

A Metrical Theory of Stress and Destressing in English and Dutch

René Kager



1989

FORIS PUBLICATIONS

Dordrecht - Holland/Providence RI - U.S.A.

Contents

Abstract	xi
Chapter 0: Introduction	1
1. Introduction	1
1.1 Properties of word stress	1
1.2 The formalism	3
1.3 Remarks on the formalism	5
1.4 Eliminating non-binary constituents	6
1.5 Collapsing stress and destressing	9
1.6 Conclusions	12
2. Theoretical ancestors	13
2.1 Introduction	13
2.2 Linear stress theory	13
2.2.1 Stress as a multi-valued feature	13
2.2.2 Stress subordination	14
2.3 Revising SPE-theory: stress as a binary feature	15
2.4 Metrical theory	15
2.4.1 Stress as a relational feature	15
2.4.2 Stress as a prosodic category	17
2.4.3 Parametrizing tree theory	19
2.4.4 Grid-only theory	20
2.4.5 Bracketed-grids theory	21
2.5 Conclusions	22
Footnotes to chapter 0	23
Chapter 1: English word stress: the data and the issues	25
1. Introduction	25
1.1 Trends in analysis	26
1.2 An outline of this chapter	26
2. Stress placement	27
2.1 Introduction	27
2.2 Linear theory: SPE	31
2.3 Foot-based metrical theory: Hayes (1981)	33
2.4 Grid-only theory: Selkirk (1984)	35
2.5 Bracketed-grids theory: Halle & Vergnaud (1987)	37
3. Stress retraction	37
3.1 Introduction	37
3.1.1 The concept of secondary stress	38
3.1.2 Primary stress retraction	39
3.1.3 Secondary stress retraction	43
3.2 Stress retraction in SPE-type linear theory	45
3.2.1 Primary stress retraction	45
3.2.2 Secondary stress retraction	47
3.3 Iterative stress retraction	48
3.3.1 Introduction	48
3.3.2 Schane (1975) and Halle (1973)	49
3.3.3 Liberman & Prince (1977)	51
3.3.4 Kiparsky (1979)	52
3.4 Stress retraction in foot-based metrical theory	53
3.4.1 Introduction	53
3.4.2 Selkirk (1980)	53
3.4.3 Hayes (1981)	54
3.5 Stress retraction in grid-only theory	58

3.6 Stress retraction in bracketed-grids theory	60
3.7 Conclusion	62
4. Primary stress and word-internal prominence relations	63
4.1 Introduction	63
4.2 Prominence in linear theory	64
4.2.1 Prominence as a by-product of stress retraction	64
4.2.2 Separating binary and n-ary stress	65
4.3 Prominence in metrical theory	66
4.3.1 Labeling based on branching	66
4.3.2 Extrametricality in primary stress assignment	69
4.4 Prominence in grid-only theory	70
4.5 Prominence in bracketed-grids theory	71
4.6 Conclusions	72
5. Destressing in underived words	73
5.1 Introduction	73
5.2 Post-tonic destressing rules in linear theory	74
5.3 Pre-Stress Destressing and exhaustive retraction	75
5.4 Early metrical theory	76
5.5 Foot-based metrical theory	77
5.6 Grid-only theory	79
5.7 Hammond (1984)	81
5.8 Prince (1985)	83
5.9 Halle & Vergnaud (1987)	84
5.10 Conclusions	85
6. Cyclic word stress assignment	86
6.1 Introduction	86
6.2 The SPE stress cycle	88
6.3 Schane's non-cyclic theory	90
6.4 Halle's prominence-independent destressing rules	90
6.5 Early metrical theory	91
6.5.1 Liberman & Prince (1977)	91
6.5.2 Kiparsky (1979)	93
6.6 Hayes (1981)	95
6.7 Kiparsky (1982)	97
6.8 Halle & Vergnaud (1987)	99
6.9 Conclusion	100
7. Conclusion	100
Footnotes to chapter 1	102
 Chapter 2: A unifying analysis of English stress and destressing	 105
1. A sketch of the analysis	105
1.1 Introduction	105
1.2 Binary constituents	106
1.3 Syllable weight	107
1.4 Prominence	110
1.5 Stress versus destressing	111
1.6 Contents of this chapter	112
2. Strong retraction as closed syllable destressing	113
2.1 Syllable weight and retraction of primary stress	114
2.1.1 Retraction across short vowel plus sonorant consonant	115
2.1.2 Retraction across short vowel plus obstruent	115
2.1.3 Retraction across short vowel plus /s/	117
2.1.4 Retraction across long vowels	118
2.1.5 Conclusions	120
2.2 Primary stress retraction and reference to preceding stress	120
2.3 Conclusions	122
2.4 Secondary stress retraction	122

2.4.1 Short vowel and sonorant	123
2.4.2 Short vowel and /s/	124
2.4.3 Short vowel and obstruent	125
2.4.4 Secondary stress in medial closed syllables: conclusions	125
2.5 Strong retraction as destressing	126
2.6 The problem, and a hint at a solution	127
3. Separating binary constituency and syllable weight	129
3.1 A proposal: the Strict Binariness Hypothesis	130
3.2 Consequences for bounded systems	132
3.3 Consequences for unbounded systems	134
3.4 Binary constituent construction as Syllable Adjunction	135
4. Binary constituency in English stress	137
4.1 Introduction	137
4.2 Replacing the bounded stress rules with Syllable Adjunction	137
4.3 Closed Syllable Adjunction and the Free Element Condition	139
4.4 Non-branching feet and 'stress' in English	140
4.4.1 Introduction	140
4.4.2 Non-branching feet and vowel reduction	141
4.4.3 Non-branching feet and prominence	143
4.5 Conclusion	143
5. Extrametricality	144
6. Rules of primary metrical analysis: conclusions	147
7. The stress cycle in English	147
7.1 Introduction	147
7.2 An analysis of Strict Cyclicity based on plane merging	148
7.3 Stray syllables and Strict Cyclicity	150
7.4 Conclusion	153
8. Destressing by reapplication of Syllable Adjunction	154
8.1 Introduction	154
8.2 Foot assignment versus deletion-plus-adjunction	155
8.3 Syllable Adjunction versus foot assignment	156
8.4 Syllable Adjunction and Maximality	157
8.5 Syllable Adjunction and the Strong Domain Principle	159
8.6 Destressing of <i>-ory</i> and <i>-ary</i>	159
8.7 Closed Syllable Adjunction and metrical reanalysis	161
9. Destressing by loss of prominence	162
9.1 Introduction	162
9.2 Prominence flattening	162
10. Destressing by weight adjustment	163
10.1 Introduction	163
10.2 Destressing by resyllabification of single consonants	164
10.3 Destressing by resyllabification of /s/	165
10.4 Destressing by medial shortening	165
10.5 Destressing by sonorant coalescence	166
10.6 Prefix destressing	166
11. Weight increases	167
12. Word rhythm and word-internal prominence relations	168
12.1 Introduction	168
12.2 Observations about word-internal rhythm	168
12.3 A comparison with phrasal rhythm	172
12.4 An analysis	173
12.4.1 Introduction	173
12.4.2 Lexical word-internal applications	173
12.4.3 Post-lexical word-internal applications	175
12.5 Conclusion	178
13. Conclusion	178
Footnotes to chapter 2	179

Chapter 3: Syllable structure and weight restrictions in Dutch	183
1. Introduction to the chapters on Dutch	183
1.1 Syllable structure in Dutch: an introduction	185
2. The segment inventory	186
2.1 Introduction: consonants and vowels	186
2.2 Vowel quality	187
2.3 Moraic vowel quantity	188
3. Issues of domain and level in syllabification	190
3.1 The domain of syllabification	190
3.2 The level of syllabification	191
4. The bimoraic minimum	192
4.1 The evidence	192
4.2 Earlier accounts	193
4.3 A proposal for bimoraic minimality at level-1	198
5. Maximum weight restrictions	201
5.1 The evidence	201
5.2 Maximality restrictions in earlier analyses	203
5.3 A proposal for constraining excessive weight	206
6. The distribution of schwa	209
6.1 Schwa as a non-short vowel	209
6.2 Schwa as a weightless vowel	210
6.3 Schwa as an appendix-vowel	212
6.4 A moraic analysis of schwallables	214
7. A summary of the analysis	219
Footnotes to chapter 3	221
 Chapter 4: Primary stress in Dutch underived words	 223
1. Introduction	223
2. Primary stress: the basic patterns	225
2.1 Introduction	225
2.2 The domain of the generalizations	225
2.3 The patterns of primary stress	227
2.3.1 The major generalizations	228
2.3.1.1 The three-syllable window restriction	228
2.3.1.2 The schwallable restriction	228
2.3.1.3 The closed penult restriction	229
2.3.2 The minor generalizations	230
2.3.2.1 Superheavy finals	230
2.3.2.2 Final diphthongs	231
2.3.2.3 Final closed short vowel syllables	232
2.3.2.4 Final open syllables	236
2.3.3 Exceptions	238
2.4 Conclusions	239
3. Accounts of Dutch word stress	240
3.1 Introduction	240
3.2 Traditional descriptions	240
3.3 Generative analyses in the SPE-tradition	241
3.4 Van Marle (1980)	242
3.5 Metrical analyses	244
3.5.1 Neyt & Zonneveld (1982)	244
3.5.2 Van der Hulst & Moortgat (1981)	245
3.5.3 Stress scale analyses	246
3.5.4 Van der Hulst (1984), Van der Hulst & Langeweg (1984)	249
3.5.5 Kager (1985)	250
3.5.6 Kager & Zonneveld (1986)	251
3.5.7 Kager, Visch & Zonneveld (1987)	251

3.5.8 Langeweg (1988)	252
3.5.9 Van der Hulst & Van Lit (1987)	254
3.5.10 Lahiri & Koreman (1987, 1988)	255
3.6 Conclusions	256
4. An analysis of the basic stress patterns	257
4.1 Introduction	257
4.2 A basic analysis	257
4.3 Syllable weight distinctions	259
4.3.1 Introduction	259
4.3.2 Full vowels versus schwa	259
4.3.3 Closed syllables/diphthongs versus long vowels in open syllables	261
4.3.4 Superheavy syllables versus bimoraic syllables	262
4.4 Conclusions: differences between English and Dutch	263
5. Lexical variability	264
5.1 Introduction	264
5.2 The limitations of variability and two types of exception marking	264
5.3 Alternative analyses	269
6. Conclusions	271
Footnotes to chapter 4	272
 Chapter 5: Secondary stress and vowel reduction in Dutch	 275
1. Introduction	275
2. The distribution of secondary stress	276
2.1 Introduction	276
2.2 Basic patterns of secondary stress	277
2.3 Syllable weight and secondary stress	278
2.3.1 Syllable weight and initial pretonic syllables	278
2.3.2 Syllable weight and other positions	279
2.3.3 Stressless closed syllables	281
2.4 Differences among secondary stresses	282
2.5 Conclusions	283
3. Secondary stress in earlier analyses	283
3.1 Main stress first analyses	284
3.2 Stress first analyses	286
3.2.1 Neyt & Zonneveld (1982)	286
3.2.2 Booij (1982a)	287
3.2.3 Kager & Visch (1983)	287
3.2.4 Kager (1985), Kager, Visch & Zonneveld (1987)	288
3.3 Conclusions	289
4. An analysis of secondary stress	289
4.1 Introduction	289
4.2 Testing the predictions	290
4.4 Level-2 adjustments	291
4.4.1 Deweighting	291
4.4.2 Syllable Adjunction	292
4.4.3 The Dutch Arab Rule	293
4.4.4 Rhythmic Adjustment	294
4.5 Secondary stress following the primary stress	295
4.6 Summary	296
5. Patterns of vowel reduction	297
5.1 Introduction	297
5.2 Stress	297
5.3 Syllable structure	298
5.4 Segmental context	298
5.4.1 Preceding segments	298
5.4.2 Following segments	299
5.4.3 Conclusion	300

5.5 Vowel quality	300
5.5.1 Introduction	300
5.5.2 Underlying schwa or reduction schwa?	301
5.5.3 The vowel quality reduction hierarchy	302
5.6 Position	303
5.6.1 Final syllables	304
5.6.2 Non-final syllables	305
5.7 Vowel shortening and reduction to schwa	305
5.8 Conclusions	306
6. The literature on Dutch vowel reduction	307
6.1 Introduction	307
6.2 Dutch vowel reduction from a phonetic point of view	307
6.2.1 Spectral reduction	307
6.2.2 Duration	308
6.3 Dutch vowel reduction from a phonological point of view	309
6.3.1 Introduction	309
6.3.2 Booij (1977, 1981)	309
6.3.3 Van Zonneveld (1980, 1982, 1983, 1985)	309
6.3.4 Neyt & Zonneveld (1982)	310
6.3.5 Slootweg & Wester (1986)	310
6.3.6 Kager, Visch & Zonneveld (1987)	311
6.4 Conclusions	311
7. Secondary stress and vowel reduction to schwa	312
7.1 Introduction	312
7.2 The interaction between the vowel reduction hierarchies	312
7.3 Reduction orders among syllables in the same word	315
7.4 Analysis	317
7.5 Conclusions	317
7.6 Word-final position	318
8. Conclusion	319
Footnotes to chapter 5	320
Epilogue	323
1. Conclusions	323
2. English versus Dutch	324
References	327
Glossary	333