

Contents

Acknowledgments

Preface

Part One. Phonetics and phonetic differences:

Foundation and building blocks of a sound system	1
1 By way of introduction	1
1.1 Sound and spelling	1
1.2 Grammar	2
1.3 Underlying representation and phonetic representation	3
1.4 Verbal intercourse	4
1.5 The speech chain	4
1.6 Questions	5
2 The nature of sound	6
2.1 Waves	6
2.2 Vibrations	6
2.3 Frequency and pitch	7
2.4 Amplitude and intensity	8
2.5 Sound propagation	9
2.6 Harmonics	9
2.7 Compound sounds	10
2.8 Resonators	11
2.9 Questions	12
3 The organs of speech	13
3.1 A superimposed system	13
3.2 The bellows	13
3.3 Speech production	14
3.4 The larynx	14
3.5 The vocal tract	15

3.5.1 The pharynx	15
3.5.2 The nose	15
3.5.3 The mouth	16
3.6 Questions	18
4 Articulatory properties of French sounds	18
4.1 Articulation	18
4.2 Manner of articulation	18
4.3 Point of articulation	19
4.4 Vowels (syllabic sounds)	19
4.4.1 Oral vowels	19
4.4.2 Nasal vowels	20
4.4.3 Summing up the vowels	21
4.5 Consonants (nonsyllabic sounds)	21
4.5.1 Bilabials	21
4.5.2 Labiodentals	22
4.5.3 Dentals	22
4.5.4 Alveolar fricatives	23
4.5.5 Alveopalatals	23
4.5.6 Palatal nasal	23
4.5.7 Velar stops	23
4.5.8 Consonantal system	23
4.5.9 Liquids	23
4.5.10 Glides	24
4.6 Summary	25
4.7 Questions	26
5 The atomization of segments	27
5.0 Introduction	27
5.1 Major class features	28
5.1.1 Consonantal	28
5.1.2 Sonorant	28
5.1.3 Syllabic	29
5.2 The neutral position	29
5.3 Features defined in terms of resonators	30
5.3.1 Anterior	30
5.3.2 Coronal	30
5.3.3 Low	30
5.3.4 High	32
5.3.5 Front	32
5.3.6 Back	32
5.3.7 Round	32
5.4 Features determined by the manner of articulation	32
5.4.1 Continuant	33

5.4.2 Strident	33
5.4.3 Tense	33
5.5 Features defined by secondary articulation	33
5.5.1 Nasal	33
5.5.2 Lateral	33
5.6 A glottal feature	33
5.6.1 Voice	33
5.7 Diacritic features	34
5.7.1 Aspirated	34
5.7.2 Length	34
5.7.3 Stress	34
5.8 The distinctive features of French	34
5.9 The components of segments	34
5.10 Why features?	36
5.11 Questions	36

Part Two. Phonology: Influences, reactions, and consequences in the society of sounds

6 The rise and fall of segments	38
6.0 Introduction	38
6.1 Vowel insertion	39
6.2 Vowel deletion	40
6.2.1 Apocope	41
6.2.2 Elision	41
6.2.3 Syncope	42
6.3 Consonant deletion	42
6.3.1 Final consonant deletion	42
6.3.2 Cluster simplification	44
6.3.3 Failure to link	44
6.4 Consonant insertion	45
6.4.1 Liaison mal à propos	45
6.4.2 Homorganic consonant insertion	45
6.5 Diphthongization	46
6.6 Reduction	47
6.7 Questions	48
7 Birds of a feather	50
7.0 Introduction	50
7.1 Assimilation	50
7.1.1 Voicing assimilation	50
7.1.2 /r/-Devoicing	52
7.1.3 Some remarks	53
7.2 Palatalization	54

7.3 Nasalization	55
7.4 Contraction	56
7.5 Glide formation	56
7.6 Historical evidence	56
7.6.1 Voicing assimilation and nasalization	56
7.6.2 Palatalization	57
7.6.3 Total assimilation	58
7.7 Questions	58
Part Three. French phonological rules: The forces that shape the main traits of the French sound system	60
8 It's what's up front	60
8.1 Fronting	60
8.1.1 Tonic/pretonic vowel alternations: /a ~ e/, /ɔ ~ œ/	60
8.1.2 Defining Fronting	61
8.1.3 Another round vowel alternation: /œ ~ u/	62
8.1.4 An alternation with schwa: /e ~ ə/	62
8.2 Basic classes of French morphology	62
8.2.1 Two kinds of alternations	62
8.2.2 Native and learned forms	63
8.2.3 Derivational and inflectional classes	64
8.3 Some rules	64
8.3.1 Pretonic Vowel Raising	64
8.3.2 Pretonic Vowel Reduction	64
8.4 Fronted vowels in pretonic position	65
8.5 Divisions in French vocabulary	65
8.6 The rules with morphological conditioning	67
8.7 Questions	67
9 The more it changes	68
9.0 Introduction	68
9.1 Pretonic/tonic vowel alternations	69
9.2 Alternations with schwa	69
9.3 A more complex alternation	70
9.4 Some rules	71
9.4.1 High Vowel Lowering	71
9.4.2 Pretonic Vowel Raising	71
9.4.3 /wa/-Adjustment	72
9.5 Diphthongized vowels in pretonic position	72
9.6 More on vocabulary divisions	73
9.7 Ordering the rules	75
9.7.1 Diphthongization and Fronting	75
9.7.2 High Vowel Lowering and /wa/-Adjustment	75
9.8 Questions	76

10 High vowels . . . front!	77
10.0 Introduction	77
10.1 The vowels of learned vocabulary	78
10.2 Fronting	78
10.2.1 /u/ and /y/ in native and learned forms	78
10.2.2 Nonalternating /y/ and /u/	80
10.3 Generalizing rules	81
10.3.1 Fronting	81
10.3.2 High Vowel Lowering generalized	81
10.3.3 Generalizing Pretonic Vowel Adjustment	82
10.3.4 Back Vowel Raising	83
10.4 Two fronting rules	84
10.5 Ordering the rules	84
10.6 Conclusion	85
10.7 Questions	86
11 Other oral vowels	87
11.0 Introduction	87
11.1 The syllable	87
11.2 Nonalternating vowels	87
11.2.1 /a/, /u/, /ɔ/, /y/, and /i/	87
11.2.2 Vowels in unrelated words	88
11.2.3 Alternations with syllabic conditioning	89
11.2.4 Vowel harmony	89
11.3 The vowels /o/ and /ø/	90
11.3.1 Low vowels alternating with nonlow vowels: /æ ~ ø/, /ɔ ~ o/	90
11.3.2 /o/-adjustment rules	91
11.3.2.1 /o/ from /ɔs/	92
11.3.2.2 Coalescence: /al/ becomes /o/	92
11.3.2.3 Coalescence: /ɛl/ becomes /ø/	93
11.4 Review of the vowels	94
11.5 Questions	95
12 To glide or diphthongize	96
12.0 Introduction	96
12.1 Glides and vowels	96
12.2 Gliding	97
12.2.1 Prevocalic glides	97
12.2.2 Ordering Gliding	98
12.2.3 A constraint on Gliding	99
12.2.4 Yod-Insertion	99
12.3 The postvocalic glide	100
12.4 Glide or diphthong	102

12.4.1 An apparent counterexample	102
12.4.2 The diphthong as a partial explanation	103
12.4.3 To glide or to diphthongize	103
12.4.4 Diphthongizing back vowels	104
12.5 Conclusion	104
12.6 Questions	104
13 Three nasals from two	106
13.0 Introduction	106
13.1 Distribution	106
13.2 The cluster argument	107
13.3 The homorganic argument	108
13.4 The source of the palatal nasal	108
13.5 Distribution reviewed	109
13.5.1 Word-final palatal nasal	109
13.5.2 After a liquid	109
13.5.3 Intervocally	109
13.5.4 Word-initially	110
13.5.5 Before a nasal	110
13.5.6 After a consonant	110
13.5.7 In the context of nasalization	110
13.6 Why /n/ behaves like a cluster	111
13.7 The rule	111
13.8 The orthographic trap	111
13.9 Conclusion	112
13.10 Questions	112
14 Velum down, nasal out	113
14.0 Introduction	113
14.1 Alternations	113
14.1.1 Alternations with /ɛ/	114
14.1.2 Alternations with /ã/	116
14.1.3 Alternations with /œ/	116
14.1.4 Alternations with /ɔ/	117
14.1.5 Alternations in a prefix	117
14.2 The rules	118
14.2.1 Nasalization and borrowing	118
14.2.2 Two rules, not one	119
14.2.3 Nasalized Vowel Lowering	120
14.2.4 <i>en</i> -Adjustment	120
14.3 Ordering	120
14.4 The conditioning nasal	120
14.5 Questions	121

15 Schwa, the chameleon	122
15.0 Introduction	122
15.1 Reduction	123
15.1.1 Posttonic Vowel Reduction	123
15.1.2 Reduction of pretonic /a/	123
15.1.3 /ɛ/ reduced to schwa	124
15.1.4 Alternations of schwa with diphthongs	124
15.1.5 Low Vowel Reduction	124
15.2 Syllacticity	125
15.2.1 The phonetic stuff of schwa	125
15.2.2 Syllabic liquids	127
15.2.3 In postvocalic position	130
15.2.4 After a glide	131
15.2.5 Tonic schwa	131
15.3 Demotion	132
15.3.1 Prevocalic demotion	133
15.3.2 Phrase-initial demotion	134
15.3.3 Contiguous syllable segments	135
15.3.4 In word-final position	138
15.4 Questions	141
Part Four. Some practical observations, eclectic remarks, and drill-oriented applications	143
16 Sound production	144
16.1 The buckshot effect	144
16.2 Glottal aperture	145
16.2.1 Aspiration	145
16.2.2 Closure	146
16.3 Articulatory habits	146
16.4 Posture and breathing	147
16.5 Keep up interest	147
16.6 Assessment	148
17 Segment production	149
17.1 Preeminence of the vowel	149
17.2 Even-stressed rhythm	149
17.3 Vowel distinctness	151
17.4 Consonants	153
17.4.1 Unaspirated initial stops	153
17.4.2 Word-final stops	154
17.4.3 Word-medial stops	154
17.4.4 Point of articulation	155

17.5 Liquids	155
17.5.1 Uvular consonant vs. retroflex vocoid	155
17.5.2 Nonvelarized /l/ and its environment	156
18 Transcription	157
18.0 Introduction	157
18.1 Memorizing French sounds	157
18.2 Consonantal contrasts	158
18.2.1 Voiced vs. voiceless stops	158
18.2.2 Voiced vs. voiceless fricatives	159
18.2.3 Voiced vs. voiceless segments	160
18.2.4 Nasal vs. oral segments	160
18.2.4.1 Nasal consonantal segments	160
18.2.4.2 Nasal oral segments	161
18.2.5 Vowels vs. glides	161
18.3 Vowels in contrast	162
18.3.1 Front vowels: /i/, /e/, /ɛ/	162
18.3.2 Front rounded vowels: /y/, /ø/, /œ/	163
18.3.3 Back vowels: /u/, /o/, /ɔ/	163
18.4 Transcription	164
18.5 The importance of transcription	165
19 Liaison and elision	165
19.1 Enchainment and liaison	165
19.1.1 Their nature	165
19.1.2 Practical steps	165
19.1.3 Voicing and devoicing in liaison	166
19.1.4 Practice	167
19.2 Elision	167
19.3 Syntactic conditioning	168
19.3.1 <i>Liaison obligatoire</i>	168
19.3.2 <i>Liaison interdite</i>	170
20 The front rounded vowels	172
20.0 Introduction	172
20.1 Phonologically derived front segments	172
20.1.1 Low front rounded /œ/	172
20.1.2 Mid front rounded /ø/	174
20.1.3 Front rounded /y/	176
20.2 Generalized fronting	179
21 Nonhigh oral vowels	180
21.0 Introduction	180

21.1 Front unrounded nonhigh vowels: /e/, /ɛ/	181
21.1.1 Verb forms exhibiting the /ɛ/ ~ /e/ contrast	181
21.1.2 /ɛ/ alternating with /ej/ and /eje/	182
21.1.3 /ɛ/ in closed syllables	183
21.1.4 Comparison with English	185
21.2 Rounded nonhigh oral vowels: /ø/, /œ/, /o/, /ɔ/	185
21.2.1 Mid vowels before /z/	185
21.2.2 Nonhigh rounded vowels in other checked syllables	187
21.3 Low central tense vowel: /a/	188
22 Glides and diphthongs	189
22.1 Glides	189
22.1.1 Phonetic production	189
22.1.2 Constraints on Gliding	194
22.2 Stem-final /j/	195
22.3 Diphthongs	196
22.4 Glides and spelling	197
22.4.1 The front unrounded glide /j/	197
22.4.1.1 /V/-il	197
22.4.1.2 -ill-	198
22.4.1.3 -i/V/	198
22.4.1.4 /j/ as the letter y	198
22.4.1.4.1 y pronounced as /i/	198
22.4.1.4.2 y pronounced as /i/ or /j/	198
22.4.1.4.3 y pronounced as /j/ only	198
22.4.1.4.3.1 Word-initial y	198
22.4.1.4.3.2 Intervocalic y	198
22.4.1.4.3.3 Word-final y	199
22.4.1.5 /j/ as the letter i	199
22.4.2 The front rounded glide /ɥ/	199
22.4.2.1 Silent u	199
22.4.2.2 u as either /w/ or /ɥ/ in qu and gu sequences	199
22.4.2.3 u as a vowel or a glide	200
22.4.2.4 u before /j/	200
22.4.3 The back glide /w/	201
22.4.3.1 /w/ spelled u	201
22.4.3.2 /w/ spelled ou	201
22.4.3.3 /wa/ spelled oe	201
22.4.3.4 /wa/ and /wɛ/ spelled oi and oin	201
22.4.3.5 ou before /j/	201
22.4.3.6 w pronounced as /w/ or /v/	201
22.5 Glides in poetry	201
22.5.1 Generally bisyllabic sequences in French poetry	202
22.5.1.1 ia	202

22.5.1.2 <i>ie</i>	202
22.5.1.3 <i>ian</i>	202
22.5.1.4 <i>iai</i> (a variant of <i>ie</i>)	202
22.5.1.5 <i>ion</i>	202
22.5.1.6 <i>io</i>	202
22.5.1.7 <i>iau</i>	202
22.5.1.8 <i>ieu</i>	202
22.5.1.9 <i>oe</i>	202
22.5.1.10 <i>ue</i>	202
22.5.2 Monosyllabic sequences in poetry	202
22.5.2.1 <i>ie</i>	202
22.5.2.2 <i>oi</i>	202
22.5.2.3 <i>oe</i>	202
22.5.2.4 <i>ui</i>	203
22.5.2.5 <i>ion</i>	203
22.5.2.6 <i>oin</i>	203
22.5.2.7 <i>ouin</i>	203
23 Nasals and nasalized vowels	203
23.1 Phonetic production	203
23.1.1 Drilling /VN/	203
23.1.2 /᪔/ not /᪕N/	206
23.1.3 Drills for the nasalized vowels (/᪕/)	207
23.1.3.1 /᪈/	207
23.1.3.2 /᪉/	208
23.1.3.2.1 /᪉/ ~ /in/ alternation	208
23.1.3.2.2 /᪉/ ~ /en/ alternation	208
23.1.3.2.3 /᪉/ ~ /ɛn/ alternation	208
23.1.3.2.4 /an/ ~ /en/ ~ /᪉/ alternation	208
23.1.3.3 /᪉/: The sequence /an/ as alternant of /᪉/	209
23.1.3.4 /᪅/	209
23.1.4 Liaison after nasalized vowels	211
23.1.4.1 <i>Liaison obligatoire</i>	211
23.1.4.1.1 Fixed expressions with a prenominal modifier	211
23.1.4.1.2 Satellites	211
23.1.4.2 <i>Liaisons facultatives</i>	212
23.1.4.3 <i>Liaisons interdites</i>	212
23.1.4.3.1 Drills	213
23.1.4.3.2 Odds and ends	213
23.2 Sound to letter relationship	213
23.2.1 The spellings of /᪉/	214
23.2.1.1 <i>an</i>	214
23.2.1.2 <i>am</i>	214

23.2.1.3 <i>en</i>	214
23.2.1.4 <i>em</i>	214
23.2.1.5 <i>aen, aon, ean</i>	214
23.2.2 The spellings of /æ/	214
23.2.2.1 <i>un</i>	214
23.2.2.2 <i>um</i>	214
23.2.2.3 <i>eun</i>	214
23.2.3 The spellings of /ə/	214
23.2.3.1 <i>on</i>	214
23.2.3.2 <i>om</i>	214
23.2.3.3 <i>un, um</i>	214
23.2.4 The spellings of /ɛ/	214
23.2.4.1 <i>in</i>	214
23.2.4.2 <i>im</i>	215
23.2.4.3 <i>ain</i>	215
23.2.4.4 <i>aim</i>	215
23.2.4.5 <i>en</i>	215
23.2.4.6 <i>ein</i>	215
23.2.4.7 <i>eim</i>	215
23.2.4.8 <i>yn</i> and <i>ym</i>	215
23.2.4.9 <i>ing</i>	215
23.2.5 The spellings of /ŋ/	215
23.2.5.1 /ŋ/	215
23.2.5.2 /gn/	215
23.2.5.3 Either /ŋ/ or /gn/	215
23.2.6 The spellings of /n/	215
23.2.6.1 <i>pn</i> for /pn/	215
23.2.6.2 <i>mn</i> for /mn/	215
23.2.6.3 Pronounced as /n/ when Nasalization does not apply	215
23.2.7 The spelling of /m/	215
23.2.7.1 See Section 23.2.6.2	215
23.2.7.2 Pronounced as /m/ when Nasalization does not apply	216
24 Schwa as 'mute e'	216
24.0 Introduction	216
24.0.1 The diacritic (,) for syllabic	216
24.0.2 Syllabification	216
24.0.3 A generative solution for traditional 'mute e'	217
24.0.4 Organization of the chapter	217
24.1 Schwa in alternations	217
24.1.1 In verbs	217
24.1.2 As an epenthetic segment	219

24.1.3 Word-medially	221
24.2 Before the so-called aspirated <i>h</i>	221
24.3 Demotions	222
24.3.1 Word-final Demotion	222
24.3.2 Postvocalic Demotion	224
24.3.3 Phrase-initial Demotion	226
24.3.4 Specific Demotion	227
24.3.5 Demotion of adjacent syllabicized segments	227
24.4 Demotion in poetry	228
Appendix 1: An IPA chart of English	230
Appendix 2: The RULES	231
Appendix 3: RULE Ordering chart	235
References	236