

Contents

1. Introduction	1
1.1 The Nature of Prosodic Features	1
1.2 The Phonetic Basis	3
1.3 The Phonological Basis	4
1.4 The Scope of Prosodic Features	9
2. Length	12
2.1 Introduction: The Nature and Status of Length	12
2.2 Background to the Study of Length	15
2.2.1 The Classical Tradition	15
2.2.2 Early Phoneticians	16
2.2.3 Early Experimental Phonetics	18
2.2.4 The Phonetics and Phonology of Length	18
2.3 Preliminaries to the Phonology of Length	19
2.3.1 Phonological Perspectives on Length	19
2.3.2 The Phonological Role of Length	20
2.3.3 A Note on Terminology	22
2.4 The Paradigmatic Interpretation of Length	22
2.4.1 Introduction	22
2.4.2 Length and Phonological Oppositions	23
2.4.2.1 Phonological Relevance	23
2.4.2.2 ‘Extendibility’	24
2.4.2.3 ‘Contact’	25
2.4.2.4 Length, Stress, and ‘Intensity’	25
2.4.2.5 Paradigmatic Functions of Length	26
2.4.2.6 Criticism and Evaluation	27
2.4.3 The Distinctive Features of Length	28
2.4.3.1 Introduction	28
2.4.3.2 ‘Tense’ vs. ‘Lax’	29
2.4.3.3 ‘Advanced Tongue Root’	30
2.4.3.4 ‘Long’ vs. ‘Short’	31
2.4.4 Quality vs. Quantity	31
2.4.5 Conclusion	33
2.5 The Syntagmatic Interpretation of Length	33
2.5.1 Introduction	33
2.5.2 ‘Analytic Length’	34

2.5.3	The Distributional Analysis of Length	36
2.5.3.1	The 'Glide' Solution	36
2.5.3.2	The Geminate Solution	38
2.5.3.3	Consonant Length	41
2.5.3.4	Multiple Systems	42
	<i>Mixed</i>	43
	<i>Estonian</i>	44
2.5.4	The Mora (1)	46
2.5.5	Conclusion	50
2.6	Length and the Syllable	51
2.6.1	Length and Syllable Structure	51
2.6.2	Syllable Weight	53
2.6.3	The Syllable as a Unit of Length	55
2.6.3.1	Historical Evidence: The Development of Quantity Systems	55
2.6.3.2	Scandinavian Systems	57
2.7	The Non-linear Approach to Length	58
2.7.1	Introduction	58
2.7.2	The Non-linear Representation of Syllable Structure	59
2.7.3	The Non-linear Representation of Length	63
2.7.4	Lengthening Processes	67
2.7.4.1	Open Syllable Lengthening	67
2.7.4.2	Compensatory Lengthening	71
2.7.4.3	Conclusion	76
2.8	Length as a Prosodic Feature	77
2.8.1	Introduction	77
2.8.2	'Chronemes'	77
2.8.3	The Mora (2)	79
2.8.4	The 'Weight Tier' and Moraic Phonology	80
2.9	Length and Prosodic Structure	85
2.9.1	Introduction: Syllable Quantity	85
2.9.2	Rhythm	86
2.9.3	Timing	87
2.9.3.1	Stress-timing and Isochrony	87
2.9.3.2	Other Factors Affecting Foot Length	91
2.9.3.3	Syllable Quantity in Stressed-timed Languages	92
2.9.3.4	Syllable-timing	94
2.9.3.5	Mora-timing	97
2.9.4	Segment Length in a Prosodic Context	99
	<i>Old English High Vowel Deletion</i>	99
	<i>Middle English Lengthening</i>	100
	<i>'Overlength' in Low German</i>	101

<i>Estonian Quantity Revisited</i>	104
2.9.5 The Relevance of Prosodic Structure	107
2.10 Conclusion	108
2.10.1 The Stratification of Length	108
2.10.2 The Typology of Length	111
3. Accent	114
3.1 Introduction	114
3.1.1 The Status of Accent	114
3.1.2 Background to the Study of Accent	115
3.2 The Phonetic Basis of Accent	120
3.2.1 Introduction	120
3.2.2 Accent and the Speaker	120
3.2.3 Accent and the Hearer	122
3.2.4 Conclusion: What is Accent?	124
3.3 The Phonological Basis of Accent	127
3.3.1 Introduction	127
3.3.2 The Paradigmatic Analysis of Accent	127
3.3.3 The Functional Analysis of Accent	134
3.3.4 Pitch-accent	138
<i>Japanese</i>	139
3.4 Accental Structure	143
3.4.1 Introduction	143
3.4.2 Accental Units	144
3.4.2.1 Level 1: Accent as Rhythm	144
3.4.2.2 Level 2: Accent as Intonation	146
<i>Spanish and Italian</i>	147
3.4.3 The Accental Hierarchy: Accent as Prosodic Organization	149
3.5 The Representation of Accent	150
3.5.1 Introduction	150
3.5.2 Distinctive Features of Accent	151
3.5.3 The Metrical Representation of Accent	152
3.5.4 Evaluation	163
3.6 The Specification of Accent	169
3.6.1 Assigning Accent	169
3.6.2 Stress and Syntax	171
3.6.3 Non-cyclical Approaches	174
3.6.4 The Status of 'Stress Contours'	175
3.7 Conclusion: Accent and Prosodic Structure	177

4. Tone	179
4.1 Introduction	179
4.1.1 The Nature of Tone	179
4.1.2 Background to the Study of Tone	179
4.1.3 The Phonetic Basis of Tone	182
4.1.4 The Notation of Tone	183
4.2 Preliminaries to the Phonology of Tone	185
4.2.1 Phonetic vs. Phonological Analysis of Tone	185
4.2.2 'Perturbations'	186
4.2.2.1 'Tonemic Substitution' and 'Change Within a Toneme'	187
4.2.2.2 Distributional Problems	189
4.2.2.3 Downdrift, Downstep, and Upstep	189
4.3 The Paradigmatic Analysis of Tone	192
4.3.1 Tones and Tone-systems	192
4.3.2 Levels vs. Contours	194
4.3.3 Downstep and Upstep	198
4.3.4 Tone Features	200
4.3.4.1 Preliminaries: The Role of Features	200
4.3.4.2 Systems with Levels	201
4.3.4.3 Systems with Contours	205
4.3.4.4 Tones and Registers	207
4.3.4.5 Features, Downdrift, and Downstep	212
4.3.4.6 Tone and Laryngeal Features	213
4.4 The Representation of Tone	215
4.4.1 Introduction	215
4.4.2 Earlier Representations	216
4.4.3 The Autosegmental Representation of Tone	219
4.4.3.1 Tiers and Tones	219
4.4.3.2 Association Lines and the Wellformedness Condition	221
4.4.3.3 The Obligatory Contour Principle	224
4.4.4 Conclusion: Implications of Autosegmental Representations	225
4.5 Tonal Processes	225
4.5.1 Introduction	225
4.5.2 Types of Tone Processes	226
4.5.3 Again: Downdrift and Downstep	230
4.6 Tone and the Syllable	231
4.6.1 Introduction	231
4.6.2 Tones and Segments	232
4.6.2.1 Vowel Quality	232

4.6.2.2	Initial Consonants	233
4.6.2.3	Final Consonants	236
4.6.3	Tones and Voice Quality	238
4.6.4	Tones, Quantity, and the Mora	239
4.6.5	Conclusion: Tone and the Syllable	241
4.7	Tone and Accent	243
4.7.1	Introduction	243
4.7.2	Interactions of Stress and Tone	244
4.7.3	Tonal Accents <i>Norwegian and Swedish</i>	246
	<i>Serbo-Croat</i>	251
4.7.4	Tone and the Foot	253
4.7.5	Tone and Pitch-accent	254
4.7.6	Tone and Accent: Typological Conclusions	261
4.8	Conclusion: Tone and Prosodic Structure	267
5.	Intonation	269
5.1	Introduction	269
5.1.1	The Status of Intonation	269
5.1.2	Background to the Study of Intonation	271
5.2	Preliminaries to the Phonology of Intonation	273
5.2.1	The Phonetic Basis	273
5.2.2	Problems with the Phonology of Intonation	274
5.2.3	Intonation and Prosodic Types	275
5.3	Models of Intonation	277
5.3.1	Introduction	277
5.3.2	The British School	277
5.3.3	American Structuralist Analyses	280
5.3.4	Intonation in Generative Grammar	282
5.3.5	The Lund School	283
5.3.6	The Dutch School	285
5.3.7	Intonation in Non-Linear Phonology	287
5.4	The Analysis of Intonation	288
5.4.1	The Intonation Unit	288
5.4.2	Intonation and Accentuation	290
5.4.3	The Elements of Intonation	291
5.4.3.1	Introduction: Tunes	291
5.4.3.2	Pitch Phonemes and Pitch Levels	293
5.4.3.3	Pitch Movements, 'Configurations', and Nuclear Tones	294
5.4.3.4	Pitch-accents, Phrase Tones, and Boundary Tones	296

5.5	Issues in the Analysis of Intonation	297
5.5.1	Introduction	297
5.5.2	Levels vs. Configurations	298
5.5.3	The Structure of Intonation Patterns	301
5.5.4	Nuclear Tones vs. Phrase Tones and Boundary Tones	304
5.5.5	Declination, Height, and Range	307
5.6	Intonation Features	310
5.6.1	Introduction	310
5.6.2	Dimensions of Tonal Contrasts	311
5.7	Intonation and the Structure of Utterances	315
5.8	The Typology of Intonation	321
5.8.1	Introduction: Universals and Typology in Intonation	321
5.8.2	A Framework for Intonational Typology	324
5.8.2.1	Introduction	324
5.8.2.2	Envelope Features	325
5.8.2.3	Prominence Features	326
5.8.2.4	Modality Features	327
5.8.3	Conclusion	328
5.9	Conclusion: Intonation and Prosodic Structure	328
6.	Prosodic Structure	330
6.1	Introduction: The Concept of Prosodic Structure	330
6.2	The Nature of Prosodic Structure	333
6.2.1	Prosodic Domains	333
6.2.2	The Prosodic Hierarchy	335
6.2.3	Dimensions of Prosodic Structure	340
6.2.4	Prosodic Models	347
6.3	Prosodic Units	355
6.4	Prosodic Features and Prosodic Structure	359
6.4.1	Introduction	359
6.4.2	Accent	359
6.4.3	Length	360
6.4.4	Tone and Intonation	361
6.4.5	Conclusion	361
6.5	The Specification of Prosody	362
References		366
General Index		397
Index of Languages		400