niet het raam gebroken SN
"Meneer, ik heb het raam NIET gebroken!"

Het derde *g'n* komt voor in combinaties met andere negatieve indefinieten, zoals *niks*, als een versterkend element – het maakt de ontkenning zwaarder, waardoor een krachtige ontkennende vorm ontstaat die bestaat uit twee verschillende negatieve elementen. Het voorbeeld in (9) verduidelijkt dat.

(9) *Hy kry g'n niks gedoen nie.*
hij krijgt geen niks gedaan SN
"Hij krijgt helemaal niks gedaan."

Hoofdstuk zeven geeft ook een analyse van *niks* in gesproken Afrikaans. Ik betoog dat *niks* ook een versterkend ontkennend element kan zijn als het gebruikt wordt in de plaats van *nie* in het midden van de zin. Op die manier kan *niks* voorkomen in posities zonder argument binding om de ontkenning te versterken door de volledige afwezigheid van een eigenschap weer te geven. Daarnaast wordt de combinatie van meerdere negatieve indefinieten *g'n niks* gebruikt, waarbij *niks* functioneert als een versterkend ontkennend element, die op zijn beurt versterkt wordt door *g'n*, zoals in de voorbeelden (10).

(10) (a) *Dis niks gratis nie.*
het-is niks gratis SN
"Het is absoluut niet gratis." / "Het is NIET gratis."

(b) *Dis g'n niks gratis nie.*
het-is geen niks gratis SN
"Het is zeker niet gratis."

Als laatste somt Hoofdstuk acht de voornaamste conclusies op en vat de dissertatie samen. Dit hoofdstuk kijkt ook kort naar mogelijk vervolgonderzoek naar ontkenning en negatieve indefinieten in het Afrikaans.

Samevatting in Afrikaans

Hierdie proefskrif handel oor die sintaktiese en semantiese status van negatiewe onbepaalde items in Afrikaans. Die term "negatiewe onbepaalde item" word, in navolging van Penka (2007), op 'n suiwer deskriptiewe wyse gebruik om te verwys na beide negatiewe kwantifiseerders, byvoorbeeld *nobody* en *nothing* in Engels, en sogenaamde n-woorde. Die term "n-woord" is oorspronklik deur Laka (1990) gebruik om te verwys na onbepaalde voornaamwoorde wat deel uitmaak van ontkenning in *negative concord*-tale. In sulke tale word veelvoudige sinsontkenningsitems en/of negatiewe onbepaalde items gebruik om 'n enkele ontkenning uit te druk. Die probleem met negatiewe onbepaalde items is dat die interpretasie daarvan klaarblyklik verskil oor dubbele ontkenning- (DN) en *negative concord*- (NC) tale heen. In DN-tale, soos Standaardengels en Standaardnederlands, word hierdie items deurgaans geïnterpreteer as bydraend tot ontkenning. In NC-tale, soos Italiaans en Spaans, word negatiewe onbepaalde elemente egter geïnterpreteer as óf negatief óf nie-negatief.

Alhoewel negatiewe onbepaalde items aansienlik aandag geniet in literatuur oor ontkenning, veral in navorsing gerig op NC-tale, is daar tot dusver min bekend oor sulke items in Afrikaans. Voorbeelde van negatiewe onbepaalde items in Afrikaans is *niemand*, *nooit, nêrens, niks, geen, g'n* en *geeneen*. Die eienskappe en status van dié negatiewe items vorm die fokus van hierdie proefskrif. Dit is my doelwit om, op grond van empiriese data en teoreties-gebaseerde waarnemings, 'n gedetailleerde analise van die aard van negatiewe onbepaalde items in Afrikaans te bied.

Hoofstuk twee gee 'n breë beskrywing, gebaseer op bestaande literatuur, van die struktuur van Afrikaans en spesifiek van ontkenning in Afrikaans. Dit word gestel dat Afrikaans as 'n NC-taal eerder as 'n DN-taal gekarakteriseer moet word, aangesien alle negatiewe strukture in Afrikaans twee negatiewe items vereis - óf die skynbaar identiese sinsontkenningsitems elemente *nie*…*nie,* soos geïllustreer in (1), óf 'n negatiewe onbepaalde item saam met die negatiewe item *nie*, soos geïllustreer in (2).

(1) *Haar suster het nie haar verjaarsdag vergeet nie.*

(2) *Hy het nooit sy broer vergewe nie.*

Na aanleiding van Biberauer (2009), word daar aangeneem dat die twee *nie*'s in sinne soos (1) in wese verskil, met die sinsmediale *nie* as die lokus van ontkenning. Sinsfinale *nie* word beskou as 'n NC-element, 'n verpligte ontkenningsmerker sonder semantiese inhoud; dié item word aangetref in alle sinne met sinsmediale *nie* of 'n ontkennede onbepaalde element, uitsluitend gevalle waar dit as 'n resultaat van Biberauer (2008) se Afrikaans Syntactic Haplology Mechanism weggelaat word. Ek bly teoreties-neutraal wat betref die sintaktiese status en posisie van sinsfinale *nie*.

Wat betref negatiewe onbepaalde items, vertoon Afrikaans eienskappe wat dit van beide tipiese NC- en tipiese DN-tale onderskei. In teenstelling met die meeste NC-tale en soortgelyk aan DN-tale, laat Standaardafrikaans nie negatiewe onbepaalde elemente toe met 'n NC-interpretasie nie. Enige addisionele eksistensieel-gekwantifiseerde veranderlikes (dit wil sê, bykomend tot die eerste negatiewe onbepaalde item) wat binne die sin voorkom, word deur nie-negatiewe onbepaalde items of NPI's gerealiseer, soos geïllustreer in (3).

(3) *Ons het niemand ooit daar gesien nie.*

Indien veelvoudige negatiewe onbepaalde items wel sáám voorkom, verkry die uiting 'n DN-interpretasie in Standaardafrikaans, soos geïllustreer in (4).

(4) *Niemand sien niks nie.*

In Omgangsafrikaans kan veelvoudige negatiewe onbepaalde items wél met 'n NC-interpretasie voorkom, soos (5) illustreer.

(5) *Ons skuld niemand niks nie.*

Die potensiële dubbelsinnigheid tussen NC- en DN-interpretasies van kombinasies van veelvoudige negatiewe onbepaalde items aan die een kant, en die variasie in die uitdrukking van veelvoudige onbepaalde items

in negatiewe sinne aan die ander kant, word in hierdie proefskrif ondersoek.

Aangesien die doel van die proefskrif is om 'n verklaring te bied vir die eienskappe en status van negatiewe onbepaalde items in Afrikaans, word daar in Hoofstuk drie 'n beskrywing gegee van die verskillende benaderings tot die analise van negatiewe onbepaalde items. Eerstens word 'n kort omskrywing gegee van *negative concord*, gevolg deur 'n bespreking van die drie hoofbenaderings tot negatiewe onbepaalde items, naamlik (i) die benadering wat sulke items beskou as nie-negatief – óf as negatiewe polariteitsitems (NPIs), óf as nie-negatiewe onbepaalde items; (ii) die benadering wat negatiewe onbepaalde items beskou as dubbelsinnig tussen 'n nie-negatiewe en negatiewe interpretasie; en (iii) die benadering wat negatiewe onbepaalde items beskou as inherent negatiewe kwantifiseerders. Op grond van 'n kritiese bespreking van die verskillende voorstelle, argumenteer ek dat negatiewe onbepaalde items – dit wil sê, beide negatiewe kwantifiseerders en n-woorde – in alle tale inherent negatief is en dat, na aanleiding van De Swart (2010), die verskil tussen DN en NC lê in twee verskillende wyses waarop poliadiese kwantifisering geïnstansieer word.

Die analise van negatiewe onbepaalde items in Afrikaans wat in die proefskrif voorgestel word, word aangebied binne die raamwerk van Optimaliteitsteorie (OT). Om hierdie rede gee Hoofstuk vier 'n uiteensetting van OT, spesifiek OT-sintaksis, OT-semantiek en bi-direksionele OT. Dié hoofstuk bied verder ook 'n uiteensetting van De Swart (2010) se OT-tipologie van ontkenning. Dit word getoon dat 'n bi-direksionele OT-raamwerk (voorlopig) gebruik kan word om 'n verklaring te bied vir die uitdrukking en interpretasie van negatiewe onbepaalde items in Standaardafrikaans.

Die analise van negatiewe onbepaalde items in Afrikaans wat in die proefskrif voorgestel word, is gebaseer op beide empiriese data en teoreties-gebaseerde waarnemings. Die data wat gebruik is, word in Hoofstuk vyf verskaf. Dié hoofstuk bevat data uit drie bronne. Eerstens word data uit 'n korpusstudie, onderneem om die algemeenheid van kombinasies van veelvoudige negatiewe onbepaalde items in geskrewe Afrikaans vas te stel, aangebied. Hierdie data verskaf die statistiese ongelykmatighede met betrekking tot die uitdrukking en interpretasie van negatiewe onbepaalde items in Afrikaans wat gebruik word in die

sentrale analise van die proefskrif in Hoofstuk ses. Daar word spesifiek aangetoon dat kombinasies van veelvoudige negatiewe onbepaalde items voorkom in 4% van negatiewe sinne wat veelvoudige aangrensende eksistensieel-gekwantifiseerde veranderlikes bevat, terwyl 96% 'n kombinasie van 'n negatiewe onbepaalde item en 'n gewone onbepaalde element of NPI bevat. Verder het 96% van die sinne wat veelvoudige negatiewe onbepaalde items bevat 'n NC-interpretasie, terwyl slegs 4% 'n DN-interpretasie het.

Tweedens word data verskaf uit twee weergawes van 'n persepsie-eksperiment wat onderneem is om aanvaarbaarheids- sowel as betekenisoordele rakende ouditiewe stimuli te bekom. Hierdie eksperimente het Afrikaans-moedertaalsprekers se oordele omtrent 'n reeks gesproke uitings met veelvoudige negatiewe onbepaalde items, ontlok. Laasgenoemde uitings is met verskillende prosodiese kontoere geproduseer. Die resultate van die persepsie-eksperimente word gebruik ter ondersteuning van die waarnemings uit die korpusstudie in die analise wat in Hoofstuk ses aangebied word. Hierdie resultate toon aan dat, alhoewel kombinasies van veelvoudige negatiewe onbepaalde items algemeen aanvaarbaar is vir moedertaalsprekers wanneer dit aangebied word as ouditiewe stimuli, dit nie aanvaarbaar is as die Standaardafrikaans-vorm vir die uitdrukking van veelvoudige onbepaalde items in negatiewe sinne nie, naamlik met die kombinasie van 'n negatiewe onbepaalde item en 'n gewone onbepaalde item of NPI.

Wat betref die betekenis van kombinasies van negatiewe onbepaalde items, is daar gevind dat 'n baie spesifieke prosodiese kontoer noodsaaklik is vir die akkurate interpretasie van kombinasies van DN-veelvoudige negatiewe onbepaalde items in Afrikaans; wanneer hierdie prosodiese kontoer afwesig of onduidelik is, is die verstekinterpretasie van veelvoudige negatiewe onbepaalde items 'n NC-interpretasie. Daar is, interessant genoeg, gevind dat, selfs wanneer kombinasies van veelvoudige negatiewe onbepaalde items met 'n neutrale prosodiese kontoer geproduseer word, hulle steeds DN-interpretasies toegeken word deur sommige sprekers. Die resultate van die persepsie-eksperimente toon in feite dat die interpretasie van gesproke kombinasies van veelvoudige negatiewe onbepaalde items 'n weerspieëling is van 'n statistiese ongelykmatigheid soortgelyk aan dié wat in die korpusdata waargeneem is. Die toekenning van NC- en DN-

interpretasies aan veelvoudige ontkennede onbepaalde elemente kom voor in 'n verhouding van 5:1.

Laastens word data uit 'n sinsproduksie-eksperiment aangebied. Hierdie eksperiment is onderneem om vas te stel hoe betroubaar naïewe sprekers prosodiese onderskeidings maak tussen verskillende kombinasies van veelvoudige negatiewe onbepaalde items met 'n dubbele ontkenning-betekenis in alledaagse gekontekstualiseerde taalgebruik. Die resultate van hierdie eksperiment toon aan dat sprekers oor die algemeen geen prosodiese onderskeiding maak tussen sinne met kombinasies van veelvoudige negatiewe onbepaalde items wat in 'n DN-konteks aangebied word nie.

Hoofstuk ses bied die sentrale analise van die proefskrif: 'n Optimaliteitsteoretiese beskouing van negatiewe onbepaalde items in Afrikaans, op grond van die data wat in Hoofstuk vyf aangebied is, en binne die OT-raamwerk wat in Hoofstuk vier uiteengesit is is. Ten einde 'n verklaring te kan bied vir die variasie in die uitdrukking van veelvoudige negatiewe onbepaalde items in negatiewe sinne, maak die analise in Hoofstuk ses gebruik van stochasties-asimmetriese bi-direksionele OT om die voorkoms te verklaar van twee moontlike vorme vir die uitdruk van 'n enkele betekenis, naamlik 'n kombinasie van 'n negatiewe onbepaalde item en 'n onbepaalde item, en 'n kombinasie van veelvoudige negatiewe onbepaalde items met 'n NC-interpretasie. Volgens hierdie beskouing produseer 'n spreker óf 'n kombinasie van negatiewe onbepaalde item + onbepaalde element óf 'n kombinasie van veelvoudige negatiewe onbepaalde items op grond van 'n stochastiese (oorvleuelende) beperking-rangorde, bepaal deur die statistiese ongelykmatighede wat vir die uitdrukking van onbepaalde items in negatiewe sinne in die korpusdata waargeneem word. In wese beteken dit dat 'n spreker in 96% van gevalle 'n kombinasie van negatiewe onbepaalde item + onbepaalde item sal produseer en 'n kombinasie van veelvoudige negatiewe onbepaalde items in 4% van gevalle.

Die analise in Hoofstuk ses bied verder ook 'n verklaring vir die voorkoms van twee moontlike interpretasies van kombinasies van veelvoudige negatiewe onbepaalde items in Omgangsafrikaans, naamlik óf 'n DN- óf 'n NC-interpretasie. Volgens die voorgestelde analise word die interpretasie van kombinasies van veelvoudige negatiewe onbepaalde items bepaal deur (i) twee beperkings rakende die effek van konteks en

prosodie op interpretasie, sowel as (ii) 'n stochastiese beperking-rangorde bepaal deur die statistiese ongelykmatighede wat in die persepsie-eksperiment-data waargeneem word. Dít beteken dat die interpretasie van veelvoudige negatiewe onbepaalde items oor die algemeen bepaal word deur die konteks of deur duidelike prosodie, maar dat die oorvleulende beperking-rangorde betrek word en dat die verspreiding van NC- na DN-interpretasies in 'n verhouding van 5:1 sal voorkom, indien daar geen konteks of duidelike prosodie is nie.

Een kombinasie van veelvoudige negatiewe onbepaalde items wat nie aangespreek word in Hoofstuk ses nie, is dié van *g'n niks*. Die rede hiervoor is tweedelig. Eerstens, uit die korpusdata wat bespreek is in Hoofstuk vyf, blyk dit dat die kombinasie *g'n niks* die hoogste voorkoms het van kombinasies van negatiewe onbepaalde items, en dat alle gevalle van *g'n niks* in die korpus 'n NC-interpretasie ontlok het. Die hoë voorkoms van *g'n niks* in vergelyking met die ander kombinasies van negatiewe onbepaalde items ondersteun die tref van 'n onderskeid tussen *g'n niks* en die ander kombinasies. Tweedens, soos aangedui in Hoofstuk twee en ook blyk uit die data in Hoofstuk vyf, funksioneer *g'n niks* anders as ander kombinasies van negatiewe onbepaalde items in Omgangs-afrikaans in die opsig dat dit, in die plek van die sinsmediale *nie,* gebruik kan word om sinsontkenning uit te druk.

Hoofstuk sewe fokus op die negatiewe onbepaalde item *g'n* soos dit in Omgangsafrikaans voorkom. Daar word geargumenteer dat daar in der waarheid drie tipes *g'n* is. Die eerste *g'n* is 'n negatiefdetermineerder, soortgelyk aan sy volledige fonologiese vorm *geen*, soos geïllustreer in (6).

(6) *Ons het g'n motors op die pad gesien nie.*

Die tweede *g'n* funksioneer as 'n sinsontkenning-merker met 'n beperkte vermoë om in die plek van sinsmediale *nie* voor te kom. Die analise toon dat konstruksies wat *g'n* in die plek van sinsmediale *nie* bevat, hoogs sensitief is vir die informasie–eienskappe van diskoers. Na aanleiding van Biberauer (2009), word die informasiestruktuur-benadering van Schwenter (2005, 2006) gevolg om die gebruik van *g'n* te analiseer. Daar word geargumenteer dat *g'n* slegs toepaslik gebruik kan word in die plek van sinsmediale *nie* wanneer dit 'n geaktiveerde, diskoers-bekende

proposisie ontken. Dit kan deur die voorbeelde in (7) en (8) geïllustreer word.

(7) [spreker stap in by 'n klaskamer met 'n gebreekte venster]
#Meneer, ek het g'n die ruit gebreek nie!

(8) [dieselfde situasie as in (7)]
Meneer: *Neelsie, ek weet jy't die ruit gebreek!*
Neelsie: *Meneer, ek het g'n die ruit gebreek nie!*

Die derde *g'n* funksioneer in kombinasie met die ander negatiewe onbepaalde items, soos *niks*, as 'n intensifiseerder wat die graad van ontkenning verhoog en 'n nadruklike ontkennende vorm bestaande uit twee afsonderlike ontkennende items tot gevolg het. Dit kan deur die voorbeeld in (9) geïllustreer word.

(9) *Hy kry g'n niks gedoen nie.*

Hoofstuk sewe bied verder ook 'n analise van die gebruik van *niks* in Omgangsafrikaans. Daar word geargumenteer dat *niks* ook as 'n nadruklike ontkenner kan funksioneer wanneer dit as 'n plaasvervanger vir sinsmediale *nie* gebruik word. Op hierdie wyse kan *niks* afsonderlik voorkom in nie-argumentbindende posisies ten einde die ontkenning te versterk (deur die algehele afwesigheid van 'n eienskap aan te dui). Daarteenoor kan die die kombinasie van veelvoudige negatiewe onbepaalde items *g'n niks* ook gebruik word, met *niks* as 'n nadruklike ontkenner wat op sy beurt deur *g'n* versterk word. Dit kan deur die voorbeelde in (10) geïllustreer word.

(10) (a) *Dis niks gratis nie.*

(b) *Dis g'n niks gratis nie.*

Laastens bied Hoofstuk agt die hoofbevindinge sowel as 'n samevatting van die proefskrif. Hierdie hoofstuk bevat ook 'n kort bespreking van verdere onderwerpe vir navorsing oor ontkenning en negatiewe onbepaalde items in Afrikaans.

Curriculum vitae

Kate Huddlestone (neé van Gass) was born on the 9th of December 1977, in Windhoek, Namibia. She matriculated from Lyttleton Manor High School (South Africa) in 1995. In 1999 she obtained her Bachelor of Arts degree from Stellenbosch University (South Africa) majoring in English Studies and General Linguistics. She obtained her Masters degree in Linguistics *cum laude* from Stellenbosch University in 2001. Kate has been employed as a lecturer in the department of General Linguistics, Stellenbosch University, since 2002.