

Handbook of Phonology: Detailed TOC as of 2 June 2005

1. Phonology: The Current State

2. Formal Analysis

3	Functionalism in Phonology	8
	University of California, Santa Barbara.....	8
3.1	Introduction.....	8
3.2	The groundwork for phonetically-driven phonology.....	9
3.3	Optimality Theory and phonetic motivations in phonology	9
3.3.1	Universal perceptibility hierarchies in phonetically-driven OT: the case of laryngeal neutralization	10
3.3.2	Language specificity in phonetic conditioning factors: the case of syllable weight	12
3.3.3	Phonological simplicity in phonetically-driven phonology	13
3.3.3.1	Simplicity in syllable weight	13
3.3.3.2	Simplicity in obstruent voicing patterns	14
3.3.4	Continuous phonetic variables and constraint formulation: the case of contour tones.....	15
3.4	Other functional factors in phonology	18
3.4.1	Speech processing and phonology	18
3.4.2	Frequency in phonology	18
3.5	The synchronic vs. diachronic role of phonetics in phonology	19
3.6	Conclusions.....	22
	References.....	23
4	Markedness in phonology.....	27
4.1	Introduction.....	27
4.2	Defining markedness	27
4.3	A simple example of markedness	29
4.4	Markedness and phonological features	29
4.5	The phonological diagnostics for featural markedness.....	30
4.5.1	The emergence of the unmarked 1: Neutralization.....	30
4.5.2	The emergence of the unmarked 2: Epenthesis	31
4.5.3	The submergence of the unmarked 1: Asymmetries in assimilation ...	31
4.5.4	The submergence of the unmarked 2: Deletion and coalescence	32
4.5.5	The transparency of the unmarked: Non-local assimilation	32
4.6	Complications	32
4.6.1	Contrast: variation in the unmarked depending upon inventory.....	33
4.6.2	The absence of contrast: variation in the emergence of the unmarked	35
4.6.3	Variation in markedness in the presence of similar contrasts.....	37
4.6.4	How much variation is possible?	38
4.6.5	Summary	39
4.7	Other markedness diagnostics: implication and frequency	40
4.8	Conclusion	42
5	Derivations and Levels of Representation	44
5.1	Introduction.....	44
5.2	Levels of Representation.....	44
5.3	Derivations.....	46
5.4	Opacity	51

5.5	Cyclicity.....	57
5.6	Conclusion	60
	References.....	61
6	Representation.....	67
6.1	Introduction*.....	67
6.2	The nature of phonological representation	68
6.2.1	Are phonological representations categorical?	68
6.2.2	Do phonological representations explain anything?	70
6.3	Segmental representation.....	71
6.3.1	Articulatory vs. auditory-acoustic features	72
6.3.2	Valency	73
6.3.3	Hierarchical organisation	74
6.3.4	Partial specification.....	76
6.4	Prosodic structure.....	78
6.4.1	Syllable structure and the skeletal tier	78
6.4.2	Head-dependency relations in prosodic structure	80
6.5	Conclusion	82
7	The Syllable	89
7.1	Introduction.....	89
7.2	The syllable as the domain of segment sequencing	89
7.3	Basic syllable shapes.....	91
7.3.1	Typology	91
7.3.2	Formal account.....	93
7.3.3	Syllable-related phonological processes	97
7.4	Representation of subsyllabic constituency	99
7.4.1	Representing the nucleus	99
7.4.2	Representing weight.....	101
7.4.3	Concluding remarks on subsyllabic constituency	103
7.5	Sonority.....	105
7.5.1	Sonority thresholds	107
7.5.1.1	Sonority threshold on the syllable peak	107
7.5.1.2	Sonority thresholds on the mora	111
7.5.2	Constraints on sonority distance	115
7.5.2.1	Sonority distance from onset to nucleus	115
7.5.3.2	Sonority distance within a complex onset	116
7.5.3.3	Sonority distance in syllable contact.....	117
7.6	Closing remarks	119
8	Feet and Metrical Stress.....	127
8.1	Metrical stress: introduction	127
8.1.1	What are stress languages?	127
8.1.2	Cross-linguistic properties of stress	127
8.2	The formal representation of stress.....	130
8.2.1	The grid.....	130
8.2.2	Metrical constituency	132
8.2.3	An inventory of metrical feet.....	132
8.2.3.1	Syllabic trochees	134
8.2.3.2	Moraic trochees.....	135
8.2.3.3	Iambs.....	136
8.2.3.4	Alternative foot inventories	138
8.3	Metrification in Optimality Theory	139

8.3.1	Binary quantity-insensitive systems	139
8.3.2	Mixed binary + unary systems	141
8.3.3	Bidirectional systems	144
8.3.4	Ternary systems	146
8.3.5	Quantity-sensitive systems	149
8.3.6	Unbounded systems	150
8.3.7	Revising classical alignment theory	153
8.4	Feet in phonological domains and prosodic morphology	156
8.4.1	Feet as phonological domains	157
8.4.2	Minimal words	158
8.4.3	Morphological templates	160
8.5	Conclusion	162
	For further reading	164
	References	164

9. Non-metrical Stress

10	Tone	171
10.1	Introduction	171
10.1.1	A descriptive summary	172
10.1.2.1	Tonal inventories	173
10.1.2.2	Tonal alternations	174
10.1.2.3	Segmental influences	174
10.2	A theoretical framework for tone	175
10.2.1	Distinctive features of tone	175
10.2.2	The autosegmental behavior of tone	177
10.2.3	The formal representation of tonal alternations	178
10.3	Case studies and exemplification	179
10.3.1	Mende tone association	179
10.3.2	Tone - Stress interaction	183
10.3.3	Local tone changes and the OCP in Bantu languages	187
10.4	Tone and its surroundings	190
10.4.1	The interfaces between tone and intonation	190
10.4.2	Phonetics of tone	191
10.4.3	Acquisition of tone	192
	References	193
11	The Phonology of Intonation	202
11.1	Introduction	202
11.2	Basic structures	203
11.3	Representations and phonetic implementation	206
11.3.1	Tone Bearing Units	207
11.3.2	Interpolation	209
11.3.3	From representation to implementation	211
11.4	Aspects of phonetic implementation	212
11.4.1	Truncation	212
11.4.2	Peak delay	213
11.4.3	Dipping	214
11.4.4	Declination	214
11.5	Phonological timing relations: association and OT alignment	216
11.5.1	Locating unassociated tones	216

11.5.2 Competing for the same edge	221
11.6 Arguments used in tonal analyses.....	221
11.6.1 Phonetic considerations	222
11.6.2 Distributional considerations	224
11.6.3 Semantic criteria	225
11.6.4 Analytical coherence.....	226
11.7 Conclusion	227
12 Segmental features	234
12.1 Introduction.....	234
12.2 Phonological features.....	234
12.3 Major class features	236
12.3.1 [consonantal] and [sonorant].....	237
12.3.2 [approximant].....	238
12.4 Laryngeal features.....	239
12.5 Manner features	241
12.5.1 [continuant]	241
12.5.2 [nasal].....	242
12.5.3 [lateral].....	243
12.5.4 [strident].....	243
12.6 Place features	244
12.6.1 Features relating to the lips	245
12.6.2 Features relating to the front of the tongue	246
12.6.2.1 CORONAL	246
12.6.2.2 [anterior]	247
12.6.2.3 [distributed].....	247
12.6.3 Features relating to the dorsum.....	249
12.6.3.1 DORSAL and [back].....	249
12.6.3.2 Tongue height features.....	251
12.6.4 Features relating to the tongue root	252
12.7 Complex vs. contour segments	253
12.A Feature value charts	255
Further reading.....	257
References.....	257
13 Neutralization	
14 Local Assimilation and Constraint Interaction.....	263
14.1 Introduction.....	263
14.2 Interaction with segmental markedness	266
14.2.1 Blocking of assimilation	268
14.2.2 Assimilation, respecting dependency.....	269
14.2.3 Assimilation, respecting markedness.....	269
14.2.4 Summary	270
14.3 Heterogeneity of process.....	271
14.3.1 Deletion as a backup to assimilation.....	272
14.3.2 Epenthesis as a backup to assimilation	273
14.3.3 Discussion	275
14.4 Remaining issues	276
14.4.1 Phonetic substance	276
14.4.2 Features and segments	277

14.4.3	Directionality	278
14.4.4	Alternatives to AGREE(x)	279
	References	280
15	Harmony	285
15.1	Introduction	285
15.2	Description of harmonic patterns	286
15.2.1	What is ‘(canonical) harmony’?	286
15.3	Harmonic features	287
15.4	Conditions on harmonic elements	289
15.4.1	Conditions on targets	289
15.4.2	Conditions on triggers	293
15.4.3	Conditions on targets and triggers	293
15.4.4	Summary	294
15.5	Domain of harmony	295
15.5.1	Phonological domain restrictions	295
15.5.2	Morphological domains	296
15.5.3	Summary	298
15.6	Directionality	298
15.7	Iteration	300
15.8	Consecutive sequences of harmonic elements: locality issues	301
15.8.1	Apparent transparency	302
15.8.2	Transparency of impossible targets	302
15.8.3	Irrelevant, or marginally interacting, transparency	304
15.8.4	Transparent segments are fully compatible with the harmonic feature 306	
15.8.5	Local harmony but non-local target-trigger relations	307
15.9	Conclusion	308
	References	309
16	Dissimilation	
17	Phonetics-Phonology Interface	
18	The syntax-phonology interface.....	314
18.1	Introduction	314
18.2	The prosodic representation	314
18.3	Edge-alignment of XPs	316
18.4	Wrapping of XPs	317
18.5	Stress and focus	321
18.6	Stress and XPs	322
18.7	The distinction between lexical and functional projections	326
18.8	Eurythmic effects on phrasing	329
18.9	Intonation phrases	332
18.10	Summary	333
19	Morpheme position	339
19.1	Introduction	339
19.2	The theory of edge orientation	340
19.2.1	Generalized Alignment	340
19.2.2	Cases	340
19.2.3	Alternative approaches	342

19.3	Phonological demands on well-formedness may override alignment	342
19.3.1	Variable-direction affixes	342
19.3.2	Phonologically driven infixation.....	343
19.3.3	Infixation to a prosodic category	345
19.4	Phonology beats both alignment and morpheme contiguity.....	346
19.5	Conclusion	353
	References.....	354

20 Reduplication

21	Diachronic Phonology.....	357
21.1	Introduction.....	357
21.2	The implementation problem: how gradual is phonological change?	358
21.3	The view from generative phonology	361
21.3.1	Modular feedforward models: phonological rules vs phonetic rules	361
21.3.2	The life cycle of sound patterns, stabilization, and secondary split...	363
21.3.3	The mechanism of classical lexical diffusion	368
21.4	The view from functionalist phonology.....	372
21.4.1	Exemplar clouds.....	372
21.4.2	The problem of phonetic residue	373
21.4.3	Dealing with frequency effects	374
22	Variation and Optionality	381
22.1	Preliminaries	381
22.2	What should a phonological theory of variation explain?	382
22.3	Three theories of variation	383
22.3.1	Multiple Grammars.....	383
22.3.2	Partially Ordered Grammars	389
22.3.3	Stochastic Optimality Theory	396
22.4	External factors	399
22.5	A methodological note.....	400
23	ACQUIRING PHONOLOGY	409
23.1	Introduction.....	409
23.2	Child phonology research: Production.....	411
23.2.1	Acquiring phonological contrasts	412
23.2.2	Processes in child phonology.....	413
23.2.3	The acquisition of prosodic structure: syllable structure and stress ..	415
23.3	Phonological acquisition in Optimality theory	418
23.4	Child speech perception and word recognition.....	420
23.5	Phonological representations in the mental lexicon.....	421
23.6	Summary and directions for future research.....	423
	Bibliography	425

24 Learnability

24.2	Learning with soft constraints: Constraint Demotion.....	438
24.3	Selecting competitors and the role of parsing.....	440
24.4	Robustness to Data Errors.....	443
24.5	The subset problem and phonotactic learning	445
24.6	Structural ambiguity.....	448
24.7	Learning underlying forms	451
24.8	Discussion	452

Further Reading	453
Constraint Demotion and Error-Driven Learning	453
Gradual Learning Algorithm.....	453
Learning Restrictive Grammars	453
Structural Ambiguity	453
Learning Underlying Forms.....	453
References.....	453
25 Phonological Impairment in Children and Adults	457
25.1 Introduction.....	457
25.1.1 Topics and definitions of phonological terms.....	457
25.1.2 Definitions of non-phonological terms	458
25.2 Children with atypical phonological systems	459
25.2.1 Syllable markedness in children with atypical phonological systems.....	460
25.2.2 Segmental markedness in children's atypical phonological systems	462
25.2.3 Summary: Markedness and children with atypical phonological systems	465
25.2.4 Phonological representation in children with atypical phonological systems	465
25.2.5 Phonology-morphology interactions in children with atypical phonological systems.....	467
25.3 Adults with atypical phonological systems arising on an acquired neurogenic basis.....	468
25.3.1 Structural (and segmental) markedness and adult neurogenic disorders	468
25.3.2 Segmental markedness and adult neurogenic disorders.....	469
25.3.3 Phonological representation and adult neurogenic disorders.....	470
25.3.4 Phonology-morphology interactions and adult neurogenic disorders.....	471
25.4 Discussion and conclusion.....	473