

Grammar of Humburi Senni (Songhay of Hombori, Mali)

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Contents

1	INTRODUCTION.....	1
1.1	Songhay languages	1
1.2	Geography and Society.....	2
1.2.1	Inventory of HS-speaking villages and towns.....	2
1.2.2	Hombori (<i>hùmbùri</i>)	8
1.2.3	Other HS speaking villages around Mts. Hombori and Wari (Ouari).....	9
1.2.4	The Wami (Ouami) area.....	10
1.2.5	North of Hombori.....	10
1.2.6	South of the Hombori/Wari mountain complex.....	11
1.2.7	HS-speaking outliers	11
1.2.8	Other languages in the area	11
1.3	Format of grammar	12
1.4	Transcriptional conventions.....	13
1.5	Literature review.....	16
1.6	Acknowledgements.....	17
2	SKETCH OF GRAMMAR	18
2.1	Basic Morphosyntactic Features.....	18
2.2	Segmental phonology	20
2.3	Tonology.....	20
3	PHONOLOGY	22
3.1	Consonants.....	22
3.1.1	Velar { <i>k g ŋ</i> } versus palatal { <i>c j ɲ</i> } before front vowels.....	22
3.1.2	Labial stop <i>p</i>	23
3.1.3	Nasalized semivowels <i>wⁿ</i> and <i>yⁿ</i>	23
3.1.4	Glottal stop <i>ʔ</i>	25
3.2	Oral vowels.....	25
3.3	Diphthongs.....	26
3.3.1	Short-nucleus diphthongs.....	26
3.3.2	Long-nucleus diphthongs	27
3.4	Nasalized vowels and word-final nasal consonants.....	28
3.4.1	Nasalized vowels.....	28
3.4.2	Syllable-final nasal consonants	28
3.5	Syllabification.....	29
3.5.1	General restrictions on particular consonants	29
3.5.2	Syllabic shapes of pronouns and grammatical morphemes	30
3.5.3	Syllabic shapes of monosyllabic stems	30
3.5.4	Syllabic shapes of nonmonosyllabic stems and words.....	31
3.5.5	Final long vowels in nonmonosyllabic stems	32
3.5.6	Long vowels in nonfinal syllables in stems	33
3.5.7	Allowed and disallowed medial consonant sequences.....	33
3.5.8	Stem-initial consonant clusters.....	33
3.6	Consonantal assimilations and deletions	34
3.6.1	Nasal point-of-articulation assimilation	34
3.6.2	Manner assimilation by liquids and nasals.....	34

3.6.3	Semivowel assimilation.....	35
3.6.4	Palatalization before front vowels ($g \rightarrow j, k \rightarrow c, \eta \rightarrow \eta$).....	35
3.6.5	Metathesis.....	36
3.6.6	Syllable-final degemination	36
3.7	Vocalic contractions, deletions, and length modifications	36
3.7.1	Contractions of vowels over word or morpheme boundaries	36
3.7.1.1	VV-Fusion across word boundary	36
3.7.1.2	Treatments of VV sequences at stem-suffix boundaries.....	37
3.7.1.3	Avoidance of vowel sequences at stem-suffix boundary.....	38
3.7.1.4	Lexicalized prevocalic stem variants.....	38
3.7.1.5	Homorganic-Semivowel Insertion (<i>Cuw-</i> , <i>Ciy-</i>).....	38
3.7.1.6	VV-Fusion within words	40
3.7.1.7	Postvocalic V-Deletion	40
3.7.1.8	Prevocalic V-Deletion.....	41
3.7.1.9	Intervocalic <i>y/w</i> -Insertion.....	42
3.7.2	Contractions of <i>vyv</i> and <i>vww</i> at suffix boundaries.....	44
3.7.2.1	Prevocalic Diphthong-Deletion (<i>ey</i> and <i>ow</i> before suffix).....	44
3.7.2.2	Contractions involving nouns plus demonstrative <i>H + wô</i>	46
3.7.3	Syncope	47
3.7.4	Treatment of stem-initial vowels.....	47
3.7.5	V-Lengthening and -Shortening processes	48
3.7.5.1	Presuffixal <i>Cv</i> -Verb-Stem Lengthening	48
3.7.5.2	Idiosyncratic Noun-Stem V-Lengthening.....	48
3.7.5.3	Lengthening of 3Sg <i>à</i> and 1Sg <i>ì + H</i>	48
3.7.5.4	No V-Shortening processes.....	50
3.8	Minor phonological alternations.....	50
3.9	Tonology.....	51
3.9.1	Lexical tones of syllables and stems	51
3.9.1.1	Lexical tones of unpossessed nouns	52
3.9.1.2	Lexical tones of adjectives.....	56
3.9.1.3	Lexical tones of numerals	57
3.9.1.4	Lexical tones of underived verb stems.....	58
3.9.1.5	Floating H-tones.....	62
3.9.2	Tone overwriting in derivational suffixation	69
3.9.3	Presuffixal <i>Cv</i> : Tone-Raising (monosyllabic noun before suffix).....	70
3.9.4	Tonal dissimilation processes.....	72
3.9.4.1	Tonal Rhythm (possessed nouns, imperatives, VO verbs).....	72
3.9.4.2	Adjectival Tone-Raising	79
3.9.4.3	Pronominal-Clitic Upstep	80
3.9.4.4	Anticipatory HH-Dissimilation.....	82
3.9.4.5	Rhetorical versus phonological word-level pitch dropping.....	83
3.9.5	Left-to-right spreading rules.....	84
3.9.5.1	Atonal Suffix Spreading	84
3.9.5.2	Rightward Floating-H Docking	87
3.9.5.3	Rightward H-Spreading (word or stem boundary).....	89
3.9.5.4	Word-Internal <HL> \rightarrow H+L.....	93

3.9.5.5	Final <HL> Flattening (final/definite substantives)	94
3.9.5.6	<HL> → H.L (final/definite forms of ... <i>CvC</i> nouns)	95
3.9.5.7	Word-medial downstep	96
3.9.5.8	Final-L Delinking	99
3.9.5.9	Downstep at word boundary	101
3.9.6	Right-to-left spreading processes	103
3.9.6.1	Leftward Floating-H Docking (or Leftward Raising)	103
3.9.6.2	L.L.<HL> → L.H.L (final/definite forms of trisyllabic nouns)	106
3.9.6.3	<LH> → H Flattening	107
3.9.7	Tones in nominal compounds	110
3.10	Historical phonological notes	110
3.10.1	Long vowel versus diphthong	110
3.10.2	Reflex <i>ŋ</i> for * <i>ŋ</i> ^w	111
3.10.3	Deletion of intervocalic * <i>g</i>	111
3.10.4	Reflexes of * <i>Cv:n</i> verbs	112
3.10.5	Reflexes of * <i>rC</i> clusters	112
4	NOUNS, PRONOUNS, AND NOMINAL DERIVATION	113
4.1	Morphology of unpossessed nouns	113
4.1.1	Basic morphological categories	113
4.1.1.1	Final/definite singular of nouns (- <i>o</i> + <i>H</i> , - <i>a</i> : + <i>H</i>)	113
4.1.1.2	Definite plural (- <i>ey</i> + <i>H</i>) and indefinite plural (- <i>noŋ</i> + <i>H</i>)	114
4.1.1.3	Examples of the basic nominal categories	116
4.1.2	Nonmonosyllabic noun stems not ending in <i>a</i>	117
4.1.2.1	Tones of nonfinal and final/definite forms of nonmonosyllabic nouns	117
4.1.2.2	{HL}/{H} noun stems and two {H}/{HL} numerals ('1', '10')	118
4.1.2.3	{H}/{L} and {HL}/{L} noun stems	122
4.1.2.4	Idiosyncratic vowel-lengthening before V-initial suffixes (<i>hà:r-</i> , <i>fà:r-</i>)	122
4.1.2.5	Final short <i>u</i> deleted before final/definite suffixes	123
4.1.2.6	Final short <i>i</i> deleted before final/definite suffixes	124
4.1.2.7	Final short high vowel { <i>i u</i> } and presuffixal { <i>iy- uw-</i> }	125
4.1.2.8	Final long high vowel { <i>i: u:</i> } and presuffixal { <i>iy- uw-</i> }	126
4.1.2.9	Final short { <i>e o</i> } deleted before final/definite suffixes	128
4.1.2.10	Final diphthongs { <i>ey ay ow</i> } in nonmonosyllabic noun stems	129
4.1.3	Noun stems with final <i>a</i>	130
4.1.3.1	Short final <i>a</i> deleted before final/definite suffixes	130
4.1.3.2	Nouns with final/definite singular - <i>a</i> : + <i>H</i>	131
4.1.3.3	Nonfinal and final/definite singular of diminutive - <i>iya</i>	135
4.1.3.4	<i>kòyrà</i> + <i>H</i> , <i>cìŋnà</i> + <i>H</i> , <i>céydíyá</i> + <i>H</i> and others with no - <i>à</i> : + <i>H</i> suffix	135
4.1.3.5	Irregular nouns ? <i>izê</i> and <i>kô</i> ~ <i>kò-tí</i> ~ <i>kò-t-íy-à</i> : + <i>H</i> 'child'	136
4.1.4	Monosyllabic noun stems	137
4.1.4.1	<i>CvC</i> and <i>Cv:C</i>	137
4.1.4.2	<i>Cv</i> and <i>Cv:</i>	138
4.2	Morphology of possessed nouns	140
4.2.1	Alienable possession	141
4.2.1.1	Regular bisyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg)	142

4.2.1.2	Trisyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg).....	144
4.2.1.3	<i>a</i> -final alienably possessed nouns (1Sg, 2Sg, and 3Sg).....	145
4.2.1.4	Monosyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg).....	146
4.2.1.5	Other third person alienable possessors (3Pl, 3FullSg, 3FullPl).....	147
4.2.1.6	First/second person plural possessors of singular alienable nouns.....	148
4.2.1.7	Alienably possessed plural nouns (2nd/3rd person possessor).....	149
4.2.1.8	Alienably possessed plural nouns (first person possessor).....	150
4.2.2	Inalienable possession.....	151
4.2.2.1	Inventory of inalienable nouns.....	152
4.2.2.2	First and second person inalienable possessor.....	155
4.2.2.3	1st/2nd person inalienable possessor with original *L.H stem.....	160
4.2.2.4	Inalienable stems with unsuffixed 3Sg-possessor forms.....	161
4.2.2.5	3PossSg (general third person inalienable possessor), singular noun.....	162
4.2.2.6	General third person inalienable possessor, plural noun (3PossPl).....	164
4.2.2.7	3Sg inalienable possessor, singular and plural noun.....	166
4.2.3	Morphologically defective nouns.....	169
4.2.3.1	<i>môy</i> ‘namesake’ (no definite or possessive suffixation).....	169
4.2.3.2	Nouns with possessor but without definite suffixation (<i>bè:</i> , <i>kû:</i> , etc.).....	169
4.2.3.3	‘Daybreak’ (<i>mùwⁿò ~ mò:</i> ~ <i>mòm</i> plus <i>bów ~ bó:</i>).....	170
4.2.3.4	Nouns resistant to or restricting <i>-o + H</i> suffix.....	170
4.3	Personal pronouns.....	172
4.3.1	Person and number categories.....	172
4.3.2	Plural pronominal categories.....	172
4.3.3	Preference for plural over singular pronouns as possessors.....	173
4.3.4	Independent and subject-object clitic pronominals.....	173
4.3.4.1	Independent and clitic pronominals.....	173
4.3.4.2	Subject and object pronominal clitics.....	174
4.3.4.3	Subject pronominal clitic plus imperfective <i>gù + H ~ w̃ + H</i>	176
4.3.4.4	Subject pronominal clitic plus transitive clitic <i>ġ̃</i>	177
4.3.4.5	Subject pronominal clitic plus subjunctive <i>m̃ ~ ġ̃</i>	178
4.3.4.6	3Sg preverbal object clitic allomorphs (= <i>ġ̃</i> , = <i>à:</i> , <i>à</i>).....	180
4.3.4.7	3Sg postverbal object suffix allomorphs (<i>-à ~ -â</i>) and Tonal Rhythm.....	181
4.3.5	Pronouns as postpositional complements and as possessors.....	181
4.3.6	Pronouns preceding or following <i>ńdù + H</i> ‘with, and’.....	183
4.3.6.1	Pronouns after <i>ńdù + H</i> ‘with, and’.....	183
4.3.6.2	Pronouns before <i>ńdù + H</i> ‘and’.....	184
4.4	Demonstratives.....	185
4.4.1	Demonstrative pronouns (<i>H + wô</i> , plural <i>H + w-êy</i>) and contracted <i>-ô:</i>	185
4.4.2	Combinations of temporal noun plus demonstrative.....	186
4.4.3	Spatial demonstrative adverbs.....	186
4.4.4	Demonstrative expressions based on distal <i>yá:</i> ‘there’.....	188
4.4.5	Emphatic and approximative modifiers of demonstratives.....	188
4.5	Nominalizations and nominal inflection.....	189
4.5.1	Verbal nouns in <i>-noŋ + H</i>	189
4.5.2	Verbal nouns in <i>-r-o + H</i> (nonfinal <i>-r-u ~ -rî</i>).....	191
4.5.3	Deverbal nominals in <i>-i</i> and <i>-ey</i>	194

4.5.4	Zero-derived nominals and minor nominalizations (- <i>réy</i> , - <i>ów</i> , - <i>mî</i>).....	196
4.5.5	Characteristic nominals (- <i>kòynì</i> , - <i>kòm</i> , <i>kóy</i>)	198
4.5.6	Participle - <i>ânt-ò + H</i> and ordinal - <i>ânt-ò + H</i>	199
4.5.7	Agentive - <i>k-ò + H</i> (nonfinal - <i>ków</i>).....	201
4.6	Morphology of adjectives.....	202
4.6.1	Verbs of adjectival quality	202
4.6.2	Adjectives as noun modifiers	202
4.6.2.1	{L}-toned with nonfinal - <i>òw</i> (regular type)	202
4.6.2.2	{L}-toned with nonfinal - <i>òw</i> (minor segmental irregularities)	204
4.6.2.3	{L}-toned <i>bè:rì</i> ‘big’ and related forms.....	205
4.6.2.4	{L}-toned quadrisyllabic iterations with final <i>ey</i> in the verb	205
4.6.2.5	{HL}-toned reduplicated <i>Cv-Cv</i> adjectives (<i>kú-kú</i> , <i>bí-bí</i>)	205
4.6.2.6	Unreduplicated {HL}-toned color adjectives (<i>ká:rêy</i> , <i>círêy</i>)	206
4.6.2.7	Other color-related expressions	206
4.6.2.8	Diminutive adjectives (<i>bór-yá</i> , <i>ká(t)-íyá</i> , etc.).....	207
4.6.2.9	‘Empty’	207
4.6.2.10	Adjectives or compound finals from action verbs	208
4.6.3	Absolute form of adjectives (<i>?ì- + H</i>).....	209
4.7	Numerals and other quantifiers.....	210
4.7.1	Modifying and absolute forms of simple numerals.....	210
4.7.2	Decimal-digit composite numerals.....	212
4.7.3	Distributive iteration of numerals	212
4.7.4	Other quantificational modifiers	213
4.8	Nominal compounds.....	213
4.8.1	Tight and loose compounds.....	213
4.8.2	Agentive compounds.....	216
4.8.3	Bahuvrihi compounds	217
4.8.3.1	Noun-numeral bahuvrihis	217
4.8.3.2	Noun-adjective bahuvrihis	218
4.8.4	Tonal patterns in noun-noun tight compounds.....	219
4.8.5	‘Mother’ and ‘child’ as compound finals.....	220
4.8.6	‘Male’ and ‘female’ compounds	221
4.8.7	Nominals of essential nature (- <i>tàréy</i>)	222
4.8.8	Compounds with - <i>jèp-éy</i> ‘lack of’	222
4.8.9	Semi-segmentable and compound kin terms.....	223
4.8.10	Nominal compounds with verb stem as initial	223
4.8.11	Nominal compounds with verb stem as final	224
4.8.12	Reduced clauses or VPs functioning as compound nouns	224
4.9	Diminutives.....	224
4.9.1	{LHL}-toned with - <i>íyà</i> ~ - <i>íyá</i> ~ - <i>íy-à:</i> , nonfinal - <i>íy-òw</i>)	224
4.9.2	{HL}- and {LHL}-toned diminutives after syncope of *- <i>íyà</i>	226
4.9.3	{L}-toned diminutives with - <i>ìyà</i>	227
4.9.4	Noun-adjective diminutive compounds containing a H-tone.....	227
4.9.5	Noun-adjective diminutive compounds with {L} tones.....	229
4.9.6	Compounds with possessor or PP plus diminutive noun	230
4.9.7	Diminutive compounds ending in agentive nominal or verb	231

4.9.8	Intrinsically diminutive adjectives with <i>-(i)y-ôw</i> , <i>-íyá ~ -ìyà</i>	232
4.9.9	Synchronically opaque diminutives	234
4.10	Iteration (full reduplication) of noun and adjective stems	234
5	NOMINAL INFLECTION AND NP SYNTAX	235
5.1	Overview	235
5.2	Possessives	236
5.2.1	Possession	236
5.2.1.1	Direct juxtaposition of possessor NP and possessed noun	236
5.2.1.2	<i>ńónê</i> in possessed NPs and possessive predicates	237
5.2.2	Recursive possession	238
5.3	Adjectives	238
5.3.1	Syntax of simple adjectives	238
5.3.2	Adjective plus numeral	239
5.4	Numerals and other quantifiers	240
5.4.1	Simple numeral phrases	240
5.4.2	Existential quantification	240
5.4.3	Universal quantification (<i>kâl</i> ‘all, every, each’)	240
5.4.3.1	Totalizing sense (‘all’)	241
5.4.3.2	Distributive sense (‘each, every’)	242
5.4.4	Distributive iteration of numerals	243
5.4.5	Complementary subsets	243
5.4.6	Weak quantifiers (‘many, much, few’)	244
5.4.7	Currency and time of day	245
5.4.7.1	Currency	245
5.4.7.2	Time	245
5.4.8	Quantification over pronouns	247
5.4.9	Quantification over events	248
5.4.10	Partitive-like constructions with quantifiers	248
5.4.11	Indefinite plural <i>-noŋ + H</i>	248
5.5	Final/definite singular and definite plural	249
5.6	Demonstrative pronouns	250
5.7	Independent definite particles	251
5.7.1	Strong definite <i>H + dî</i> (or <i>H + dî + H</i>)	251
5.7.2	Adverbs with <i>dîn</i> or <i>dîn dî</i>	253
5.8	Discourse-function (DF) markers	253
5.8.1	Focus particle (<i>gâ</i>)	254
5.8.2	Topic particles	254
5.8.3	Other DF particles (<i>mô</i> ‘also, too’, <i>tán</i> ‘only’, emphatics)	254
5.9	Adpositions and case	255
5.9.1	Unmarked case versus adpositions	255
5.9.2	Dative <i>sê</i>	256
5.9.3	Possessive <i>ńónê</i>	257
5.9.4	Locative <i>gâ: ~ gâ</i>	257
5.9.5	<i>bòŋ</i> ‘on’	259
5.9.6	<i>dô</i> ‘chez, at the place of’	259

5.9.7	Simple and complex postpositions of spatial position	260
5.9.7.1	Simple spatial postpositions ('behind', 'in front of', 'under').....	260
5.9.7.2	Complex spatial postpositions ('behind', 'inside', 'in front of', 'under') ..	261
5.9.8	<i>zá</i> : 'since' and <i>hâl</i> 'until'	263
5.9.9	'Without'	264
5.9.10	Temporal postpositions (<i>hán-ê, wát-ê, bándé</i>)	264
5.10	Apposition.....	265
5.11	Instrumental, comitative, and conjoined NPs	265
5.11.1	Instrumental and comitative functions.	266
5.11.2	Extraction of complement of instrumental or comitative <i>ńdù + H</i>	267
5.11.3	Conjunction [<i>A [ńdù + H B]</i>].....	267
5.11.4	Conjunction of two personal pronouns	268
5.11.5	Comparative <i>ńdù + H</i> 'than'	269
5.11.6	Idioms and adverbial phrases with and without <i>ńdù + H</i>	269
5.12	NP disjunction (<i>wàlà</i> 'or')	269
5.13	Spatiotemporal adverbs and phrases.....	270
5.13.1	Spatial adverbs	270
5.13.2	Temporal adverbs	271
5.14	Vocatives	271
6	VERBAL VOICE (VALENCY) AND VERB DERIVATION.....	272
6.1	Subcategorization for objects and adpositional phrases	272
6.1.1	Verbs, quasi-verbs, and the referentiality of subject NPs	272
6.1.2	Underived simple intransitives	273
6.1.3	Underived simple transitives	273
6.1.4	Ditransitives and other verbs with dative complement	273
6.1.5	Verbs with nondative adverbial complements	274
6.1.6	Verbs with instrumental complement (<i>ńdù + H</i>)	274
6.1.7	VO verbs	275
6.1.8	Verbs taking unmarked postverbal NPs	277
6.1.9	Verbs of saying/telling (<i>nê, cì, háru</i>).....	277
6.2	Derived voice (valency) forms	278
6.2.1	Zero derivation and derivation by tone shift	278
6.2.2	Causative <i>-éyndí</i>	279
6.2.3	Intransitivizing (resultative passive or unspecified object) <i>-â</i>	281
6.2.4	Potential passive <i>-éyndí</i>	282
6.2.5	Verb plus cliticized = <i>ńdù + H</i> or suffixed <i>-ńdù + H</i> 'with'	283
6.3	Compound verbs	285
6.3.1	N-V and verbalized N-N compounds.....	285
6.3.2	Verb-verb compounds with infinitival linker	287
6.3.3	Compound verbs with noun or adverb as final	288
6.3.4	<i>yèkà</i> 'come back' and related forms	288
6.3.5	Frozen combinations of verb and negation (absent)	288
6.3.6	Verb-stem iteration and (partial) reduplication	289

7	VP STRUCTURE.....	290
7.1	Types of predicates	290
7.1.1	Equational and identificational predicates	290
7.1.1.1	Inchoative verb <i>té</i> : ‘become’ (VO) or ‘be done’ (intransitive).....	290
7.1.1.2	Inchoative verb <i>tè</i> ‘become’ with adverbial complement.....	292
7.1.1.3	Existential <i>tê</i> ‘happen, take place’	292
7.1.1.4	Identificational ‘it is (not) X’ (<i>nôŋ, màn tù + H</i>)	293
7.1.1.5	‘It is (not) X’ (<i>màn tù + H ~ màn tì</i>)	294
7.1.2	Locational ‘be’ (<i>H + gò:, sí:, bára, cindí</i>)	295
7.1.3	Obligational <i>kâl + H</i>	298
7.1.4	Possessive predicates.....	298
7.1.5	Verbless predicates with missing ‘do’ verb (absent)	300
7.2	Mood-aspect-negation (MAN) morphemes.....	300
7.2.1	Primary MAN morphemes and sequences	301
7.2.1.1	Unmarked MAN morphemes.....	301
7.2.1.2	Perfective negative (<i>màn + H ~ mànŋ + H</i>).....	301
7.2.1.3	Imperfective negative (<i>sù + H</i>) and subjunctive negative (<i>m̄ sù + H</i>).....	302
7.2.1.4	Subjunctive (<i>m̄ ~ ŋ</i>).....	302
7.2.1.5	Imperfective positive (<i>gù + H ~ w̄ + H</i>)	304
7.2.2	Functions of basic perfective and imperfective aspects	305
7.2.3	Presentative constructions	307
7.2.3.1	Presentative (<i>H + gò: + H</i>).....	307
7.2.3.2	Presentative negative (as such) is absent	307
7.2.3.3	<i>nè</i> : ‘here’ as presentative with NP	308
7.2.4	Marked imperfective categories	308
7.2.4.1	Future (<i>nàm + H ~ nàŋ + H</i>)	308
7.2.4.2	Extraction-indexing imperfective (<i>bò w̄ + H ~ bò: + H, bò kú = ŋ</i>).....	309
7.2.4.3	Progressive constructions with ‘be’ (<i>H + gò:</i>)	311
7.2.4.4	Progressive (<i>nò w̄ + H</i> , 3Sg object <i>nò kú↑ = ŋ</i>).....	312
7.2.4.5	Progressive (<i>nà bò w̄ + H</i> , 3Sg object <i>nà bò kú↑ = ŋ</i>).....	313
7.2.4.6	Progressive negative (<i>sí: + H</i> , 3Sg object <i>sí: kú↑ = ŋ</i>).....	313
7.2.5	Perfect constructions	314
7.2.5.1	Perfect (<i>nàŋ</i> , 3Sg object <i>nàŋ kú↑ = ŋ</i>).....	314
7.2.5.2	Perfect negative (<i>nàŋ sí: + H</i>).....	316
7.2.6	Transitive (<i>ŋ</i>), a bidirectional case-marker.....	317
7.3	Imperatives	319
7.3.1	Singular-subject imperative (<i>-ŋ</i>).....	320
7.3.2	Plural-subject imperative (<i>wò</i>).....	323
7.3.3	Irregular singular subject imperatives	323
7.3.4	Objects of imperative verbs.....	324
8	DISCOURSE-FUNCTIONAL CONSTRUCTIONS AND EXTRACTION	326
8.1	Focus constructions	326
8.1.1	Nonsubject focus constructions.....	326
8.1.1.1	Direct-object focalization.....	326

8.1.1.2	Focalization of adverbials.....	327
8.1.1.3	Focalization of postpositional phrases.....	328
8.1.1.4	Focalization of instrumental phrases.....	329
8.1.2	Subject focus constructions.....	329
8.1.3	Multiple clauses attached to one focalized constituent.....	329
8.2	Questions and answers.....	330
8.2.1	Polar questions and answers.....	330
8.2.2	WH-questions.....	331
8.2.2.1	‘Who?’ (<i>méy</i>).....	332
8.2.2.2	‘What?’ (<i>mí:ŋ ~ mihîŋ</i>).....	333
8.2.2.3	‘Where?’ (<i>mán ~ máŋ ~ máyⁿ ~ mè hérê</i>).....	334
8.2.2.4	‘How much, how many?’ (<i>mèrjè</i>).....	334
8.2.2.5	‘Which (one)?’ (<i>fô</i>).....	336
8.2.3	Composite WH-interrogatives.....	336
8.2.3.1	‘How?’ (<i>mótê</i>) and ‘what kind?’ (<i>cíléy fô</i>).....	336
8.2.3.2	‘Why?’ (<i>mí:n ‘sê</i>).....	337
8.2.3.3	‘When?’ (<i>mè fô</i>) and ‘whereabouts?’ (<i>mè hérê</i>).....	338
8.2.4	Fronted versus <i>in situ</i> WH-interrogatives.....	338
8.2.5	Questions embedded under matrix verbs ‘know’, ‘ask’, etc.....	339
8.2.6	‘Whatchamacallit?’ (<i>hây-ô:</i>).....	341
8.3	Relativization.....	341
8.3.1	Relativization of subject NPs.....	343
8.3.2	Relativization of object NPs.....	344
8.3.3	Relativization of NP complements of postpositions.....	344
8.3.4	Relativization of NP complements of <i>údù + H</i>	345
8.3.5	Relativization of possessor NPs.....	346
8.3.6	Adverbial relatives without postpositions (<i>dèy↓ kâ, mè kâ, hàn↓ kâ</i>).....	347
8.3.7	Multiple relative clauses (conjoined or recursive).....	347
8.3.8	Relativization out of complex syntactic structures.....	348
8.3.9	Relative clauses separated from the head NP (right dislocation).....	349
8.3.10	Postpositions and DF morphemes operating on the head NP.....	350
8.3.11	Adverbial relatives with bare <i>gâ</i> ‘so ..., then ...’.....	351
8.4	Topic constructions.....	351
8.4.1	Topical NPs and clauses with <i>mínê</i> ‘as for’.....	351
8.4.2	Syntactic distribution of independent pronouns.....	352
8.4.3	Weak topic marker <i>kèy + H ~ kây + H</i>	352
8.5	Emphatics and similatives.....	353
8.5.1	Simple emphatics.....	353
8.5.1.1	Emphatic of precision (<i>dâ</i>).....	353
8.5.1.2	Emphatic of confirmation or exclusion (<i>já:tîŋ</i>).....	354
8.5.1.3	Clause-final <i>ní</i> and related forms (<i>ní:, -ní:</i>).....	354
8.5.2	Exclusivity particles.....	355
8.5.2.1	‘Only’ (<i>táŋ ~ táŋ</i>).....	355
8.5.2.2	‘Except’ (<i>kâl + H, hál màn tù + H</i>).....	356
8.5.2.3	‘Not except’ = ‘only, exclusively’.....	357
8.5.3	‘Also’ (<i>mô</i>).....	358

8.5.4	Similatives.....	359
8.5.4.1	‘Like X’ (<i>dàngà X</i>)	359
8.5.4.2	‘X resemble Y’ (<i>himá↑-ńdù + H</i>)	359
8.5.4.3	‘The likes of X’ (<i>X cìl-ò</i>).....	360
8.5.4.4	‘The (same) way that ...’ (<i>mótê</i>)	360
8.5.5	Clause-level emphatics.....	360
8.5.5.1	Clause- or phrase-final <i>dèy</i> (admonition)	360
8.5.5.2	Clause-final emphatic <i>mê</i> or <i>sà</i>	361
8.5.5.3	Clause-final emphatic <i>kòy</i>	361
8.5.5.4	Clause-final emphatic <i>láy</i>	361
8.5.5.5	Clause-final emphatic <i>yá</i>	362
8.5.6	Strong emphatics and oaths.....	362
8.5.7	‘Even’ (<i>bâ:</i>)	362
8.6	Cooccurrence of discourse-functional categories.....	363
8.6.1	Topic plus another DF morpheme on the same constituent	363
8.6.2	Emphatic plus focus	364
8.6.3	Topic plus focus	364
8.6.4	Multiple topics.....	364
8.6.5	Relativization and focus	364
8.6.6	Relativization and topicality.....	365
9	SENTENCE-LEVEL SYNTAX AND SEMANTICS	366
9.1	Object NPs.....	366
9.1.1	Classification and ordering of nonsubject NPs and PPs	366
9.1.2	Double-object constructions.....	367
9.1.3	Biclausal instrumental constructions.....	368
9.1.4	Double-dative constructions.....	369
9.1.5	Restarting clauses with heavy preverbal objects.....	369
9.2	Intensifiers	370
9.3	Operators and scope.....	372
9.3.1	Types of adverbs	372
9.3.2	Negation	372
9.3.3	Negation and quantifiers	373
9.3.4	Equivalents of negative polarity items	374
9.3.5	Negation with ‘again’ and ‘first, for now’ (‘no longer’ and ‘not yet’)	375
9.3.6	Quantification over possessed nouns	376
9.4	Overview of complement clause types.....	376
9.5	Clause conjunction and indicative complement clauses.....	377
9.5.1	Conditionals (<i>hâl, bâ:</i>).....	377
9.5.1.1	Hypothetical conditionals	377
9.5.1.2	Counterfactual conditionals	378
9.5.1.3	‘Unless’ conditionals	379
9.5.1.4	Willy-nilly conditionals	379
9.5.2	Juxtaposed and conjoined clauses (‘and’, ‘so’).....	379
9.5.3	Indicative clauses attached to another clause.....	380
9.5.4	Clausal disjunctions (<i>wàlà</i> ‘or’)	381

9.5.5	Adversative conjunctions (<i>kâ:</i> , <i>?ammá:</i>).....	382
9.5.6	Temporal relations.....	382
9.5.6.1	‘Again’ (<i>kátin</i> ~ <i>kásin</i> , <i>kóyné</i>).....	382
9.5.6.2	‘(At) first, for now’ (<i>jínán</i>).....	382
9.5.6.3	Clause-initial <i>zá:</i> ‘since’.....	383
9.5.6.4	Clause-initial <i>hâl</i> ‘until, to the point that’.....	383
9.5.6.5	Clause-initial <i>dèy</i> ‘only then’.....	384
9.5.7	‘Because’ clauses (<i>sàbù</i> ~ <i>sàbà</i> etc.).....	384
9.5.8	Indicative ‘that’ complements (<i>gâ</i> , <i>kèy</i> , <i>dàngà</i>).....	385
9.5.8.1	<i>gâ</i> ‘that ...’.....	385
9.5.8.2	<i>kèy</i> ~ <i>cèy</i> and <i>hâ:</i> ⁿ ‘(say) that ...’.....	386
9.5.8.3	<i>dàngà</i> ‘like; believing that ...’.....	386
9.5.9	Bare indicative factive complements.....	386
9.5.9.1	<i>gàrù</i> ‘find, encounter (that ...)’.....	386
9.5.9.2	<i>sábá-ńdù</i> + <i>H</i> ~ <i>sáwá-ńdù</i> + <i>H</i> ‘coincide (with)’.....	387
9.5.9.3	<i>kò:rù</i> ‘have left (sb, in a situation)’.....	387
9.5.9.4	<i>dí:</i> ‘see (sb, doing sth)’.....	388
9.5.10	Right-edge marking in antecedents and background clauses.....	388
9.5.11	Biclausal causatives with <i>kàtè</i> ‘bring (about)’.....	389
9.5.12	Particle <i>kâl</i> + <i>H</i> plus indicative clause (absent).....	389
9.6	Subjunctive complements.....	389
9.6.1	Subjunctive complements to matrix-clause verbs.....	390
9.6.2	Subjunctive complements to obligational <i>kâl</i> + <i>H</i>	392
9.6.3	Subjunctive clauses in jussive reported speech.....	393
9.6.4	Subjunctive clauses with <i>hâl</i>	393
9.6.5	Subjunctive clauses under the scope of a distant negative.....	394
9.6.6	Purposive subjunctive clauses without complementizer.....	394
9.6.7	Bare subjunctive clauses in isolation.....	394
9.7	Infinitival VPs and serial verbs.....	395
9.7.1	Infinitival VPs in event sequences or as purposives.....	396
9.7.2	Inventory of control verbs.....	396
9.7.3	Modal serial verbs.....	398
9.7.4	Temporal/aspectual control verbs.....	398
9.7.5	Failure control verbs.....	399
9.7.6	Motion and time-of-day verbs as serial verbs.....	399
9.7.7	Comparative constructions.....	400
9.7.7.1	Asymmetrical comparisons.....	400
10	ANAPHORA, LOGOPHORICS, AND REPORTED SPEECH.....	403
10.1	Reported speech and logophoric pronouns.....	403
10.1.1	Reported speech and thoughts.....	403
10.1.2	Logophorics and demonstrative shifts in reported speech.....	403
10.1.3	Syntax of logophorics.....	404
10.1.4	Discourse functions of logophorics and narrative fade-out.....	405
10.2	Reflexives and reciprocals.....	405
10.2.1	Compound reflexives with <i>bòŋ</i> ‘head’.....	405

10.2.2	3Full possessor pronouns in reflexive function.....	406
10.2.3	Conjunction of pronoun with its own reflexive	406
10.2.4	Reflexive verbs (absent).....	407
10.2.5	Syntax of reflexives.....	407
10.2.5.1	Clause-internal syntax of reflexives.....	407
10.2.5.2	Reflexive subjects in relative clauses	408
10.2.6	Reciprocals (<i>cèr + H, cèrè</i>).....	408
10.2.7	Morphosyntax of reciprocals.....	409
10.3	Generic and indefinite reference.....	411
10.3.1	‘Person’ (<i>bòr + H</i>) and 2Sg pronouns.....	411
10.3.2	Indefinite human <i>kóy-ó + H</i> as informal discourse-anaphoric	411
10.4	Sloppy (partial) coindexation	412
10.4.1	Sloppy coindexation in reflexives	412
10.4.2	Sloppy coindexation in logophorics.....	412
10.4.3	Sloppy coindexation in relative clauses	413
	REFERENCES.....	414
	ABBREVIATIONS AND SYMBOLS.....	415
	INDEX OF CATEGORIES AND TERMS	418
	INDEX OF HUMBURI SENNI FORMS.....	426

1 Introduction

1.1 Songhay languages

The Songhay language family consists of some eleven or twelve languages, though dialect versus language classification (especially in the eastern area, i.e. in Niger and Benin) is not yet clear. In Mali there are five clearly distinct languages of the family: 1) Koyra Chiini (**KCh**) spoken along the Niger River from Timbuktu to Niafounké, along with the very distinctive but related Djenné Chiini (**DjCh**) spoken in the city of Djenné south of Mopti; 2) Koyraboro Senni (**KS**, aka Koroboro Senni, Koyra Senni, and other variants), spoken from just east of Timbuktu through Bamba, Gao, and Ansongo to around the Mali-Niger border, plus the **Fulankirya** dialects spoken by culturally Fulbe herders near Hombori and Douentza; 3) **Tadaksahak**, spoken by culturally Tuareg nomads in the far northeast on both sides of the Mali-Niger border; 4) Humburi Senni (**HS**), spoken in and around the town of Hombori between Gao and Mopti; and 5) Tondi Songway Kiini (**TSK**), spoken in and around the village of Kikara in the hills north of Douentza.

An informal classification of Songhay languages in **ecological-geographical and cultural** (not genetic) terms is (1).

- (1) Ecological divisions
 - a. riverine (on or near the Niger River)
 - b. northern (Saharan)
 - c. montane (HS and TSK)
 - d. southern urban enclaves (Djenne Chiini, urban Dendi)

The large-population varieties KCh and KS constitute a **riverine** Songhay cluster that continues down the Niger River into the Republic of Niger (RON) and the RON-Benin border (Songhay-Kaado, Zarma, riverine Dendi), though in Niger it also spreads out some distance north and south from the river. Tadaksahak belongs, again in geographical and cultural terms, to the **northern** Songhay group in the Sahara that also includes some languages spoken in and around the Air mountains of Niger (e.g. Tagdalt, Tasawak), plus the Kwarandzyey (Korandié) of the Tabelbala oasis of SW Algeria. HS and TSK constitute (geographically and culturally) the **montane** Songhay, in the inselbergs at the northern perimeter of Dogon country. On the edge of these main ecological groupings, the Fulankirya subdivision of KS is associated with cattle herders who intermingle with montane Songhay. There are also some **southern urban enclaves** of Songhay, including DjCh in Mali, and urban Dendi in Kandi and Djougou in central Benin.

The clearest **genetic** divisions are those in (2), updated from Nicolaï (1981).

(2) Genetic divisions

	in Mali	outside Mali
northern	Tadaksahak	Tagdalt, Tasawak, Kwarandzyey
western	KCh (and DjCh)	—
eastern	KS, HS, TSK	Zarma, Songhay-Kaado, Dendi

The northern languages are very heavily Berberized. Perhaps the most extreme case is Tadaksahak (Christiansen-Bolli 2010), which retains from Songay only a simple inflectional apparatus and a skeletal core vocabulary of around 200 words, with the rest of the lexicon borrowed from Tuareg varieties. Northern Songhay constitutes one of the most remarkable stable language-contact situations in Africa. Souag (2012) has greatly clarified the early development of this group, and has presented evidence for an early genetic connection between northern and western (i.e. Timbuktu) Songhay.

Within eastern Songhay, HS is closer genetically to KS (on which see Heath 1998a,b, 1999b) than to other varieties. It is instructive to compare the two grammatical systems, with HS often presenting more archaic formations that underly the attested KS forms. However, since KS has lost the original Songhay tones, TSK (Heath 2005) with its archaic tone system has been crucial for understanding the HS tone system and its complex morphological implications. See Heath (2011) on the origin and development of the HS pronominal-possessor and postposition paradigms, which involve tonal as well as segmental morphology.

1.2 Geography and Society

1.2.1 Inventory of HS-speaking villages and towns

HS is spoken primarily in the town of Hombori (*hùmbùrì*) and several villages in the area. A GPS reading taken in Hombori was N 15 16.670 by W 01 41.999. Other HS-speaking villages occur in the surrounding area, in all directions. Excluding outliers (Danka, Mareense), the HS-speaking zone extends from Kobou in the south to Dimamou (and its satellites) to the north, and from Daka-Kouko (in the Wami area) in the east to Dimamou in the west.

An inventory of primarily HS-speaking communities known to me, with some comments, is (3). The list is alphabetized by HS name. Bearings (north and west) are given in degrees, minutes, and decimal fractions of minutes (.000 to .999), based on readings I took in a survey conducted in 2011. Parenthesized bearings in the list below are estimated from maps. Quarters of Hombori itself are covered in §1.2.2 below.

Although Hombori has long been the dominant HS speaking community, the oldest Songhay villages in the area are said to be Kelmi (*kélmî*), Wari (*wà:rî*), and Gonta (*gò:ntâ*).

(3) HS-speaking villages

HS name	standard name	north	west
<i>bàŋgù bàndè</i>	Toundourou Bangou-Bande	15 14.794	01 42.366
village on lower slope of Mt Hombori, part of Toundourou cluster, between (Toundourou) Zemey-Koira and Toundourou Beri; name means ‘behind/near the well/pond’; surname Maiga; farming and herding; doum-palm weaving (calabash covers)			
<i>bàrkùsì</i>	Barkoussi	15 15.862	01 43.440
village on ledge fairly high up on Mt Wari; originally settled from Hombori; surnames Maiga, Gassamba; farming and herding			
<i>bà:zí ‘dá:kà:</i>	Bazi-Daka	15 16.281	01 33.559
small village in plains, part of Daka complex in Wami zone; surnames Gassamba, Maiga; farming and herding			
<i>bèrbèy</i>	Berbeye	15 16.417	01 44.858
village on ledge halfway up Mt Wari; originally came from Danka via Sababou Koire; surnames Guiteye, Ganaba; farming and herding			
<i>bé:íyà</i>	Beria	15 24.679	01 42.984
village on top of hill ridge, plus school and a few houses at base of hill on plains; surnames Meikouba, Gariko, Maiga, and Keba (all Songhay-HS), a few Dicko (Fulbe), one Guindo family; farming and herding			
<i>bìllántò</i>	Billanto	??	??
small village in plains; surnames Maiga, Gariko, Traore; farming and herding; there is also a Bella section			
<i>búrgò</i>	Bourgo	15 15.300	01 34.629
village on main highway hosting the Wami market (Saturday); seasonal lake (dries up around April) extending from here to Sori-Koira and Wami-Bande; school for the Wami and Tara areas; farming and herding; one family of Bozo between Bourgo and Sori-Koira (with an oven to prepare dried fish)			
<i>dá:kà:</i>	Daka		
name of several villages in Wami area east of Hombori; see <i>dà:cíyà</i> , <i>dá:ká bìbò</i> , <i>bà:zí ‘dá:kà:</i> , <i>sè:dú ‘dá:kà:</i> , <i>dá:ká kùkò</i> ; also part of name of more distant villages near Dimamou that were settled from the Wami area, see <i>dá:ká zìgíyà</i> , <i>fà:rì-kòy dá:kà:</i>			

- dá:ká 'bíb-ó* Daka-Bibo 15 16.526 01 33.403
village in plains, abutting Mokkey-Koira in Daka complex in Wami zone; cf. *bíb-ó* 'black'; surnames Maiga, Gariko, Cisse, Meida; farming and herding
- dá:ká 'kúk-ó* Daka-Kuko 15 14.719 01 33.313
village in plains near large seasonal swamps; cf. *kúk-ó* 'long'; surnames Maiga, Gariko, Gassamba, Meida, Sidibe, Diallo, Samassekou (blacksmiths); farming and herding; extensive gardens
- dá:ká-zìgíyà* Daka-Zigiya 15 26.790 01 50.502
village near Dimamou on a dune elevation overlooking a forested lowland, settled from Daka area near Hombori; surnames Meikouba and others; farming and herding
- dà:cíyà* Dakia 15 16.751 01 33.501
village in plains, part of Daka complex in Wami zone; name is diminutive of *dá:kà:* ; many surnames (Maiga, Traore, Garaiba, Meida, Gariko, Ganaba, Gassamba, Cisse); farming and herding
- dàmsòsò* Damsasso (15 21) (01 42.5)
village on low hill
- daráwâl* Daraoual (Darawal) 15 10.255 01 43.847
village in plains near large seasonal swamp; Songhay surnames Maiga, Meikouba, Meinanga, Gassamba; Fulbe surnames Diallo and a few Dicko; farming and herding; extensive gardens (doum palm, date palm, cassava, tobacco)
- dímá:mù* Dimamou 15 26.941 01 52.092
village on a dune elevation overlooking a forested lowland (sometimes frequented seasonally by elephants), with numerous smaller satellite villages and hamlets; surnames Maiga (Songhay majority), Dicko (Fulankiriya); farming and herding; school and medical center; see also Tabakara (Bella), *fàrì-kòy dá:kà:*, *dá:ká-zìgíyà*
- dú:rì* Kelmi-Douri 15 14.381 01 42.413
Lower Kelmi, village on the plains below the two Upper Kelmi villages on the slope of Mt Hombori; school; farming and herding
- fàrì-kòy dá:kà:* Fari-Koy-Daka 15 26.993 01 51.533
village near Dimamou on a dune elevation overlooking a forested lowland, settled from Daka area near Hombori; surnames Gariba, Meikouba, Gariko, Keba; farming and herding

- gàlù* Galou
pair of abandoned villages on northern lower slope of Mt Hombori; for original settlement see Koubel
- gállù bé:rì* Galou-Beri (15 15) (01 36.5)
one of two abandoned villages on northern slope of Mt Hombori; cf. *bè:rì* ‘big’
- gállù-sá:jè* Galou-Sadie (15 15) (01 37)
one of two abandoned villages on northern slope of Mt Hombori
- gò:ntà* Gonta (15 21) (01 40.5)
village on hill; one of the three oldest Songhay-HS villages (others are Kelmi and Wari)
- hùmbùrì* Hombori 15 16.670 01 41.999
large town on highway; main village on shelf between two colossal inselbergs (Mt Hombori and Mt Wari); shops, the market, official buildings, and some new villas at base of rocky shelf on the highway; surname Maiga (Songhay); heartland of Humburi Senni (Songhay language) but many Fulfulde-speaking Fulbe; market on Tuesday; farming and herding; goldsmiths
- kàlgàmè* Kalgameye 15 15.523 01 36.120
hamlet in plains; originally settled from Galou; surname Meikouba; farming and herding
- kàntàkìn* Kantakine 15 16.888 01 44.012
village on ledge halfway up Mt Wari; originally came from Guiweye; surnames Maiga, Gassamba; farming and herding
- kélmî* Kelmi
pair of closely spaced villages (see *kóncìrì*, *tâ:*) on ledges halfway up southern slope of Mt Hombori, plus Lower Kelmi (see *dú:rì*) on the plains below; surnames Gassamba and Meinanga (the two most common), also some Maiga, Ganaba, Meida, Gariko, Kiriko, Sidibe; see Kelmi-Kontjiri, Kelmi-Ta, and Kelmi-Douri
- cé:rî* Kiri 15 17.091 01 37.780
small Songhay section at eastern end of Kiri-Fulbe village; surname Ganaba; farming and herding; date palms
- kísîm* Kissim 15 14.701 01 43.275
village mostly on lower slope of ridge connecting Mts Hombori and Wari, also some houses on plains at base; surnames Maiga, Toure, Gariko, Koura, Meinanga (*kósèy* caste); farming and herding; doum-palm weaving (calabash covers)

- kóbù* Kobou 15 07.508 01 41.990
village on summit of low rocky hill overlooking sandy plains; surname Gariko (village said to be the origin of this clan); farming and herding; near Dossou (Fulfulde speaking)
- kóncìrì* Kelmi-Kontjiri ?? ??
one of two Upper Kelmi villages on ledges halfway up southern slope of Mt Hombori; thought by Homborians to be full of sorcerers
- kúbêl* Koubel 15 14.527 01 40.290
village on lower slope of Mt Hombori; said to have been settled from Tera in Rep. of Niger, one brother coming to Koubel and the other to Galou (abandoned village on Mt. Hombori slope); surname Meikouba; well-known small mosque beside the village, said to have mysteriously appeared one day, now a destination for Muslims who make wishes there
- mókk-èy kóyr-èy* Mokkey-Koirey 15 16.708 01 33.342
village in plains, abutting Dakia and Daka-Bibo in Daka complex of Wami zone; inhabited by a well-known Muslim marabout and his followers; surname Cissé; farming and herding
- nárkî* Narki (15 21) (01 43.5)
village on low rocky shelf
- sè:dú dá:kà:* Seydou-Daka 15 16.281 01 33.559
small village in plains, part of Daka complex in Wami zone; Seydou is a man's name; surnames Maiga, Gariko, Gassamba, Dicko; farming and herding
- sóri kòyrà* Sori-Koira 15 15.309 01 34.634
small village in plains in Wami zone, along the pond that stretches between the flanking villages Bourgo and Wami-Bande; Sori is a man's name; farming and herding; some gardens
- tà:* Kelmi-Ta ?? ??
one of two Upper Kelmi villages on ledges halfway up southern slope of Mt Hombori; people of Kelmi-Taa considered by Homborians to be Dogon
- tà:rà* Tara 15 15.044 01 35.126
village in plains in Wami zone; surnames Meida, Meikouba; farming and herding
- tùndùrù* Toundourou
cluster of three closely spaced villages on the lower southern slope of Mt Hombori, see *zèm-èy kóyrà*, *bàngù bàndè*, and *tùndùrù bé:rì*; date palms, school

- tùndùrù bé:rì* Toundourou Beri 15 14.799 01 42.445
village on lower slope of Mt Hombori, part of Toundourou complex; with *bè:rì* ‘big’; surname Seiba (of Karakole ethnicity); farming and herding; doum-palm weaving (calabash covers)
- úmâ* Ouma 15 14.578 01 33.992
village in plains, part of Wami zone; surnames Maiga, Garibou, Diallo, Dicko; farming and herding
- wálâm* Walam 15 13.815 01 45.751
satellite hamlet for Walam
- wálâm* Walam (~ Oualam) 15 14.556 01 44.702
village mostly on lower slope of Mt Wari, remainder on plains at base; surnames Maiga, Toure, Meikouba, Meinanga (*kós-èy* caste of leatherworkers, involved in circumcisions, also play drums at coronations), Sako (Sarakole ethnicity, locally called Marka)
- wá:mî* Wami (~ Ouami)
general name for an area east of Hombori with numerous villages and hamlets, mostly speaking Songhay-HS; see Daka, Bourgo, Kalgame, Wami-Bande, Sori-Koira, Ouma), also some Fulankiriya (see Sokodie)
- wá:mí bàndè* Wami-Bande 15 15.158 01 34.792
small village in plains in Wami zone, along the pond that stretches out from Bourgo; farming and herding; some gardens
- wà:rì* Wari (~ Ouari) 15 16.456 01 43.702
village on ledge fairly high up on Mt Wari (elevation 1577 feet); one of the three oldest Songhay villages of the Hombori zone (others are Gonta and Kelmi); surnames Maiga, Meinanga (*kósèy* caste), and Guindo; people rather secretive about village history; Hombori people consider villagers of Wari to be Dogon (cf. Guindo surname); farming and herding
- wàwási* Wawasi 15 17.327 01.43.968
small village on plains near Mt Wari, settled from Kantakin; surname Maiga; farming and herding
- zèm-èy kóyrà* Toundourou Zemey-Koira 15 14.689 01 42.219
village on lower slope of Mt Hombori, part of Toundourou complex; name means ‘blacksmiths’ village’; surnames Maiga, Gassamba, Meinanga, Gariko, plus blacksmiths with surnames Samassékou and Tiam [cam]; pottery, doum-palm weaving (calabash covers); farming and herding; date palms

The zone, about halfway between Gao and Mopti on the main highway, consists of broad expanses of rather flat land interrupted by inselbergs and (to the north)

separated into extended valleys by long stony ridges or stable sand dune ridges. There are no major mountains north of Mt. Hombori. Given recent (i.e. since 1970) declines in annual rainfall, millet farming is possible but difficult in the HS speaking area. Between this area and the Niger River to the north and northwest is a zone sparsely inhabited by herders (Tuaregs, Fulbe).

Around Hombori and to the south and west, on the other hand, the plains are regularly punctuated by spectacular inselberg cliffs, sometimes extended or connected to other inselbergs by low rocky shelves. The inselbergs provide crucial water resources, by trapping rainwater in depressions at their bases and in pockets on their summits and slopes, in some cases slowly released by springs. Along with wells, the inselbergs provide the year-round water needed for permanent human habitation.

The highest of these inselbergs (and the highest spot in West Africa) is Mount Hombori (*hùmbùrì tónd-ò*), a huge flat-topped cylinder that was not traditionally scaled by the natives, though nowadays it attracts international alpinists with elaborate climbing equipment. Less than 10 km to the west is an equally impressive formation split into four stubby “fingers” of which the tallest is Mount Wari (*wà:rì tónd-ò*). These two mountains flank Hombori village itself. Only 7 km farther west is the famous finger-shaped formation known as “la Main de Fatouma” (*gármì tónd-ò*) another favorite challenge for alpinists and a frequent subject for photographers.

1.2.2 Hombori (*hùmbùrì*)

Between Mount Hombori and Mount Wari there extends a flat, somewhat elevated rocky shelf on which is located Upper Hombori (*hùmbùrì bé:né*), the traditional village. On one side of the shelf, there is a fairly steep but easily climbable slope leading down to the plain (and the highway). At the base of the slope is “Lower Hombori” (*hùmbùrì gándá*) where a major regional market is held on Tuesdays. Here there are also permanent shops, inns for travelers, schools, government offices, medical and veterinary facilities, and the gendarmerie. The main well supplying the town is at one end of Lower Hombori.

Upper Hombori (*hùmbùrì bé:né*) is divided into four residential quarters, as follows 1) *mà:dù*, the “royal” quarter (overlooking the market), including the chief’s residence, the main mosque, and nowadays the medical center. 2) *gísintárêy*, farther away from the slope, including the shops; 3) *hútáwéy* (overlooking the well), where the chief’s sacred drums are kept; 4) *gásúméy* (farthest from the slope), featuring the goldsmiths and the so-called *kóy-báññ-èy* (citizens who control the sacred staff that gives them veto power over the chief’s decisions).

Major authority figures in Hombori are a) the *kòkòy-ò* (“chief” or “king”); b) the elected mayor; c) the *délégué du gouvernement*; and d) the Islamic imam.

The chieftood is a traditional office with an ancient tradition. Though not selected on the basis of primogeniture, each new chief is chosen by the Songhay chiefly or “royal” family from its own ranks, is enthroned with considerable pomp, and remains in office for life. From 1981 through 2003, i.e. when the primary fieldwork was done, the chief was the late Nouhou Bokari Maiga, a son of the previous chief (Bokari Sourgou); Nouhou’s mother was from Timbuktu. From 2003 to 2010 the chief was

Hamma Ousmana Maiga. In 2011 Moussa Balobo was enthroned, but he was assassinated by Tuareg rebels in his palace in February 2012.

The chief wears a black turban over a white cap. By tradition (reflecting the Medieval rivalry between the kings of Hombori and the Askias or emperors of Gao), the chief of Hombori is forbidden to travel to Gao. The chief was once the major decision-maker, but even in the past his decisions could be overturned by the *kóy-báññ-èy*, the custodians of the sacred staff (*lòl-ò ḡógb-ò*) that symbolized their veto power. The chief still has some administrative functions (chiefly tax-collecting), but he is now above all the leader of community rituals (nowadays revolving around the major holy days of the Muslim calendar).

Secular government is mainly in the hands of the locally elected mayor and the *délégué*. Prior to the year 2000 much authority was vested in the externally appointed *commandant d'arrondissement*, who reported to the *commandant de cercle* of Douentza, who in turn reported to the *gouverneur* of Mopti, all of them part of a military command structure appointed by the central government. With the nationwide administrative decentralization of 2000, the office of *commandant* (“Major”) was replaced by the weaker one of *délégué*, and Hombori was reclassified from *arrondissement* (subdivision of *cercle*) to *commune rurale*. There is talk (since 2011) of a further high-level political arrangement involving the splitting of the Region of Mopti into two or more regions (provinces).

The imam, or Muslim leader, is not centrally involved in local politics, but does handle matters, such as inheritance, that relate closely to sharia (Islamic law). In recent decades, orthodox Islam has become dominant, relegating the remnants of animist ritual practice to the underground margins. The Muslim holy days are major community-wide events that punctuate the year. (Christian missionaries have made occasional exploratory visits to Hombori but do not seem to have made any conversions.)

The traditional economy of the area around Hombori revolves around farming (primarily millet, in moist areas also some sorghum) and herding (sheep and goats, cows). Annual rainfall was relatively abundant until about 1970, when climatic changes set in with a vengeance; rainfall in recent decades has averaged about half of its pre-1970 level. As a result, millet (which requires less rain than sorghum or corn) has become an unreliable crop. Even when rainfall is adequate, crop pests (birds, grasshoppers) cut into the harvest. In autumn 2004, the entire region was ravaged by locusts (*Schistocerca gregaria*) who consumed the entire grain crop a week before the harvest.

1.2.3 Other HS speaking villages around Mts. Hombori and Wari (Ouari)

Because Mt. Hombori is linked to Mt. Wari by a low rocky shelf, the entire complex forms an ovoid complex rising up from the surrounding plains. Hombori itself is on the low shelf facing north.

Ringing Mt. Wari (and its satellite peaks) are Barkoussi, Wari (*wà:ri*), Kantakin, and Berbey. These four villages are all located on ledges partway up the mountain

slopes. Kantakin has a satellite village on the plains below, called *wàwási*. At the base of Mt. Wari, on the side away from Hombori, is Walam (*wálàm*) village.

On the southern base of the rocky shelf linking the two mountains, i.e. on the opposite side from Hombori, is the village of Kissim. At the southern base of Mt. Hombori are the village clusters of Toundourou and Kelmi. Toundourou contains three virtually adjacent villages at the base of an extension of the mountain; they are well-known for doum-palm weaving (calabash and pot covers), pottery, and blacksmithing. Kelmi consists of two villages on ledges high up on the mountainside and a more recent village on the plains at the base. The small village of Koubel is on the lower slope of the mountain a little to the east of Kelmi. Finally, on the north side of Mt. Hombori, high up the mountain side on ledges, are two abandoned villages known jointly as Galou.

1.2.4 The Wami (Ouami) area

Wami (*wá:mî*), also spelled Ouami, is the general term for a widely dispersed cluster of villages and hamlets (including Fulbe and Fulankiriya) east of Hombori. The area has large seasonal ponds and swamps. A subset of the villages in Wami are collectively called Daka. Other villages of Wami are Bourgo, Kalgame, Wami-Bande, Sori-Koira, and Ouma. Bourgo is on the main highway and hosts a weekly market on Saturday.

There are some Fulankiriya speaking hamlets in the area, and Fulankiriya herders mass there in large concentrations during the rainy season. There are also some Fulbe and a few Bella.

Kalgame village is between Wami and Mt. Hombori.

1.2.5 North of Hombori

There are quite a few villages, and clusters of hamlets, in a widespread zone north of Hombori. This area contains sandy plains divided into valleys by long (rock or sand dune). The larger villages are atop or at the base of the ridges. The hamlets are mostly occupied by herders (Fulankiriya, Fulbe, Bella).

Closest to Hombori, to its (north-)east, is Kiri (*cé:rî*). It is really just a small Songhay section of a majority-Fulbe concentration at the base of a sand dune ridge.

Farther away and roughly due north of Hombori, on low rocky hills, are Gonta, Damsasso, and Narki. Still farther north is Beria.

Far to the northeast of Hombori is Dimamou, along with some small villages settled from Daka in the Wami area, as their names (Daka-Zigiya, Fari-Koy-Daka) attest. The Dimamou area is a Songhay outlier, separated from Hombori by Fulbe, Fulankiriya, and Bella hamlets and villages (many of these Bella are involved in collecting firewood). The villages of the Dimamou area are located on elevated dune ridges. Dimamou proper is not much larger than these villages, but is surrounded by several hamlets. It overlooks a large forested plain that attracts elephants on their long treks between Burkina Faso and Mali. Dimamou is ethnically cosmopolitan for a

smallish village, with Songhay, Fulankiriya, and Bella. In the Dimamou zone overall, millet farmers are outnumbered by herders. Plans to develop a quarry near Dimamou for a major cement factory to be located in Hombori were put on hold by the Arab-Berber rebellion of 2011-12.

1.2.6 South of the Hombori/Wari mountain complex

The two villages well south of the main mountain complex that includes Mts. Hombori and Wari are Daraoual (near a large seasonal swamp) and Kobou (atop a low rocky hill). There are numerous Fulbe hamlets in the plains in this area. To the south is an infertile area with a few hills, sparsely populated by Jamsay-speaking Dogon.

1.2.7 HS-speaking outliers

Also said to be HS-speaking is the village of *dánkâ* ~ *dágânâ*, 45 km southwest of Hombori on the highway to Mopti.

Hombori itself has long had a good school system, and quite a few educated Homborians hold prominent positions in government and private industry in Douentza, Mopti, Bamako, and other cities and towns to the south, as well as in Gao to the north. The position of Hombori as a stop on the main highway from Mopti (and Bamako) to Gao has also encouraged Homborians to go into the trucking business and into commerce. As a result, there are many HS-speaking extended families in these cities, though I know of no extended Homborian residential quarters as such.

Nicolaï (1979) reports that the **Marense** people of the Dori area in northern Burkina Faso speak a Songhay variety that is close to HS. Nicolaï refers to HS and Marense jointly as “songhay central.” The Marense are said to be weavers and dyers who migrated to Burkina from Hombori.

1.2.8 Other languages in the area

HS is genetically close to the Songhay of Gao (**Koyraboro Senni**, or KS). Homborians who deal with travelers (buses, trucks, private vehicles) going between Gao and the south easily pick up this language. Famously, Homborians understand KS, while Gao people have great difficulty understanding HS. In addition, some HS speakers have dealings with **Fulankiriya** herders (in the Wami area, and to the northwest of Hombori), who speak a dialect of Koyraboro Senni (closely related to the dialect of Bamba on the Niger River, but still not greatly different from the dialect of Gao).

Since HS and KS already share much basic vocabulary, there is relatively little lexical borrowing between them. On the other hand, a great many Fulfulde loanwords have become common in HS. Traditionally, the herds owned by Songhay were tended by **Fulbe** people, and there is now a significant **Fulfulde**-speaking community in

Hombori itself and throughout the region (Boni and Douentza, for example, are predominantly Fulfulde). These include freeborn Fulbe, Fulbe-Rimaibe (former slaves), and blacksmiths and goldsmiths.

There are some **Tuaregs** in the area, most of them having moved south from the Timbuktu-Goundam or Gourma Rharous areas near the river, as desertification in the far north has pushed Tuaregs southward. There are also some **Bellas**, former black slaves of the Tuareg, who are especially known for firewood collecting. **Tamashek** is the language spoken by Tuaregs and Bellas, and those Homborians who have dealings with them may learn some Tamashek.

Some Dogon from the Mt Tabi area near Boni, speakers of the Dogon language **Toro Tegu** (along with their Fulbe-Rimaibe slaves), were forcibly removed by the French colonists to the Hombori area in the mid-20th Century. Most returned to Tabi (villages of Tabi, Toupere, and Tega) when finally allowed to, but a few families are still in the Hombori area. There is a village named Goylel well north of Hombori (N 15 19.274 by W 01 55.553) that is populated by Dogon and Fulbe-Rimaibe (i.e. Fulfulde-speaking slaves) who did not return to the Tabi area. Except for the few ethnic Dogon in the Hombori area, and the few ethnic Songhay in the Tabi area (blacksmiths), there is little Dogon-HS bilingualism.

There are some Arab merchants in Hombori and other large towns in the zone, speaking **Hassaniya Arabic**.

As the dominant language of densely populated southern Mali, **Bambara** is rapidly spreading into northern Mali. Homborians are exposed to Bambara by national television and radio broadcasts, by travelers passing through Hombori (which is on the main highway linking southern to northern Mali), and by southerners posted to Hombori by the government (teachers, gendarmes, army). In addition, many individuals shuttle between Hombori and the major southern cities for work or education. In the long run, Bambara is the main potential threat to the vitality of HS.

1.3 Format of grammar

To the extent possible, this grammar follows the chapter and section structure (including the numbering system) of my three earlier grammars of Songhay languages (KCh/DjCh, KS, and TSK). This may explain why there are some very short subsections whose content is of the type “phenomenon X does not occur in HS.” However, nominal morphology has exploded in HS in comparison to other Songhay languages, so this grammar is rather NP-heavy.

A brief sketch of highlights is in Chapter 2. Chapter 3 covers phonology, including tonology. The morphology of nouns, pronouns, and demonstratives is covered in Chapter 4, followed by Chapter 5 on NP structure. Verb morphology is treated in Chapter 6. VP structure, along with pre-VP inflectional MAN (mood-aspect-negation) particles, is the subject of Chapter 7. Chapter 8 then covers extraction phenomena (focalization, relativization), and various discourse-functional (DF) particles. Chapter 9 deals with higher-level syntax other than anaphora, including conditional constructions and various types of complements. Chapter 10 covers explicitly anaphoric elements (reflexives, logophorics, and reciprocals).

The division of labor among the chapters is somewhat artificial since morphology, syntax, and tonology interpenetrate considerably. An effort is made to avoid fragmentation by adding many cross-references from one section to another, cutting across chapter divisions.

1.4 Transcriptional conventions

*... denotes a reconstructed form. #... denotes a form that is ungrammatical in HS. The only other notable conventions have to do with tones and tone sandhi.

Using *x* as a dummy, the tones are H[igh] \acute{x} , L[ow] \grave{x} , and <HL> \tilde{x} . The falling tone is equivalent to <HL> and the latter representation is preferred since the H- and L-tone components may separate due to phonological rules. There is **no <LH> tone** \check{x} in HS. Where a contraction or resyllabification process would be expected to produce <LH>, this is flattened to H-tone (§3.9.6.3). This distinguishes HS from other tonal Songhay languages. There is likewise **no bell-shaped <LHL> tone** $\tilde{\tilde{x}}$: in heavy syllables in HS, unlike the case in (at least) TSK.

Angled brackets are used to indicate tones within a syllable, hence H.<HL> represents a bisyllabic stem or word with H-tone followed by <HL>-tone. Syllable-by-syllable tone sequences for multisyllabic words are given with internal periods at syllable boundaries, e.g. H.H.L or L.H.<HL>.

Certain morphemes, chiefly nominal suffixes and various proclitic function morphemes (pronominals, clausal inflections), behave as though they have an associated **floating H-tone** following them or, in a handful of cases, preceding them. Where relevant, for example in connection with phonological derivations, I transcribe these morphemes with a following *+H*, as in *nàm +H* (future), or with a preceding *H+*, as in *+di* (strong definite, §5.7.1). In other contexts I usually omit the floating tone from the citation form of the morpheme. Whether a floating tone that docks on adjacent words is really an optimal solution is considered in §3.9.1.5.

Curly brackets {} indicate stem- or word-level **tone melodies**, independent of the number of syllables or of the location of tone breaks. The melodies are {H}, {L}, {HL}, and {LHL}. In other contexts, curly brackets have their usual mathematical function enclosing the members of a set, separated by spaces, as in {*x y z*} in the next paragraph.

Additional symbols are used where necessary to index the effects of tonal interactions among words in phrasal context, and to a lesser extent among morphemes within words. The most important symbols are {^ˆ ˆ}, which indicate variable, often partial lowering (**downstep**) and raising (**upstep**) of pitch, and {↓ ↑}, which indicate categorical raising (to H) or lowering (to L) of phonological tone. The arrows are positioned at the edge of the word or morpheme that undergoes the tonal change, and specifically at the edge adjacent to the triggering word or morpheme. In the formulae in (4), variables {*x y z*}, with or without specified tones, represent adjacent syllables of stems or words that come together at a boundary. \acute{y} ... represents any stem beginning with a H-tone (including a <HL>-toned monosyllabic).] and [are word boundaries, = is a clitic boundary. The key symbol(s) in each configuration are in red.

(4) symbol interpretation

... \hat{x}] [y ... **rightward downstep** (§3.9.5.9): underlying /... \hat{x}] [y .../; the final <HL> tone on \hat{x} delinks its L, which is expressed audibly by a variable but frequently sharp drop in pitch on the following H-tone. If “y” begins lexically with, or consists entirely of, more than one H-toned syllable, the downstep resets the pitch of this entire sequence, but it does not extend to a following word. Thus in $kú\hat{\uparrow}=\acute{y}$ ‘*háns-ó kárú*’ ‘to hit the dog’, the pitch of both syllables of *háns-ó* ‘the dog’ undergoes downstep, but *kárú* ‘hit’ reverts to a higher pitch level. A downstepped H need not completely converge with L in fundamental frequency, and even when it does it may remain audibly distinct by retaining a less creaky phonation pattern, so I write y instead of \grave{y} or \dot{y} . Rightward downstep is very common because of the large number of stems that consist of or end in a <HL>-toned syllable (\hat{x}), whose L-tone detaches except in prepausal position.

... x^t] [y ... **leftward downstep**: the entire word ending in syllable “x” is variably pitch-dropped under the influence of an emphatically pronounced word beginning with syllable “y,” especially *kûl* ‘all’ and interjection-like adjectival intensifiers, as in $\grave{n}j\acute{e}y^t$ *kûl* ‘all of them’ and $\acute{f}úmbú^t$ *dús* ‘very rotten’. Leftward downstep is a device to make the emphatic word “y” more prominent, and is essentially intonational rather than tonal

... \hat{x} -] [y ... **weak leftward downstep**: a more local, low-level tone dissimilation whereby (the coda of) a H-toned final syllable in the first word optionally drops slightly in pitch before a word with initial H-tone, the effect being to make the word boundary more clearly audible. This can happen whether the “y” syllable is lexically H-toned or has been raised by rightward raising. This feature is usually **not indicated** in transcriptions other than narrow phonetic transcriptions.

... $x^t=y$... **leftward upstep**: a clitic-like L-toned monosyllabic element (3Sg \grave{a} , 2Pl imperative $w\grave{o}$) is variably pitch-raised before a word beginning in L-toned syllable “y.” A few high-frequency $C\hat{v}$ morphemes (*nê* ‘say’, dative *sê*, postposition *dô* ‘chez’) are optionally pronounced with L-tone and in this case they too can trigger upstep of the preceding morpheme. (There is no rightward upstep.)

...x] [\uparrow y... **rightward raising:** a single underlying L-toned syllable \hat{y} is raised to H-tone (indistinguishable from underlying H-tone) by the preceding element. The raising is local and does not extend to syllables farther to the right. It can be triggered by a floating H-tone (§3.9.1.5), by a final-syllable H-tone, or by tonal dissimilation. Floating H is especially associated with the nominal/adjectival suffixes $-o + H$ (singular) and $-ey + H$ (plural), independently of the tone of the suffixal vowel. The final H-tone of words like *kóy* ‘go’ can also spread to the first syllable of the following word. Finally, the combination of {L}-toned noun plus {L}-toned adjective triggers a dissimilation rule raising the first syllable of the adjective. When the “y” syllable has been raised in this fashion, if the “x” syllable is also H-toned it undergoes optional weak leftward downstep.

...x̂] [\uparrow y... **rightward raising plus rightward downstep:** This is common when the conditions for rightward raising are met (see above), and where the final “x” syllable on the preceding word is <HL>-toned. This happens in combinations like /z + H] [\hat{x} + H] [\hat{y} .../, where we first get /z] [\hat{x}] [\hat{y} .../ by double application of rightward raising, then the falling-toned “x” syllable delinks its final L-toned segment, which causes downstep on “y.” The effect is that a final LH tone sequence on “x” is shifted to the following word “y.”

...x̂ \uparrow] [y... **leftward raising:** a final underlying L-toned syllable /x̂/ is raised to H-tone by the following morpheme, which we can represent with a preceding floating H-tone, hence /...x̂] [H + y.../ becomes ...x̂ \uparrow] [y... This applies to {L}-toned words before strong definite $H + di$, demonstrative $H + wô$, imperfective $H + w̃$, and $H + gò$: ‘be (somewhere)’.

x̂ \downarrow] [y... **leftward lowering:** one of a small set of semantically light nouns x (‘place’, ‘time’, ‘thing’, ‘person’) with underlying H- or <HL>-tone is has its tones categorically lowered to {L}-tone by a following relative $kâ$ or quantifier $kûl$ ‘all’, underlying /...x̂ y.../ or /...x̂ y.../.

...x] [\uparrow y₁...y₂ \uparrow] z... **raising on both flanks:** L-toned element /y₁...y₂/ has **both** of its peripheral syllables raised, due to the independent effects of the two flanking elements. This combines rightward raising with leftward raising. When the medial word has three syllables, it appears with H.L.H tone. When it has two syllables, as in *jòŋ* $\uparrow wó'y-ó\uparrow$ *dî* ‘that

(same) woman of theirs' from /pòŋ + H] [wòy-ò + H] [H + dì/, outputs are somewhat variable, but in theory the 'y-ò↑ syllable should be a downstepped H.

Readers are invited to practice converting my transcriptions into underlying forms that bring out the phonological and especially morphological structure. Examples are in (5).

(5)	transcription	underlying	gloss
	<i>hà:r-ò †kâ</i>	/hà:r-ò + H kâ/	'The man came.'
	<i>[hà:r-ó† dî] †kâ</i>	/hà:r-ò + H H + dî + H kâ/	'That (same) man came.'
	<i>hà:r-ò gâ 'bú:</i>	/hà:r-ò + H gâ bú: /	'the man who died'
	<i>ì †nám ††kâ</i>	/ì + H nàm + H kâ/	'I will come.'
	<i>á† = †† = †† 'kárú</i>	/à † † † kárú/	'She will hit him.'
	<i>wò† kâ</i>	/wò kâ/	'Come-2PI!'
	<i>hâns-éy† kûl</i>	/hâns-éy + H kûl/	'all the dogs'
	<i>hàŋ↓ kâ</i>	/hán kâ/	'(the day) when'
	<i>hâns-éy→ kóy</i>	/hâns-éy + H kóy/	'The dogs went.'

Above all, remember that the full arrows {† ↓} index changes in the phonological tone of at least one syllable, and this change is already indicated in the transcription. By contrast, the downstep and upstep diacritics do not alter the regular phonological tones, whose transcriptions are otherwise unaffected. It is not possible to automatically convert the transcriptions into complete underlying forms, even at word level. This is because floating H tones (notably after nominal/adjectival suffixes) have no audible effect when preceding an already H-toned morpheme, in which case there is no indication of their underlying presence in my transcriptions.

1.5 Literature review

Robert Nicolaï, the dean of Songhay scholars, undertook several weeks of survey work on Songhay dialects in Mali and Burkina Faso during the years in which he taught at what is now the university in Niamey, Republic of Niger.

His report (Nicolaï 1979) on "le songhay central" includes data from Hombori but also from the Marensé variety spoken in Burkina Faso. It therefore remains valuable for comparative Songhay. Most of the issues with his transcriptions involve tones; a short stay was nowhere near long enough to plumb the depths of the unique HS tone system, which I only sorted out after many months of fieldwork.

Nicolaï also made many tape recordings from Hombori and Marensé as part of a large compilation including many Songhay languages. This is potentially a valuable tape archive for future research.

1.6 Acknowledgements

The fieldwork on HS was done on the margins of fieldwork focused initially on the main riverine Songhay languages (KCh/DjCh and KS), and later on Tamashek and Dogon languages. The HS (and TSK) publications are therefore by-products of the following grants, along with periodic bridging support from the University of Michigan: NSF (National Science Foundation) BNS 9020409 “Timbuktu-Djenné Songhay” 1991-94, NEH (National Endowment for the Humanities) RT-21610-94 “Grammar/Text/Dictionary of Songhay” 1995-97, jointly funded NSF BCS-9816324 & NEH PA-23375 “Tamashek (Tuareg) language of Mali” 1999-2002, Fulbright Research grant (African Regional Program) 2000-01, NEH PA-50643 “Dogon languages of Mali” 2004-06, and NSF 0537435 and 0853364 “Dogon languages of Mali” 2006-2012.

Since 1989 I have made annual trips to Mali, minimally for 2-3 summer months, and on several occasions beginning in 1990 I found a week or two to work on HS. Under normal circumstances I would have finished the HS grammar and dictionary long ago. However, I ran into difficulties with the tonology whose resolution required a more substantial, unbroken period of time for follow-up fieldwork, and it was not until 2005 and 2006 that I found the time for this. The Linguistics Dept. of the Max Planck Institute for Evolutionary Anthropology (Bernard Comrie, Director) allowed me to work on the HS grammar in Leipzig for two months in 2001, joined for one month by my primary Hombori informant who came from Mali for the purpose. The final revision of the grammar, which required line by line, example by example rewriting, was done mainly in 2011 with some retouching in 2014. 2011 was also the year when, equipped (at long last) with a vehicle, I was able to survey and photograph most of the HS-speaking villages.

In Mali, most linguistic and applied linguistic research on Songhay languages has focused on KS (Songhay of Gao), which has been chosen as the standard for Songhay literacy programs. Nonetheless, I again acknowledge the assistance and support from the Songhay unit of the former DNAFLA (now mostly in the Institut de Langues), including Mssrs. Maiga, Haidara, and Touré. I also acknowledge the support of the staff of CNRST, specifically Mssrs. Guindo and Maiga.

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2 Sketch of Grammar

2.1 Basic Morphosyntactic Features

In some respects, HS fits into the broader typological profile of eastern Songhay. Some features of HS that are shared with several of the other languages are given in (6). **MAN** is the cover term for mood-aspect-negation morphemes.

- (6) Features shared with other Eastern Songhay languages
- a. constituent order S-MAN-O-V-X for canonical transitives that involve impact or creation ('hit', 'cut', 'make'); these are also referred to as **OV verbs**.
 - b. constituent order S-MAN-V-X (with O somewhere in X) for non-impact transitives ('see', 'obtain'); these are referred to as **VO verbs**; within the postverbal string (X), pronominals (including pronominal PP's) normally precede nonpronominal NPs and adverbs (arguably the pronominals are enclitics to the verb).
 - c. NP-internal order excluding pronominal possessors is: Possessor N Adj Num Dem, then 'all' and discourse-functional elements
 - d. adpositions postpositions after full NPs, except that 'with' is a preposition.
 - e. special 3Sg object (3SgO) suffix for VO verbs and for the 'with' preposition.
 - f. nonsubject NP or adverbial phrase is focalized by fronting.
 - g. clausal complements take the form of inflected indicative or subjunctive clauses, or infinitival VP's with no subject or MAN marking.
 - h. a range of serial verbs with infinitival VP complements.
 - i. MAN inflections are subjunctive, negative, and imperfective (in that linear order), allowing the sequences [subjunctive + negative] and [negative + imperfective], but not #[subjunctive + imperfective]; the combination [negative + imperfective] is expressed by a portmanteau.
 - j. the 'with' preposition is used in instrumental and comitive functions, and as an 'and' conjunction for NP's and adverbs, but is not used as a conjunction with VP's or clauses.
 - k. pronouns have distinct independent and clitic forms; the full independent 3Sg and 3Pl pronouns are also used, in logophoric function, in positions otherwise calling for third person clitics.
 - l. analytic reciprocals of the literal type "...with friend.
 - m. no pronominal subject agreement in the verb (except imperatives).
 - n. verbal valency-changing derivational suffixation (causative, passive).
 - o. nominal suffixation for definiteness and plurality, added (once) at the end of the core NP (maximally noun-adjective-numeral) but before a demonstrative or other late-NP element.

- p. all-purpose locative postposition, translatable in context variously as locative, allative, or ablative depending on verb semantics ('sit' versus 'arrive' versus 'depart'); directional nuances are specified by verbs.

The features of HS in (7) seem to be shared only with KS.

- (7) Features shared with Koyraboro Senni (Songhay of Gao)
- a. an intransitivizing verbal suffix in *-à* with L-toned stem, used both for unspecified-object and for (medio-)passive.
 - b. a clause-type consisting formally of (reconstructed) matrix verb **nàŋ* plus infinitival VP, used in perfect contexts, including counterfactual conditional antecedents.
 - c. use of the original definite suffix as a third person (in some cases just 3Sg) possessor suffix with kin terms (this is limited to a few kin terms in KS, but is widespread with kinship and body-part nouns in HS).

The features in (8) are more idiosyncratic, and in most cases they are unique to HS within eastern Songhay.

- (8) Idiosyncratic Features of HS
- a. a new singular-subject **imperative** with suffix *-ŋ* (arguably *-ŋ̄*).
 - b. two new pronominal possessor suffix paradigms, one for **alienable** nouns (with first or second person possessor) and one for **inalienable** nouns (with any possessor); the inalienable paradigm is closely related to an equally new pronominal suffix paradigm for postpositions.
 - c. the quasi-verb 'be', and certain imperfective particles, are supplented by alternative morphemes when a NP or adverb is extracted, i.e. focalized or relativized on; somewhat similar phenomena occur in TSK and KS but the details are different.
 - d. the original definite singular form of a noun (with definite singular suffix **-ǒ:* or allomorph) is now in many cases simply the (phrase-)**final** (and lexically basic) form of the noun, used in the absence of a following modifier, without regard to definiteness; for such nouns, the original unaffixed indefinite stem may survive as a **nonfinal** form used before a modifier, but some nouns have new nonfinal forms in *-u* that have been back-formed from final-singular (originally definite singular) *-o + H*; some nouns, by contrast, still use the original unaffixed stem in final as well as nonfinal position and make little or no use of a suffixed definite form.
 - e. the original locative postposition **la* or **ra* found in other Songhay languages is lost, replaced by extending the range of postposition *gà:* (originally 'on, against').

- f. relativization and focalization (i.e. the two extraction processes) of direct objects require a place-holding invariable 3Sg resumptive pronominal in the original object position; this applies both to VO and OV verbs.
- g. a new future particle *nàm + H*.
- h. a new 3Pl pronominal clitic *ɲoŋ* (with various tones).

2.2 Segmental phonology

HS has **five vowel qualities** (*i e a o u*). This is typical of Songhay, except for the varieties spoken on the southern flank of the language family (DjCh, TSK, and urban Dendi in central Benin), where seven-vowel systems occur.

The segmental phonology is very simple. There is no notable vowel harmony like that of TSK. Two diagnostic phonological features that place HS in Eastern Songhay are a) maintenance of the phonemic distinction between *z and *j (palatal stop), which merge as *j* in western Songhay; and b) a set of verbs of shape *Cá:* such as *bá:* ‘be numerous’, with monophthongal vowel, which correspond to diphthongal pronunciations in western Songhay (KCh *bow* < *báw).

Of particular comparative importance is that fact that HS preserves the original distinction between **short-voweled** *Cv and **long-voweled** *Cv: noun and verb stems, e.g. *bà* ‘want’ versus *bá:* ‘be many’. There are vestiges of this in TSK and in urban Dendi, but only HS seems to cleanly preserve the original vowel-length oppositions in monosyllabic stems.

2.3 Tonology

The driving force in HS phonology is its tonal system, which is exceptionally subtle and complex. The basic syllable-level tones are the simple tones H[igh], L[ow], and the contoured tone <HL>. By contrast, rising <LH> and bell-shaped <LHL>, known in nearby Tondi Songway Kiini and reconstructible for Proto-Eastern Songhay, do not occur in HS.

Verb, noun, and adjective stems are all subject to various tone rules, both word-internal and phrasal. The **word-internal** changes can be summarized in (9)

- (9) a. verbs:
1. Valency-changing derivational suffixes (such as causative and potential passive) impose a stem-wide tone melody, {H} or {L} depending on the suffix.
 2. Some verbs distinguish transitive from intransitive forms by tones.
 3. Special tone patterns for singular-subject imperative verbs point to a possible underlying <HL>-toned suffix /-ɲ̄/ that is often realized only by tonal changes (**Tonal Rhythm**, §3.9.4.1).
 4. The nasal in the suffix *-ńdù + H* ‘with’ syllabifies with a preceding vowel, which must be or become H-toned since a rising tone is not allowed.

b. nouns

1. Since a syllable containing final/definite singular *-o* ~ *-a*: or definite plural *-ey* **does not allow <HL> tone**, while the nonfinal form does allow it, there are some regular alternations such as H.L-toned final/definite singular *CVC-ò* versus H.<HL>-toned nonfinal *CVC-û*.
2. aside from tonally regular nouns with a lexical {H}, {L}, {HL}, or {LHL} melody, there are some tonally aberrant nouns whose nonfinal melody is distinct from their final/definite melody, the types being {H}/{L}, {HL}/{H}, and {HL}/{L} (§4.1.2.3-4).
4. the innovated alienable and inalienable pronominal-possessor paradigms have complex tonal patterns, most of which can be handled by Tonal Rhythm.

c. adjectives

1. The tonal relationships between nonfinal (NF) and final/definite singular (Fin/Def Sg), and between possessed and unpossessed, are generally like those for nouns.
2. In a noun-adjective sequence with both stems {L}-toned, the first syllable of the adjective becomes H-toned by Adjectival Tone-Raising (§3.9.4.2).
3. There is generally a related intransitive verb, often distinguished from the adjective by tone.

A few examples will have to suffice in this introductory section. For verbs: stem *gòrò* ‘sit’ showing the lexical {L} tone, imperative *gòró-ŋ* ‘sit down!’, causative *gór-éyndí* ‘cause to sit’; ‘look for’ is transitive *cè:cì* ‘look for (sth)’ or intransitive *cé:cí* ‘do a search’. For nouns: ‘dog’ (alienable) is final-singular *háns-ó + H* and (usually) nonfinal *hánsí*, and has possessed forms like *à háns-ò* ‘his/her dog’ and *háns-è* ‘my dog’. For adjectives: *bè:rì* ‘big’, tone-raised in *hàr ʔbé:r-ò* ‘old (or adult) man’, intransitive verb *bé:rí* ‘be big, grow up’.

Further tonal processes occur when **words are combined** into phrases. Some words are followed by a **floating H-tone** that is usually realized as H-tone on the first syllable of the following word. A handful of grammatical morphemes have a similar preceding floating H-tone. Most other interword tonal processes involve left-to-right migration of tones. Very often a word-final <HL> syllable is realized as H-tone plus **delinked L-tone**, which in turn is realized as **downstep** on the following word (§3.9.5.9). For the transcriptional conventions used to indicate tonal modifications, see §1.4 above. For detailed coverage see §3.9 and references there to the relevant morphosyntax chapters.

3 Phonology

3.1 Consonants

The consonants, with marginal ones in parentheses and with IPA equivalents in square brackets, are the following. Superscripted ⁿ rather than tilde indicates nasalization

(10) Consonant phonemes

labial	alveolar	(alveo-)palatal	velar	laryngeal
<i>(p)</i>	<i>t</i>	<i>c</i>	<i>k</i>	
<i>b</i>	<i>d</i>	<i>j</i> = [j]	<i>g</i>	
<i>f</i>	<i>s</i>			
	<i>z</i>			
<i>m</i>	<i>n</i>	<i>ɲ</i>	<i>ŋ</i>	
		<i>(yⁿ)</i>	<i>(wⁿ)</i>	
	<i>l</i>			
	<i>r</i> = [r] (tap)			
<i>w</i>		<i>y</i> = [j]		
				<i>h, (?)</i>

There are many borrowings from Fulfulde. This language has a series of stops that are traditionally written as **implosives** {*b d f g*}, but in the local dialect they are generally **preglottalized**. Non-Fulbe often pronounce them as simple voiced stops {*b d j g*} when speaking L2 Fulfulde, for example in weekly markets or when interacting with Fulbe herders or milk-sellers. Such voiced stops typically occur in borrowings into HS. However, since many HS speakers also speak native-like Fulfulde, they sometimes pronounce these consonants as preglottalized voiced stops.

Of interest is the absence of phonemic **alveopalatal sibilants** *š* = [ʃ] and of *ž* = [ʒ]. Such sibilants are more common in KS. Even in the French spoken by students in Hombori there is usually no distinction between e.g. *casser* and *cacher*.

The status of certain consonants in native Songhay vocabulary is discussed in subsections below.

3.1.1 Velar {*k g ŋ*} versus palatal {*c j ɲ*} before front vowels

It is unclear whether, before an original front vowel *{*i e*}, Proto-Eastern Songhay phonemically distinguished velar stops, phonetic *{[k g]}, from palatal stops *{[c j]} or even palatoalveolar affricates *{[tʃ ɟʃ]}. In HS there is considerable dialectal variation and speaker-internal fluctuation between phonetic [ki] and [ci], [gi] and [ji], and [ɲi] and [ɲi]. Likewise before *e* instead of *i*. Some speakers consistently use a (front) velar articulation with little affrication, others have a more palatal

articulation with noticeable affrication on the release. A further complication is in quasi-reduplicative words like *gígírí* ‘shiver’, where the palatal version is heard as [jígírí] with only the first syllable affected. See §3.6.4 on palatalization as a synchronic process.

In earlier drafts, my practical, more or less phonemic transcription oscillated between writing the palatal variants as k^y and g^y or as c and j (with or without *háček* diacritics). Given the dialectal variation between palatal and velar, the transcription with superscripted y on velar symbols had the advantage of facilitating dictionary navigation, provided that the superscript was disregarded in alphabetical ordering. However, I have ended up using c and j (without diacritic), as in *jígírí* and *cè:cì*. I do, however, alphabetize *ki* and *gi* as though *ci* and *ji* in the dictionary.

Velars and palatals are clearly distinct phonemes before low and back vowels {*a o u*} and word-finally.

3.1.2 Labial stop *p*

p occurs in loans from Fulfulde and French, among other languages, e.g. *páttì!* ‘nonsense!’ (<Fulfulde) and *pòsóŋ-ò* (and variants) ‘poison’ (<French). Some items are of unknown etymology. In cases like the verb *sóptê* ‘(re-)plaster (walls)’ (<Fulfulde), we could write either *pt* or *bt* as there is no opposition between *b* and *p* before voiceless stops (there is also an assimilated variant *sóttê*).

3.1.3 Nasalized semivowels w^n and y^n

w^n (nasalized *w*) patterns as a marginal allophone of η . The latter occurs in various positions: *ŋà:* ‘eat’, *bàŋà* ‘hippo’, *bâŋ* ‘need (new) clothes’. For more on η see §3.4.2, below.

The three stems in (11) undergo irregular vocalic as well as consonantal changes before possessor suffixes. The stem vowel is raised from *o* to *u*, and this is followed by $w^n \sim \eta$ before back vowels {*o a*} and by $w^n \sim \eta \sim j$ (with *j* favored) before front vowel *e*. On velar/palatal alternations see §3.1.1.

(11) Cases of w^n

gloss	stem	before back V	before front V
‘head’	<i>bòŋ</i>	<i>bùwⁿ-ò + H</i> ~ <i>bùŋ-ò + H</i> (‘his/her’)	
		<i>bùwⁿ-àŋ + H</i> ~ <i>bùŋ-àŋ + H</i> (‘your-Sg’)	
			<i>bùŋ-èy + H</i> ~ <i>bùŋ-èy + H</i>
			~ <i>bùwⁿ-èy + H</i> (‘my’)
‘eye’	<i>mò:</i>	<i>mùwⁿ-ò + H</i> (‘his/her’)	
		<i>mùwⁿ-àŋ + H</i> (‘your-Sg’)	
			<i>mùŋ-èy + H</i> ~ <i>mùwⁿ-èy + H</i> (‘my’)

‘rice’ *mò:* *mùwⁿ-ó-nòŋ* (‘your-Sg’)
mùŋ-ê (‘my’)

There are two parallel cases where the stem-vowel (before suffixes) is *i* (raised from *e*), and where the presuffixal consonant is *yⁿ* (i.e. nasalized *y*) alternating with or *ɲ* before a vowel (12).

(12) Cases of *yⁿ*

gloss	stem	before back V	before front V
‘mouth’	<i>mê</i>	<i>míyⁿ-ó ~ míɲ-ó</i> (‘his/her’) <i>míyⁿ-âŋ ~ míɲ-âŋ</i> (‘your-Sg’) <i>míyⁿ-êy ~ míɲ-êy</i> (‘my’)	
‘tooth’	<i>hè:ⁿ</i>	<i>hìyⁿ-ò ~ hìɲ-ò</i> (‘his/her’) <i>hìyⁿ-àŋ + H ~ hìɲ-àŋ + H</i> (‘your-Sg’) <i>hìyⁿ-èy + H ~ hìɲ-èy + H</i> (‘my’)	

The stems in (11) and (12) are inalienable nouns, except for ‘rice’ in (11). ‘Rice’ is only occasionally possessed, and its possessed forms may have been influenced by those of the partial homonym ‘eye’.

It is difficult to determine whether the cases of *wⁿ* and of *yⁿ* are conditioned phonologically or whether they are (also) lexically specific. If the conditioning is purely phonological, the lenition of /ŋ/ to *wⁿ* and of /ɲ/ to *yⁿ* requires very precise environments: /ŋ/ in /uŋo/ and /uŋa/ optionally lenites to *wⁿ*, and /ɲ/ in /iŋo/ and /iŋa/ optionally lenites to *yⁿ*. The lenition does not occur between *o*-vowels, as in *zòŋ-ò + H* ‘jackal’, or between *e*-vowels, as in *tèŋè ~ tèɲè* ‘forehead’.

Even to the extent that a purely phonological conditioning is possible, the strong association of this lenition with a handful of high-frequency inalienable nouns is suspicious. Moreover, these stems show other irregularities in their presuffixal forms, including the raising of mid-height vowels to high, and a shift in some cases from *Cv(:)* to presuffixal *CvC-*.

ɲâ ‘mother’ has a 3Sg possessed form *ɲó:* ‘his/her mother’ rather than #*ɲáŋ-ó* or the like, as might have been expected with regular phonology. Comparison with plural *ɲáw-éy ~ ɲów-éy* ‘mothers’ (note the *w*) suggests an earlier 3Sg **ɲáw-ó* (via intermediate **ɲów-ó*), but it has contracted for most speakers to *ɲó:* (phonetic [ɲó:]) and is now structurally opaque. KS has *ɲaŋ-oo* (dialectally also *ɲoŋ-oo*) ‘his/her mother’.

Lenition of original **ŋ* to *wⁿ* or *yⁿ* is fairly common in TSK, where it applies in a number of environments. TSK is subject to Dogon influence, unlike HS; *wⁿ* and *yⁿ* are common in Dogon languages.

3.1.4 Glottal stop ʔ

Of marginal phonemic status, the glottal stop occurs at the beginning of otherwise V-initial stems like *ʔánzúrê* ‘in-law’, *ʔàn-dâ:m-ò + H* ‘chameleon’ and *ʔizê* ‘child’. The glottal stop can be heard after a consonant as well as after a vowel. However, as compound final *ʔizê* often loses its glottal and vowels contract across the boundary: *bìnn-ì:zê* ‘accursed one’ from *bínní* ‘curse’.

Some of the most clearly native Songhay instances are the few beginning in *ʔi*, which also include *ʔísâ* ‘river’, *ʔíbérê* ‘enemy’, the numerals *ʔiddû* ‘6’ and *ʔi:yê* ‘7’, and adjectives beginning with absolute prefix allomorph *ʔi- + H* (§4.6.3). There is also a core of native Songhay elements beginning in *ʔa*, such as 1Sg independent pronoun *ʔây*, 3FullSg pronoun *ʔáŋgâ*, and two quantifiers (‘all’ and ‘1’) with absolute allomorph *ʔà-* (§4.7.1). There are plenty of other nouns beginning with *ʔa*. Most are borrowings from Arabic (though usually filtered through Fulfulde) or less often Tamashek. Some other *ʔa*-initial nouns are ethnobiological terms like the aforementioned *ʔàn-dâ:m-ò + H* ‘chameleon’ that begin with a marginally segmentable *ʔan-* (perhaps an old noun-class prefix, also found here and there in other languages of the region, including Dogon). In any event, all of the stems mentioned (except sometimes the 1Sg pronoun) have a clearly audible glottal stop phrase-internally, as in *á↑=ŋ ʔàn-dâ:m-ò báy* ‘he/she knows the chameleon’. The same treatment applies to the handful of loanwords (from Fulfulde) beginning in *ʔ* plus another vowel: *ʔéndê* ‘aim at’, *ʔó:ldê* ‘be yellow’, *ʔú:l-ò* ‘leguminous herb sp., *Senna (=Cassia) obtusifolia*’.

There are no cases of stem-internal glottal stop, except in unassimilated pronunciations of foreign (mostly Fulfulde) words, e.g. *sùʔúllâ* alongside the more common *sùgúllâ* ‘worry [noun]’.

The simple 3Sg clitic morpheme *à* (in some contexts lengthened to *à:*), and 1Sg subject clitic *ì*, do not allow glottal stop. They therefore undergo phonological interactions with the preceding morpheme in a way not possible with glottal-initial morphemes. See, for example, the combinations of 1Sg *ì* and 3Sg *à* with preceding topic marker *kèy + H* in §8.4.3.

3.2 Oral vowels

HS has a 5-vowel system, doubled to 10 if long vowels are counted, plus a few nasalized vowels (§3.4.1). The basic **5x2 system** is shared with the riverine western and eastern Songhay languages (KCh, KS, Songhay-Kaado, Zarma, and riverine Dendi). The northern Songhay languages also have a basic 5-vowel system, but it is supplemented by Tuareg-style short *ǎ* and schwa. By contrast, there is a belt of southern Songhay languages/dialects with 7 vowel qualities (DjCh, TSK, and the urban pockets of Dendi in Benin). The historical situation is not entirely clear, but the most southerly Songhay languages have been in contact with languages that have seven vowel qualities. The HS oral vowels are in (13).

(13) HS oral vowels

short	<i>i</i>	<i>e</i>	<i>a</i>	<i>o</i>	<i>u</i>
long	<i>i:</i>	<i>e:</i>	<i>a:</i>	<i>o:</i>	<i>u:</i>

The unmarked articulation of mid-height vowels is open [ɛ] and [ɔ] rather than closed [e] and [o]. The open allophones are heard most clearly in prepausal position, and in words like *bò:s-ò* [bò:sò] ‘tamarind’ with two or more mid-height vowels in consecutive syllables. These vowels have distinctly closed allophones when adjacent to high glides and in upgliding diphthongs, hence *béy* [béj] ‘know’, *hèw* [hèw] ‘wind’, *kóy* [kój] ‘go’, and *wôw* [wôw] ‘insult [tr]’. The allophonic variation is therefore dramatic in adjectival alternations like indefinite *ʔi-ʔkó:g-òw* [ʔikó:gòw] versus definite *ʔi-ʔkó:g-ò* [ʔikó:gò] ‘dry’. In spite of the phonetic variation, there is no indication that the mid-height vowels are splitting into closed and open phonemes.

3.3 Diphthongs

3.3.1 Short-nucleus diphthongs

The attested diphthongs with short vowel as nucleus are those in (14).

(14) Short-nucleus diphthongs

—	<i>ey</i>	<i>ay</i>	<i>oy</i>	<i>uy</i>
<i>iw</i>	<i>ew</i>	<i>aw</i>	<i>ow</i>	—

In KS and KCh, *ey* and *ay* are allophones of a single diphthongal “phoneme,” as are *aw* and *ow*. The *a*-variant occurs after *h* and morpheme-initially, while the other (more homorganic) variant occurs after consonants other than *h*. In HS, this analysis does not work since *ey* and *ay* are distinct, as are *aw* versus *ow*. The opposition is especially clear after *h* (see examples below) but also occurs in a few other cases.

After *y* or a palatal {*c j n*} it is difficult to distinguish *ow* from *ew*. That is, a mid-height vowel is torn between the palatal (or palatoalveolar) position of the preceding consonant and the back rounded position of the following semivowel. For my main informant no consistent oppositions exist in this position, hence *céw* ~ *ców* ‘study, read’, *jèw* ~ *jòw* ‘thirst’, *yòw* ‘stranger, guest’. However, some other speakers have *céw* and *jèw* with more consistent *e* nucleus, versus *yòw* with *o*, indicating an opposition. For ‘show’ I have recorded both *cèwrù* and *còwrù*. Even for speakers who tend to pronounce the nucleus as [o], the fact that preceding stops are usually pronounced as palatals rather than velars might be used as an indirect clue that the nucleus is phonemically /e/.

After *w* there is likewise no consistent contrast between *ey* and *oy*. Again, the mid-height vowel is pulled in opposite directions by the flanking consonants. An example is *wèyn-ò + H* ~ *wòyn-ò + H* ~ *ηòyn-ò + H* ‘sun’ etymologically something like **η^wóynè* (TSK *wⁿóynè*, Zarma *wáynò*). The transcriptional variation reflects a range of pronunciations, including those intermediate between *wey* and *woy*. However, the nominal plural suffix *-ey* is always pronounced with *e* rather than *o*, even in the contracted form *w-êy* ‘these’ (plural of demonstrative *wò*), which is therefore distinguishable segmentally as well as tonally from *wòy* ‘woman’ and *wóy* ‘10’.

A nonexhaustive list of stems illustrating all the attested diphthongs follows.

ey: *béy* ‘know’, *déy* ‘buy’, *sèy* ‘scatter’, *hèyn-ò + H* ‘millet’, *hèyl-ò + H* ‘cat’, *hèrêy* ‘be hungry’, also all definite plural forms of nouns (*háns-éy + H* ‘the dogs’), and 1Sg possessed forms of inalienable nouns (*bà:b-èy + H* ‘my father’).

ay: 1Sg independent pronoun *?ây*, *cáyk-ò + H* ‘balanzan tree’, *dây-ò + H* ‘well [noun]’, *háy* ‘give birth’, *hây* ‘(space) be wide open’, intensifying particle *láy!*, *láyn-ò + H* ‘vine sp. (*Ipomoea*)’, particle *sábáy!* (in greetings).

oy: *bòy* ‘(finger-)nail’, *góy* ‘work’, *hòy-ò + H* ‘green sauce’, *kóy* ‘go’, intensifier *lóy!* (denoting clean-shaven scalp), *sòy-ò + H* ‘tree snake’, *sóy-là:l-à: + H* ‘grass sp. (*Dactyloctenium*)’, *dòy-tàs-ò + H* (and variants) ‘sand’.

uy: *dúybê* ‘go seek one’s fortune’ (<Fulfulde), *húy* ‘shoo! (to a cow)’, no other examples.

iw: *fíw* ‘phooey!’ (indicates distrust), no other examples.

ew: *féw* ‘explode’, *hèw-ò + H* ‘wind [noun]’, *léwngâl* ‘light’ (<Fulfulde), *léwr-ò + H* ‘large sore’.

aw: *bàw* ‘monitor lizard’, *dáwrí* ‘jump over’, *gâw* ‘toothache’, *gàwl-ò + H* ‘wild date’, *háw-ó + H* ‘cow’, *háw* ‘tie’.

ow: *bów* ‘break’ (**bágú*), *dów* ‘uproot’ (**dógú*), *dìnòw* ‘forget’.

The most common diphthongs are those whose nucleus is open *a* or a mid-height vowel (especially one that shares front/back and rounding features with the final semivowel). Nonhomorganic *ew* and *oy* are moderately common, while *iw* and *uy* are rare.

TSK is better than HS in maintaining oppositions among diphthongs, even in syllables beginning with *y* or *w*.

3.3.2 Long-nucleus diphthongs

The nucleus in *Cv:y/w* stems is always *a*. The cases known to me are these:

a:y: *gâ:y* ‘stand up, stop’, *hâ:y* ‘spend the mid-day’ (KS *hoy*), *?íbâ:y* ‘desire [noun]’, *mâ:y* ‘be out of sight’, *tá:y* ‘get wet’, *wâ:y* ‘milk [verb]’.

a:w: *hâ:w* ‘be ashamed’.

The nucleus is not shortened in syllable-final position as in KS, hence HS *à hâ:w* ‘he/she was ashamed’ (=KS *a haw*).

3.4 Nasalized vowels and word-final nasal consonants

3.4.1 Nasalized vowels

The nasalized vowel phonemes recognized are those in (15).

(15) HS nasalized vowels

short	—	e^n	a^n	o^n	—
long	$i:^n$	$e:^n$	$a:^n$	$o:^n$	$u:^n$

Underlying nasalized vowels are recognized only in the following morphemes: with **short vowel** $céhê^n$ ‘be in a hurry’ (causative $céh-éyndí$ ‘accelerate’, not e.g. # $céhé\eta-éyndí$), $hé^n$ ‘be worthless’, $sáhâ^n$ ‘be strong’; with **long vowel** $fî:^n$ ‘blow nose’ (onomatopoeic), $há:^n$ ‘ask (inquire)’, $hé:^n$ ‘weep’ (nominal $hé:n-í$ ‘weeping’), $hè:^n$ ‘tooth’ (nonfinal form), $hó:^n$ ‘here, take this!’ (imperative), and $fú:^n$ ‘fart’ (onomatopoeic). In all cases the nasalized vowel is stem-final and is preceded by h or f . For ‘today’, both $hò\eta$ and $hò^n$ have been heard (cf. TSK $hò\eta$, Zarma $hò^n$).

There are other cases of surface nasalized vowels due to optional low-level lenitions of syllable-final η before a fricative, sibilant, or laryngeal in sequences like $á\hat{=}=\eta=\eta$ ‘ $fí:sí$ ’, which is often heard as $[á^nfi:sí]$ ‘he/she swept it’. This suggests that cases like phonetic $[kú^nfi]$ ‘be worried’ with stem-internal nasalized vowel plus one of these conditioning consonants, could be phonemicized as having nasal-initial clusters. I will transcribe them accordingly, e.g. $kúnfî$, but there is no direct empirical evidence against phonemic representations like $kú^nfi$.

3.4.2 Syllable-final nasal consonants

Stem- or word-finally there is an opposition between n , η , and a few cases of (consistently) nasalized vowel: $bà:n$ ‘be soft’, $bâ\eta$ ‘be in need of (new) clothes’, and $há:^n$ ‘ask’. However, there is a tendency toward nasal lenition in this position. n tends to merge with η , which in turn tends to dissolve (prepausally and before a fricative, sibilant, or laryngeal) into vocalic nasalization. We can view this as an in-progress chain shift of e.g. $an > a\eta > a^n$.

There is substantial variation, some speakers clearly distinguishing e.g. an , $a\eta$, and a^n , while others allow coalescence at least in normal allegro speech. In most cases where a V-initial suffix is added, the “true” form of the nasal consonant (usually n) is obligatory. Examples: verb $dên \sim dê\eta$ ‘forge (metal)’, cf. $dên-à$ ‘be forged’ and noun $déná:$ ‘forge’ with invariant n , likewise verb $bà:n$ ‘be soft’ (pronounced $[bà:n] \sim [bà:^n]$), adjective $?i-\hat{=}bá:n-ò$ ‘soft’.

Before a stop, affricate, or nasal, stem-final η (and to a lesser extent n) is subject to point-of-articulation assimilation.

Final m is usually more resistant to merger with η , but the subjunctive morpheme $m̂$ is now pronounced $\hat{\eta}$ by many speakers (except in the sequence $m̂ = à:$ with 3Sg

object morpheme). The verb ‘put (somewhere)’, which ends in *m* or *ŋ* in different Songhay languages, is usually *dàm* but was recorded as *dàŋ* for some speakers.

I know of no case of stem- or word-final *ɲ*.

3.5 Syllabification

3.5.1 General restrictions on particular consonants

For *p* see §3.1.2. For nasalized semivowels *wⁿ* and *yⁿ* see §3.1.3. For glottal stop *ʔ* see §3.1.4.

For most consonants, word-initial and intervocalic position are equally comfortable. However, tap *r*, IPA [ɾ], is not common in initial position; for aerodynamic reasons it is more at home in intervocalic position. There are, however, a number of borrowings from Fulfulde and French that give HS a few more *r*-initial stems than some other Songhay languages, e.g. *rádê* or (with Fulfulde “implosive” stop) *rádê* ‘tie (calf) to its mother’, *ráyê* ‘have a nightmare, speak in one’s sleep’, *râjô*: (and variants) ‘radio’.

The consonants that readily occur in word-final position after a vowel are sonorants other than *ɲ* and *r*, hence {*m n ŋ l w y*}. There are many stems ending in *VrV* with identical vowels, or in *Vru* with unlike vowels, and it is likely that some of these derive from *r*-final stems, the tap requiring an **echo-vowel** or epenthetic vowel for aerodynamic reasons. Examples are *zùrù* ‘run’ (cf. KCh *jur*) and *káru* ‘hit’ (cf. KCh = KS *kar*). In nouns and noun-like stems like *bôr-ò + H* ‘person’ (nonfinal form *bôr*), and reciprocal *cêrê*, the echo-vowel is dropped in phrase-medial position before a consonant, hence *bór* ‘*fó*: ‘one person’ and dative *cêr sê* ‘for each other’. There are also a handful of *r*-final stems like the native *hâr* ‘man’ and the Arabic borrowing *ʔaddâhâ:r* ‘banquet, feast’. There are no *r*-final pronominal forms (HS 1Pl clitic *yò* and 2Pl clitic *wò* lack a final *r*, contrast e.g. KS 1Pl *ir* and 2Pl *war*). Some other Songhay languages show echo-vowel patterns similar to that of HS, and it is premature to suggest how HS fits into the larger historical pattern.

Voiceless stops and *r* (as well as the sonorants listed above), may occur finally in interjection-like **intensifiers** (§9.2) such as *rók!* ‘hot (spicy)’, *búp!* ‘fall down’, *sút!* ‘be quiet’, *túk!* ‘die’, and *fâr!* ‘know’. I know of no interjection with final *ɲ* (an accidental gap, or a principled one?). There are no cases of final *h*.

In syllable-final position inside a stem, disregarding geminate clusters, the common consonants are the sonorants except *ɲ*, hence {*m n ŋ l r w y*}. Note that *r* is possible here though it has a very restricted occurrence in word-final position; examples are *márjí* ‘assemble’ and *wárgá* ‘become fat’. As first member of clusters, *ŋ* assimilates to the point of articulation of a following consonant, so within a stem it could be analysed as an archiphoneme (underspecified nasal).

3.5.2 Syllabic shapes of pronouns and grammatical morphemes

Since short-voweled *Cv* is a valid shape for HS noun and verb stems (see §3.5.3 just below), there is no major difference between the allowed canonical shapes for pronouns and other grammatical morphemes on the one hand, and lexical stems such as nouns and verbs on the other.

Grammatical morphemes are often of *Cv* shape, e.g. dative postposition *sê* and 1Pl clitic *yò + H*. There are some grammatical morphemes of the shape *V*, e.g. 3Sg clitic *â* (lengthened in some positions to *â:*), 1SgS clitic *ì + H*, and (with initial glottal) the absolute morpheme used with adjectives and some numerals (variably *?â- ~ ?ì- + H*). Other syllabic shapes are illustrated by the 1Sg independent pronoun *?ây*, instrumental (quasi-)preposition *ńdù + H*, locative postposition *gà:*, and future *nàm + H*.

3.5.3 Syllabic shapes of monosyllabic stems

Monosyllabic stems may be of the syllabic shape *Cv*, *Cv:*, *CvC*, or *Cv:C*. The initial *C* may be omitted. HS is unique among Songhay languages in clearly preserving a contrast of original **Cv* versus **Cv:* stems, which have elsewhere merged, usually as *Cv:*. Vestiges of the **Cv* shape occur in TSK, but only in *nê* ‘say’, two quasi-verbs, and a few serial verbs that have fused to infinitival morpheme *ká* (cognate to HS infinitival *kù + H*). One nonriverine Dendi dialect (city of Djougou) has merged all **Cv* and **Cv:* verbs that have simple H or L tones into a *Cv* shape, versus *Cv:* for those with contoured tones (<LH> or <HL>); length in these stems is therefore predictable from tone contours. In Zarma and Kaado, verbs that appear in published dictionaries in “*Cv*” form are (I strongly suspect) pronounced as [*Cv:*], there being no opposition between *Cv* and *Cv:* stems. To my knowledge, only HS preserves intact the original system of length oppositions in monosyllable noun and verb stems.

Cv verbs with short vowel are: *bà* ‘want’, *bî* ‘get dark at night’, *cì ~ kî* ‘speak, gossip’, *dù* ‘get, find’, *fê* ‘proclaim’, *kà* ‘come’, *nê* ‘say’, *tà* ‘accept’, *tê* ‘happen, occur’, *tè* ‘become (adverb)’, *tê* ‘come!’ (suppletive, in singular imperatives), *yê* ‘return’ (and related serial-verb *yô* ‘repeat, do again’), and *zà* ‘take’. Of these, *nê* requires independent subject pronominals (e.g. 1Sg *?ây*) rather than the usual subject proclitics (e.g. 1Sg *ì + H*); this is also true of *héⁿ* ‘be worthless’ (§3.4.1). For the quotative verbs *cì ~ kî* and *nê*, see §6.1.9. The difference between H and <HL> tone on these *Cv* verbs is audible in isolation, and those with <HL>-tone (*bî*, *fê*, *nê*, *tê*, *yê*) induce downstep on a following word that begins with a H-tone (§3.9.5.9), like *nón-dì* ‘there’, while *héⁿ* with H tone does not. There is interspeaker variation as to the presence of the final nasal in *dîn ~ dî* ‘catch fire, be lit’ and (with different tones) in *dîn ~ dî* ‘catch’.

Short-voweled *Cv* nouns are: *cé* ‘time(s), instance(s)’ (used only with a following quantifier), *hû* ‘house’, *mê* ‘mouth’, and *jà* ‘mother’. The other *Cv* stems are interrogative *fô* ‘which?’ (§8.2.2.5) and a noun-like morpheme *mè* used in spatiotemporal interrogatives (§8.2.3.3).

Cv: verbs with long vowel are: *bá*: ‘be abundant’, *bí*: ‘spin (cotton string)’, *bú*: ‘die’, *cé*: ‘call, summon’, *dí*: ‘see’, *fò*: ‘greet’, (quasi-verb) *H + gò*: ‘be (somewhere)’, *hé*:ⁿ ‘weep’, *hí*: ~ *hĩ*: ‘lend’ (borrowed from KS), *hó*: ‘hunt’, *kà*: ‘take away, remove’, *kú*: ‘be long, tall’, *má*: ‘hear’ (VO verb), *má*: ‘(rains) be sufficient’, *nó*: ‘give’, *ṅà*: ‘eat’, (quasi-verb) *sí*: ‘not be’, *sí*: ‘test’, *tá*: ‘sew’, *té*: ‘make, do’, *tó*: ‘arrive’, *wá*: ‘defecate’, *wí*: ‘kill’, *zé*: ‘swear an oath’, *zí*: ‘swim’, and *zú*: ‘sip’.

Cv: nouns are *bà*: ‘share, portion’, *bè*: ‘borassus palm’, *bì*: ‘shadow’, *bì*: ‘wound’, *bì*: ‘yesterday’, *cè*: ‘foot’, *dù*: ‘chaff’, *gá*: ‘body’, *gà*: ~ *gá*: ‘temporary campground’ (uncommon word), *hì*: ‘boat’, *hì*: ‘rheumatism’, *hù*: ‘blister beetle’, *jí*: ‘butter, oil’, *kù*: ‘baobab tree’, *kù*: ‘yam’, *kú*: ‘length, tallness’, *má*: ‘name’, *mò*: ‘eye’, *mò*: ‘rice’, *tù*: ‘wooden bowl’, and *zú*: ‘ribbon, strip’. Many of these stems occur more often in bisyllabic final/definite forms, e.g. *bìy-ò + H* ‘shadow’. To these may be added the numerals *fó*: ‘1’ and *gú*: ‘5’, the adverb *nè*: ‘here’, and the particle *zá*: ‘since’. For the few cases of *Cv*:ⁿ with nasalized vowel, see §3.4.1.

CvC with final sonorant is common in verbs and nouns. Among dozens of examples are *bòṅ* ‘head’ and *bén* ‘end (verb)’. For intensifiers with other final consonants see §9.2.

Cv:C with final sonorant is a stable stem-shape in HS (unlike KS, where underlying *Cv:C* shortens to *CvC* except when resyllabified before a V-initial suffix). The stems with long diphthongs (*a:y*, *a:w*) were listed in §3.3.2. There are also several verbs ending in *n*. These are *bà:n* ‘be soft’, *dò:n* ‘sing’, *dò:n* ‘be lightweight’, *gá:n* ‘dance’, *ká:n* ‘be sweet’, *kò:n* ‘bare, empty’, *ṅá:n* ‘be knowledgeable about’, and *zé:n* ‘get old’. For some speakers the *n* is realized as vocalic nasalization prepausally or before fricatives, sibilants, and *h*: [*bà:ⁿ*], etc. However, even for these speakers the nasal consonant is always audible before a V-initial suffix or before a nasal or obstruent: *?i-âbá:n-òw* ‘a soft one’, *â^t bà:n nè*: ‘it became soft here’. I know of no noun for which *Cv:C* is the appropriate lexical representation. Comparative evidence shows that the *Cv:n* verbs just mentioned have probably all contracted from **Cv:ni* or **Cv:nu*; for the fate of original **Cv:n* stems see §3.10.4.

3.5.4 Syllabic shapes of nonmonosyllabic stems and words

Longer stems and words are built up from *Cv*, *Cv:*, and *CvC* (rarely *Cv:C*) syllables. If the initial glottal stop *ʔ* is considered to be nonlexical, we could add cases like *ʔálfâ* ‘marabout’ that could be considered to begin with a V-initial syllable. There are no cases of word-internal vocalic hiatus of the sort common in TSK.

ʔaddáhâ:r ‘banquet, feast’ (<Arabic) is a rare example of a stem of more than one syllable with a final superheavy *Cv:C* syllable. The common Arabic exclamation ‘God is great!’ is pronounced in HS with a final short or long *a(:)*, as *ʔállâ:wkùbâ(:)r*.

For initial *CCv* instead of *Cv*, see §3.5.8.

3.5.5 Final long vowels in nonmonosyllabic stems

Excluding monosyllables, final long vowels are fairly uncommon in HS stems. The most common cases with final long vowels are final/definite singular forms in *-à:*, with nouns whose nonfinal form ends in *a* or *ow*, as in *ʔálf-à: +H* ‘marabout’. The other final/definite singular allomorph *-o +H* (tone lexically variable) is short, but the singular demonstrative suffix (§4.4.1) is *-ô:* with long vowel, hence *háns-ó +H* ‘(the) dog’ but *háns-ô:* ‘this dog’.

The noun *ʔizê* ‘child’ has the following possessed forms (interpreted as kin terms): *ʔíz-ó: +H* ‘his/her child’, *ɲòŋ ʔíz-ò:* ‘their child’, *ʔíz-ò:-nòŋ* ‘your-Sg child’, *ʔíz-è:* ‘my child’. Note the long suffixal vowels and the initial H-tones. This paradigm is a **mix of inalienable (third person) and alienable (1st/2nd person)** possessive affixes. Nouns that have a final/definite singular form in *-à: +H* also take long-V possessive suffixes (final/definite singular *ʔálf-à:*, nonfinal *ʔálfâ* ‘marabout’, possessed *ʔálf-è:* ‘my ...’). Alienable nouns with final/definite singular *-o +H* and inalienables with third person possessor suffix *-o*, with the exception of *ʔizê*, have short vowels in possessive suffixes (inalienable *bà:b-ò +H* ‘his/her father’, alienable *háns-è* ‘my dog’).

Even in (frozen) iterations whose first part ends in a long vowel, the second part has a short vowel in the unsuffixed nonfinal form: *fúnà:-fúnâ* ‘bush sp.’, *búlà:-búlâ* ‘water lily fruit’. There are many nouns borrowed from Arabic or Tamashek that have final short (not long) *a* in the unsuffixed nonfinal form (which in many cases is also used as the nonfinal form). Examples: *ʔàbájáddâ* ‘alphabet’ (<Arabic), *ʔáddâ* ‘machete’ (<Tamashek), *ʔájâ* ‘waterbag in well’ (<Tamashek), *ʔámá:nâ* ‘(sacred) agreement’ (<Arabic), *wúrâ* ‘gold’ (<Tamashek).

In a few borrowed nouns it appears that a *w* has been added at the end to avoid a final long vowel. Possible examples are *bálá:w-ò +H* ‘scourge, disaster’ (<Arabic), *dàbá:w-ò +H* ‘type of hoe’ (regional word), *fídá:w-ò +H* ‘blessing rite for deceased’ (<Arabic).

In compounds, if the second element is a *Cv:* noun it retains its length: *bé:né-hí:* ‘airplane’ (“sky-vehicle”). This does not apply to the frozen compound *cìrò:-bìyâ* ‘guinea-fowl’ (originally “bird-black-Dimin,” more transparently so in other Songhay languages), whose nonfinal form is either *cìrò:-bìyâ* or *cìrò:-bî*.

The few nonborrowed, uncompounded nouns I know of that always have a final long vowel, even in nonfinal forms (i.e. before a numeral or adjective), are these: *déná:* ‘forge’ (*déná: fó:* ‘one forge’), *cérá:* ‘flank (at ribs)’, the archaic noun *cé:rà:* ‘small hatchet’. Perhaps *bá:y-à: +H* ‘nothing’ belongs here, but I interpret it as ending in final/definite singular *-à: +H* (it cannot be modified or possessed so the morphology is opaque). There is an interjection *ʔàyyô:* ‘yes!’.

A few borrowed nouns have come in with a final long vowel. These are *ʔàddúhá:* ‘late morning’ (<Arabic), *ʔàtté:* ‘tea’ (<dialectal Arabic), *bâtô:* ‘large boat, steamer’ (<French), and *bîrô:* ‘office’ (<French), and perhaps a few other recent French loans. However, French *cahier* has come in as *káyyé* ‘notebook’ with short *é*. There is a clause-initial particle *ʔàmmá:* ‘however, ...’, ultimately from Arabic.

The long-V nouns, unlike short-V nouns, preserve their final vowel when a possessive suffix is added. This applies to native and borrowed nouns. *-y-* is inserted

as an epenthetic consonant (§3.7.1.9), hence *déná:-y-è* ‘my forge’, *ʔatté:-y-è* ‘my tea’, *bátó:-y-è* ‘my boat’ versus e.g. *háns-è* ‘my dog’ and *káyy-è* ‘my notebook’. For ‘flank (at ribs)’, I have recorded both alienable *cérá:-y-è* and inalienable *cér-éy* ‘my ...’.

Verbs are especially resistant to final long vowels. Stems borrowed from the productive French conjugation end in short *ê*, as in *zúwê* ‘play (a tape)’ (<*jouer*>). Such French verb borrowings fit into a pattern already established for Fulfulde verb borrowings, which also end in *ê* and have a ...H.<HL> tone pattern, e.g. *bórê* ‘strip (tree)’ (Fulfulde *bor-*). *támhâ* ~ *támmáhâ* ‘hope’ ends in a short vowel.

3.5.6 Long vowels in nonfinal syllables in stems

Nonfinal *Cv*: syllables are common in nonfinal syllables. Superheavy *Cv:C* syllables or diphthongal counterparts (*CvwC*, *CvyC*) are rare. In nonborrowed forms, I can cite *dw-á:n-dòŋ* as a variant of *dúw-án-dòŋ* ‘at your-Pl place’, a pronominal form of postposition *dô* ‘at the place of, chez’ (§5.9.6). In the variant *dw-á:n-dòŋ*, the moraic value of the original *u* is transferred to the originally medial syllable.

3.5.7 Allowed and disallowed medial consonant sequences

All possible geminates except *#hh* and *#??* are attested. All possible homorganic nasal-stop and nasal-affricate clusters are likewise attested.

rC is a common cluster type where *C* is an affricate or a nonhomorganic stop or nasal. Historical clusters of (tap) **r* plus homorganic **{n t d}* have disappeared except in archaic variants of some forms (§3.10.5).

There is also variation between *pt* (arguably /*bt*/) and geminated *tt*, hence *sóptê* ~ *sóttê* ‘(re-)plaster (walls)’. The forms in question are probably all Fulfulde borrowings.

y plus another consonant is moderately common. Among the native lexical items are *kòyrà + H* ‘town, village’, *kóynê* ‘again’, and *céydíyá + H* ‘rainy season’. There are also a few cases of *w* plus another consonant, as in the native term *háwrû* ‘eat supper’ and Fulfulde loans like *sáwtê* ‘be sick and tired of (e.g. a food)’.

3.5.8 Stem-initial consonant clusters

Initial nasal-stop clusters are uncommon except in the high-frequency instrumental quasi-preposition *ńdù + H* ‘with; and’. HS has a number of flora-fauna terms beginning with *ʔaŋ...* (*ʔan...*, *ʔam...*) plus stop, whose cognates in some other Songhay languages lack the initial *ʔa* and therefore begin with a nasal-stop cluster. However, there is a noun (likely from Arabic) (*m*)*bédd-à*: ‘paved road’).

3.6 Consonantal assimilations and deletions

3.6.1 Nasal point-of-articulation assimilation

Velar nasal η regularly assimilates to the point of articulation of a following stop, affricate, liquid, or nasal. In addition to stems like $k\hat{a}\eta$ ‘fall’ and grammatical morphemes like 3Pl clitic $\eta o\eta$, this applies to the various monosegmental η morphemes, notably 2Sg clitic $\hat{\eta}$ (and variants), transitive $\hat{\eta}$ (inserted between subject and direct object NPs if nothing else intervenes), 3Sg object clitic $\hat{\eta}$, and for some speakers subjunctive $\hat{\eta}$ (variant of \hat{m}).

To make morpheme recognition easier for readers, the normal transcription used in this work and in texts does not reflect the assimilation. $n\grave{o}\eta \hat{\uparrow}k\hat{a}$, phonetic [n\grave{o}\eta k\hat{a}] ‘they came’, $n\grave{o}\eta \hat{\uparrow}b\hat{a}$ [n\grave{o}\eta b\hat{a}] ‘they wanted’, $n\grave{o}\eta c\acute{o}w$ [n\grave{o}\eta c\acute{o}w] ‘they studied’, and $n\grave{o}\eta d\acute{u}r\acute{u}$ [n\grave{o}\eta d\acute{u}r\acute{u}] ‘they pounded (in mortar)’ illustrate the transcriptional conventions used.

There is a tendency for stem-final n to fall together with η and therefore become subject to assimilation (§3.4.2).

Stem-final labial m is not normally assimilated. The subjunctive morpheme \hat{m} has shifted to $\hat{\eta}$ for some speakers, as previously noted, and $d\hat{a}m$ ‘put’ has a variant $d\hat{a}\eta$. However, these cases of $*m \rightarrow \eta$ are independent of the following consonant and are best considered to be lenitions rather than assimilations historically.

3.6.2 Manner assimilation by liquids and nasals

Although most historical cases of stem-internal clusters of $*r$ plus $\{d\ t\ n\}$ have been simplified to geminates (§3.10.5), when r comes together with such a consonant at a boundary there is no assimilation: $b\acute{o}r d\hat{a}:r-\grave{o}+H$ ‘light-skinned (African) person’. However, one notices a low-level tendency for the morpheme-final r in $h\grave{a}r$ ‘man’ to shift to l . This is not limited to position before $\{d\ t\ n\}$, and indeed the one case where the l -pronunciation is widespread and arguably lexicalized is $h\grave{a}l \hat{\uparrow}b\acute{e}:r-\grave{o}+H$ ‘adult man, old man’ (alongside the regular but uncommon $h\grave{a}r \hat{\uparrow}b\acute{e}:r-\grave{o}+H$). There are few r -final stems besides $b\grave{o}r$ (final/definite singular $b\grave{o}r-\grave{o}+H$) ‘person’ and $h\grave{a}r$ ‘man’ for reasons explained in §3.5.1 above.

l does not trigger manner assimilation of a preceding nasal or r , though η does assimilate in point-of-articulation features (preceding section). Examples are $n\grave{o}\eta \hat{\uparrow}l\hat{a}:l\hat{a}$ ‘they became nasty’ and $b\acute{o}r l\hat{a}:l-\grave{o}+H$ ‘nasty person’.

l does not normally assimilate to a following nasal or other sonorant. However, the common particle $h\acute{a}l$ ‘if, when’ often contracts idiosyncratically with a following 2Sg subject clitic $\hat{\eta}+H$ or 1Sg subject clitic $\hat{i}+H$. Thus $h\acute{a}l \hat{\eta} k\acute{o}y$ ‘if you-Sg go’ may be pronounced [h\acute{a}\eta k\acute{o}j] ~ [h\acute{a}\eta k\acute{o}j], and $h\acute{a}l \hat{i} k\acute{o}y$ ‘if I go’ is often heard as [h\acute{a}j k\acute{o}j] ~ [h\acute{a}j k\acute{o}j]. The extended form of the particle $h\acute{a}l$ itself, namely $h\grave{a}l-n\acute{i}$, does not undergo assimilation.

3.6.3 Semivowel assimilation

y does not assimilate to a following palatal consonant (as it does in KCh): *bòr-èy* \uparrow *cím'dí* ‘the people remained’. Nor does *w* assimilate to a following labial consonant: *háwmé* ‘fast (abstain)’, *à w báy* ‘3Sg knows’.

3.6.4 Palatalization before front vowels ($g \rightarrow j$, $k \rightarrow c$, $\eta \rightarrow \jmath$)

I noted in §3.1.1 that HS speakers vary in their treatment of posterior noncontinuants before front vowels $\{i e\}$, including the *e* of diphthongal *ey* and *ew*. The slightly affricated stops that I transcribe as *c* and *j* often vary in this position with more or less unaffricated (front) velar stops *k* and *g* respectively: *cì* ~ *kì* ‘speak about’, *jèy* ~ *gèy* ‘last, do for a long time’, *jìndè* ~ *gìndè* ‘neck’. Some speakers seem to prefer the affricate articulation, others the unaffricated one.

Another consonant subject to palatalization is the remaining velar consonant η , which usually becomes \jmath before front vowels: *kâ\eta* ‘fall’, *kâ\jmath-éyndí* ‘cause to fall’; *kó\etaâ* ‘female slave’, *kó\jmath-è* ‘my ...’. Palatalization does not affect alveolar *n* (*ká:n-éyndí* ‘make sweet’).

When there are two successive syllables of this type in an uncompounded stem, for some stems palatalization is most often limited to the first syllable, though variant pronunciations are recorded and there is some lexicalization: *cíkírí* ~ *kíkírí* ‘rub’, *cígín-ó* ~ *kígín-ó* ~ *cíjín-ó* ‘night’, *cékét-ó* ~ *kékét-ó* ‘seed spike of sorghum’, and *jígírí* ~ *gígírí* ‘shiver, tremble’. Stems that usually have palatal sequences include *jéjê* ‘threaten’, *jé:jê* ‘load (donkey)’, *jéjébú* ‘put in peril’, and *cè:cì* ‘look for’ (less often *kè:kì*). The situation can be summarized by saying that the phonemic distinctions, before front vowels, between *c* and *k*, and that between *j* and *g*, are weak.

Before nonfront vowels including *a*, there is a clear phonemic difference: *cámpí* ‘be kidding’ versus *kàmbè* ‘hand’, *jà:bê* ‘reply (verb)’ versus *gá:bì* ‘strength’.

When $\{k g \eta\}$ occur before a stem-final vowel (or certain diphthongs) in a noun, adjective, or verb, they are subject to palatalization when a derivational suffix beginning in a front vowel is added. A nominal example is *bùg-ò + H* ‘hut’ (*bùg-ù fõ*: ‘one hut’, *bùg-ó-nò\eta* ‘your-Sg hut’), but palatalized *bùj-èy + H* ‘the huts’ and *bùj-ê* ‘my hut’. A verb example is *wárgá* ‘get fat’, causative *wá\jmath-éyndí* ‘make fat’. Speakers who prefer unpalatalized articulations before front vowels have *bùg-èy + H*, *bùg-ê*, and *wárg-éyndí*, respectively. An example with *k* is *màk-ò + H* ‘thigh’ (nonfinal *màkà*) in the 1Sg possessor form *màk-èy + H* ‘my thigh’, which varies with *màc-èy + H*. An example with η is *bò\eta* ‘head’, *bù\eta-ò + H* ‘his head’, but *bù\jmath-èy + H* ‘my head’.

w palatalizes to *y* for some but not all speakers between a preceding *u* and a following front vowel. An example is *húw-ó + H* ‘house’, definite plural variably *húw-éy + H* ~ *húy-éy + H*.

Sibilants $\{s z\}$ do not noticeably palatalize before front vowels in HS.

Given that $\{k g \eta w\}$ have palatal articulations $\{c j \jmath y\}$ before $\{e i\}$ for many speakers, what do these speakers do when a stem that ends in $\{c j \jmath y\}$ plus $\{e i\}$ in

a lexically basic unaffixed form also occurs in a suffixal derivation where (after Prevocalic V-Deletion) the relevant consonant is followed by a suffixal nonfront vowel? An example is the numeral *tá:cí* ‘4’, absolute *?i-tá:cí*, but definite singular *?i-tá:k-ó + H* ‘the four’, never *?(?i-)tá:c-ó + H*. For most nouns this issue does not arise, since for them the suffixed form with *-o* after a stable consonant is the lexically basic final-singular form, as with *fè:g-ò + H* ‘sheep’, which is unlikely to be reshaped to *#fè:j-ò + H* by analogy to its nonfinal *fè:jì ~ fè:gì*.

With verbs, the relevant suffixal derivations are those with intransitivizing *-à* added to a canonical transitive (unspecified object, or resultative passive), those with 3Sg object suffix *-à ~ -â* added to a VO transitive, and zero-derived nominalizations that can take final/definite singular suffix *-o + H*. From *dè:jì* ‘hang up’ we get intransitive *dè:g-à* ‘be hung up’ and a zero-derived nominalization *dé:g-ó + H* ‘hanging basket’ (nonfinal *dé:g-û*), suggesting underlying /dè:gì/ for the verb. A VO verb allowing third person object suffixes is *hí:jî* ‘marry’, 3Sg object *hí:g-à* ‘marry her’, pointing to a lexical representation /hí:gî/.

3.6.5 Metathesis

I know of no cases of synchronically recognizable metathesis. One possible historical case is *cémbúru* ‘be clever’, cf. KS *cerem* and Zarma *cáràm*.

Since sibilants do not palatalize, HS stems like nonfinal *hánsí* ‘dog’ (final/definite singular *hán-s-ó + H*) do not show palatalization-spreading of the type seen in KCh and KS *hayⁿši*.

3.6.6 Syllable-final degemination

There are few underlying medial /C_xC_xC/ clusters (and no underlying word-final /C_xC_x/ clusters) that would call for a syllable-final degemination rule. However, the rule does apply in the rare cases where it is relevant: /wàràŋ ñdù ñjêy/ appears as *wàràŋ = ñdù ñjêy* ‘you-Pl and they’, phonetic [wàràndùŋjêj] with /ŋŋ/ → /nn/ (§3.6.1) → *n* (degemination of /nn/ in syllable-final position before *d*).

3.7 Vocalic contractions, deletions, and length modifications

3.7.1 Contractions of vowels over word or morpheme boundaries

3.7.1.1 VV-Fusion across word boundary

Because HS “V-initial” nouns actually begin with glottal stop *ʔ*, there is less contraction of adjacent vowels over a word boundary in HS than in KS or KCh. Likewise, 3FullSg pronominal *?áŋgâ* behaves like a *ʔ*-initial noun and does not normally undergo Vocalic contraction except in rapid speech.

Several historical developments have reduced the frequency of vowel sequences at boundaries. The replacement of 3Pl clitic *i by the HS 3Pl pronominal *nòŋ* is a case in point; compare HS *ì né* [*nòŋ sê*] ‘I said to them’ with e.g. KS *ay ne:* [*i se*], which contracts to phonetic [ajni:ʃe]. The reduction of transitive *na to HS *ŋ*, and of subjunctive *ma to HS *m̂ ~ ñ̂*, are further examples. The replacement of 3Sg object clitic *a by *ŋ* in postvocalic position is another; compare HS *ì sú* $\hat{=} \hat{\eta}$ ‘béy’ ‘I don’t know him/her/it’ with e.g. KS *ay si a bey*, which contracts to phonetic [ajʃa:bej]. Cognates of the 1Sg pronoun *ay often contract with a preceding vowel in other Songhay languages, but in HS many cases of this morpheme have been converted to suffixes, or reshaped with an initial *n*. The PP ‘on me’ is HS *gâ:-y* versus e.g. KS *ay ga* (which can contract with a preceding word), and ‘he/she hit me’ is HS *á* $\hat{=} \hat{\eta}$ *nèy kárú* versus e.g. KS *a na ey kar*, which contracts to phonetic [anejkar]. Where the 1Sg pronoun *ŋây* hasn’t been adjusted in these ways, HS provides it with an initial glottal stop or at least keeps it in hiatus after a vowel, as in *à dí: ŋây* ‘he/she saw me’.

It is almost as though the morphological evolution of HS has been engineered to avoid Vocalic contractions across word boundaries.

However, HS 3Sg clitic *à* does still contract with a preceding morpheme-final low or mid-height vowel (but usually not *i* or *u*) to form a phonetic long vowel with the quality of the second input vowel. This type of contraction, with no loss of moras, is here called VV-Fusion; for word-internal cases see §3.7.1.6. The most frequent combination involves a PP (or a possessed NP) beginning with 3Sg clitic *à*, especially in the high-frequency combinations with *nê* ‘say’ or *nó:* ‘give’.

- (16) *ŋây* *né* = [*á* *‘sê*]
 1SgS say=[3Sg Dat]
 ‘I said to 3Sg, ...’ (phonetic [ʔàjná:sē])

In “elicitation-ese” and similar slow-motion styles, informants do not always contract even in these maximally favorable combinations, hence [inéàsê] is a possible pronunciation.

VV-Fusion across word boundaries is therefore a marginal phenomenon in HS, typical of allegro speech and for the most part limited to the 3Sg clitic.

3.7.1.2 Treatments of VV sequences at stem-suffix boundaries

There are many V-initial suffixes that can be added to V-final stems. The most common cases involve a morpheme-final (e.g. stem-final) short vowel in a bisyllabic or longer stem, followed by a suffix-initial short vowel. The usual result is that the morpheme-final vowel is deleted with no lengthening of the suffix-initial vowel. For these cases, and some exceptions to this generalization, see §3.7.1.6-8 below.

The final stem vowel does not disappear if either a) the stem is monosyllabic, or b) the stem is nonmonosyllabic but the final vowel is long. Case (b) applies to a few noun stems like *ŋàttê:* ‘tea’. These stems avoid contraction with a following V-initial

suffix by inserting a semivowel; see Intervocalic *y/w*-Insertion, §3.7.1.9 below. The stem-final vowel in such stems is usually a low or mid-height vowel; the only example with a high vowel is *kû:* ‘yam’, discussed below.

3.7.1.3 Avoidance of vowel sequences at stem-suffix boundary

A V-final noun may avoid an otherwise inevitable VV sequence at a suffix boundary either by simply shunning the suffixes in question, or by activating an alternative C-final stem shape before V-initial suffixes.

Nouns with nonfinal form *Ca:* avoid final/definite singular suffix *-o +H ~ -à: +H* if alienable, and they avoid the (morphologically related) 3Sg and 3PossSg possessor suffixes if inalienable. For example, the inalienables *bâ:* ‘share, portion’, *gá:* ‘body’, and *mâ:* ‘name’ have no overt third person possessor suffixes, unlike other inalienables. The 3Sg possessor forms instead make use of the preposed 3Sg *à* clitic that is elsewhere reserved for alienable nouns: *àʔ bâ:*, *à gá:*, and *à mâ:*, respectively (§4.2.2.5). This seems to be a device to avoid a phonologically problematic combination of *a:* with a suffixal vowel. However, these inalienables do allow V-initial definite plural suffixes; see (172) in §4.2.2.6 below.

3.7.1.4 Lexicalized prevocalic stem variants

For verbs, if the stem happens to have a lexically specified alternative prevocalic stem-shape such as *Cv:C-* or *CvC-*, the alternative shape is used before V-initial suffixes. This is the case with *bâ* ‘want’, 3Sg object *bá:g-à* ‘want it’.

A few monosyllabic nouns also have idiosyncratic *CvC-* variants before V-initial suffixes. The inalienable stem *mò:* ‘eye’ has a prevocalic variant *mùwⁿ-* (also *mùŋ- ~ mùŋ-*). Another inalienable, *cê:* ‘foot’, has prevocalic *cìy-* as in *cìy-èy +H* ‘my foot’. In both cases, the mid-height vowel of the unpossessed form is raised to a high vowel.

The numeral *fó:* ‘1’ has dialectally variable prevocalic forms: definite singular *fìy-à: +H ~ fúw-à: +H*.

The existence of such lexicalized prevocalic stem variants raises the question whether the seemingly regular alternations of *Cu(:)* with prevocalic *Cuw-*, and of *Ci(:)* with prevocalic *Cìy-*, discussed in the next section, should be considered as idiosyncratic (lexicalized) rather than phonological.

3.7.1.5 Homorganic-Semivowel Insertion (*Cuw-*, *Cìy-*)

When a stem ends in a long high vowel, one way to deal with a phonologically problematic VV cluster at a suffixal boundary is to convert the high vowel into a homorganic vowel-semivowel sequence. This is regular when the stem-final high vowel is long, but there are also some cases involving a short high vowel. Many of the examples are nouns, because of the productivity of V-initial suffixes, notably

final/definite singular $-o + H$ and definite plural $-ey + H$. However, verbs also have some V-initial suffixal derivations.

(17) **Homorganic-Semivowel Insertion** (before V-initial suffix)

a. obligatory for monosyllabic and longer stems

$u:$ → $uw-$
 $i:$ → $iy-$

b. obligatory for monosyllabics, rare and lexicalized for longer stems

u → $uw-$
 i → $iy-$

c. uncommon and lexicalized, monosyllabics only

$o:$ → $uw-$
 $e:$ → $iy-$
 o → $uw-$
 e → $iy-$

In the productive pattern (17a), the input ends in a long high vowel. Noun examples are $tù:$ ‘wooden bowl’, final/definite singular $tùw-ò + H$, and $sú:-sû:$ ‘light rain’, final/definite singular $sú:-súw-ò + H$. See §4.1.2.8 for a full list. For verbs, I can cite only two stems: a) $dí:$ ‘see’ with 3Sg object $díy-à$ ‘see 3Sg’ and and potential passive $díy-éyndí$ ‘be visible’, and b) $wí:$ ‘kill’, unspecified-object $wíy-à$ ‘kill, do a killing’.

The pattern (17b) involves stem-final short high vowels. There is only one relevant Cv noun stem but it does fit this pattern: $hû$ ‘house’ with final/definite singular $húw-ó + H$. The pattern is uncommon and lexicalized for nonmonosyllabic nouns; see §4.1.2.7 for a list. Turning to verbs, the only case is $dù$ ‘get, find’ with 3Sg object $dùw-â$ ‘get him/her/it’ and potential passive $dúw-éyndí$ ‘be available, obtainable’.

(17c) shows mid-height vowels being forced into patterns modeled on (17a) and (17b). There are two nouns with long vowel: $cè:$ ‘foot’ with possessed forms like $cìy-ò + H$ ‘his/her foot’ and $cìy-èy + H$ ‘my foot’ (§3.7.1.5), and $hè:^n$ ‘tooth’ with possessed forms like $hìy^n-èy + H$ ‘my tooth’, cf. (12) above.

Verbs with long vowel: $cé:$ ‘call, summon’ with unspecified-object $cìy-à$ ‘call (out)’, and $té:$ ‘do’ with resultative passive $tìy-à$ ‘be done’. There is one relevant verb with a short vowel: $té$ ‘be’ with suffixed 3Sg object form $tíy-à$ ‘be it’.

There is one noun of this type that has a short vowel: $mê$ ‘mouth’ with possessed forms like $míy^n-éy + H$ ‘my mouth’ (§4.2.4.1). I know of no verbs of this type.

The noun whose nonfinal form is $dêy$ ‘place’ has an idiosyncratic prevocalic shape $dúw-$ (final/definite singular $dúw-ó + H$, etc.). The etymologically related postposition $dô$ ‘chez, at the place of’ (§5.9.6) has a pronominal paradigm with similar stem alternations.

Given the variable productivity of the alternations in (17a-c) in different contexts (noun versus verb, monosyllabic versus nonmonosyllabic stem), phonological analysis is difficult. In (17a) it looks as though the second mora of *i:* and *u:* desyllabifies before a V-initial suffix, automatically producing a homorganic semivowel. In (17b), by contrast, it looks as though an epenthetic semivowel is inserted between a stem-final vowel and a suffixal vowel. The cases in (17b) could perhaps be combined with another set of data that I treat under the rubric of Intervocalic *y/w*-Insertion (§3.7.1.9). The cases in (17c) are even less transparent and smack of secondary analogies to those in (17a-b).

3.7.1.6 VV-Fusion within words

The fusion of two short vowels into a long vowel, aligning quality features while preserving moras (**VV-Fusion**), is rare within words. For VV-Fusion involving 3Sg *à* and a preceding word, see §3.7.1.1.

ɲâ ‘mother’ has a suffixed 3Sg possessor form *ɲó: + H* ‘his/her mother’. The common 3Sg possessor suffix for inalienables is *-o + H*, so *ɲó:* reflects fusion of the vowels in */ɲâ-o/*. The historical prototype was either **ɲáŋ-ó:* or **ɲáw-ó:*.

hó:-míy-ò + H ‘doorway’ is a contraction from **húw-ó míy-ò* ‘house’s mouth’, but it is not clear how transparent the segmentation is synchronically to native speakers. Elsewhere *húw-ó + H* ‘house’ does not contract.

In compounds, *-ʔizé* ‘child (offspring)’ usually contracts with a preceding vowel, as in *ʔàlhàrà-m-ì:zê* ‘son of a bastard’ from *ʔàlhárá-m-ò + H* ‘bastard’. This compound type is so common that the form *-ì:zê* may have become lexicalized as such, rather than being derived by VV-Fusion.

One very important, but analytically difficult, combination is that of a final short *â* in a noun stem (appearing as such in the nonfinal form) with the final/definite singular suffix. The result is *-â: + H* (§4.1.3.2). The issue is whether to take this as the phonological output of */â-o + H/*, i.e., with the final/definite singular suffix *-o + H* that is regular with nouns that do not end in *a* or *a:*. If we recognize this as the input, then we would have an important case of VV-Fusion applicable to dozens of noun stems. However, for these nouns the final/definite singular form is arguably now lexically basic.

3.7.1.7 Postvocalic V-Deletion

When two short vowels with different quality features combine to form a single long vowel, either the first vowel is deleted (Prevocalic V-Deletion) or the second vowel is deleted (Postvocalic V-Deletion). There are no cases in HS where the output vowel is intermediate in quality features.

Postvocalic V-Deletion occurs when a monosyllabic *Cv:* stem is followed by a suffixal vowel. Prevocalic V-Deletion occurs mainly at the end of nonmonosyllabic stems. The effect is that the vowel of a monosyllabic is protected, while the final vowel of a nonmonosyllabic is sacrificed to protect the suffixal vowel.

Postvocalic V-Deletion happens when a monosyllabic *Ca*: stem combines with inalienable possessor suffixes 1Sg *-ey + H* and 2Sg *-aŋ + H*, or with the 1Pl and 2Pl possessor suffix complexes that are built on them (§4.2.2.2). The stems in question are *bà*: ‘share’ (*bà*:-*y + H*, *bà*:-*ŋ + H*), *gá*: ‘body’ (*gá*:-*y + H*, *gá*:-*ŋ + H*) and *mâ*: ‘name’ (*mâ*:-*y*, *mâ*:-*ŋ*). All these stems “happen” to have an *a*-vowel.

(18) **Postvocalic V-Deletion**

<i>a</i> : + 2Sg <i>-aŋ</i>	→	<i>a</i> : <i>ŋ</i>
<i>a</i> : + 1Sg <i>-ey</i>	→	<i>a</i> : <i>y</i>

Of the two relevant possessor suffixes, one (2Sg *-aŋ*) begins with *a*, and the other (1Sg *-ey*) begins with *e* that was historically **a* (cf. 1Sg independent pronoun *?ây*). Perhaps the contractions in these combinations were originally due to a general rule reducing homorganic /*a-a*/ or /*a:-a*/ to surface *a*:. I know of no contradicting cases; for example, intransitivizing *-à* or 3Sg object *-a* is never added directly to an *a*-final verb stem. However, the fact that 1Sg *-ey* begins synchronically with *e* (e.g. *bà*:*b-èy + H* ‘my father’), and the fact that the contractions occur only in inalienable possessives, suggest that the contraction is best treated synchronically as a morphophonological rule.

3.7.1.8 Prevocalic V-Deletion

When a nonmonosyllabic stem ending in a short vowel (e.g. *CvCv*, *Cv:Cv*, *CvCvCv*) is followed by a V-initial suffix, the stem-final vowel is deleted. This does not apply to monosyllabic stems, and it usually does not apply to any stems that end in a long vowel.

The rule operates when a verb stem is followed by causative or potential passive *-éyndí*, by resultative passive or unspecified-object *-à*, or (in the case of VO transitives) by 3Sg object *-a*. Examples are causative *dír-éyndí* ‘send away’ from *dírà* ‘walk, travel’, resultative passive *kàr-à* ‘be hit’ from *kárú* ‘hit’, and *há:j-à* ‘need it’ from *há:jê* ‘need’. Also affected are minor deverbal nominalizing suffixes *-i* and *-ey* (§4.5.3), and participial suffix *-ânt-ò + H* (§4.5.6).

To the extent that definite plural *-ey + H* and final-singular *-o + H* ~ *-a: + H* (and its morphological counterpart with inalienable nouns) are added to V-final noun stems (the bare stem, or the stem plus nonfinal *-u*), the same process applies. An example is nonfinal *hánsî* ‘dog’, final/definite singular *háns-ó + H*. Additional nominal examples are diminutives in *-íyà* and its variants (§4.9).

The vast majority of V-final nonmonosyllabic stems end in a short vowel. (For contracting *ey* and *ow* diphthongs, see §4.1.2.10, §4.5.4, and §4.6.2.1-2). There are, however, a few nonmonosyllabic nouns ending in a long vowel. Those whose final vowel is other than *a*:, and alienables ending in *a*:, undergo Intervocalic *y/w*-Insertion (§3.7.1.9). However, nonmonosyllabic inalienable noun stems ending in *a*: do delete this vowel before V-initial possessor suffixes, namely 2Sg *-aŋ* and

1Sg *-ey*, and before definite plural *-ey*. Example: *ʔáŋkórá*: ‘hip’, definite plural *ʔáŋkór-éy + H*, possessed *ʔáŋkór-éy* ‘my hip’ and *ʔáŋkór-âŋ* ‘your hip’.

(19) **Prevocalic V-Deletion**

The stem-final vowel of nonmonosyllabic stem is deleted before a V-initial suffix.

The tone of the deleted stem-final vowel may affect the tone of the surviving suffixal vowel. This is moot in the suffixal derivations of verbs, since the relevant suffixes impose a melody on the entire derived stem, erasing lexical tones of the stem. However, in nominal morphology the tone of the deleted vowel does survive under some conditions. For example, 1Sg inalienable possessor *-èy + H* appears with different tones in *hás-èy* ‘my uncle’ and *bà:b-èy + H* ‘my father’. If the underlying tone of the deleted vowel was <HL>, it is merged with L-tone in final/definite singular and definite plural nouns, the H-tone element being suppressed unless it can move to the preceding syllable (which is possible in trisyllabics); see §3.9.6.2 and §3.9.5.5-6.

3.7.1.9 Intervocalic *y/w*-Insertion

When a stem-final long vowel preceding a suffixal vowel has not been handled by one of the preceding methods, the default solution is to insert an epenthetic semivowel to separate a final long vowel in a nonmonosyllabic stem from a suffixal vowel. There is some dialectal or idiolectal variation in the choice of *-y-* or *-w-* at least for nouns.

In verbal morphology, all examples known to me have *y*, but only certain combinations are attested, so I cannot determine whether *w* might have occurred in some contexts. The relevant stem-final long vowels {*a: o: e:*} occur in monosyllabic stems only, and the only relevant suffix is causative or resultative passive *-éyndí*. Examples are *ŋà*: ‘eat’ with potential passive *ŋá:-y-éyndí* ‘be edible’, *tó*: ‘arrive’ with causative *tó:-y-éyndí* ‘deliver’, and *té*: ‘do, make’ with potential passive *té:-y-éyndí* ‘be done (be do-able)’. With *bà* ‘want’, the idiosyncratic alternative stem *bá:g-* observed in 3Sg object *bá:g-à* ‘want it’ is not used before derivational suffixes, so we get potential passive *bá:-y-éyndí* ‘be desirable’ with no *g* (note the lengthening of the stem vowel, §3.7.5.1).

In nouns (for present purposes including adjectives and numerals), I can cite stem-final {*a: o: e:*} in nonmonosyllabic stems, plus one monosyllabic each with *e:* and *u:*, and suffixes with initial {*e o*}, viz., definite plural *-ey + H* and related possessor suffixes, and final/definite singular *-o + H* ~ *-a: + H* and related possessor suffixes. Based on relatively uncommon forms that are elicited with difficulty, it appears that *-y-* is usual between {*e: a:*} and suffixal *e*, *-w-* is usual between *o:* and suffixal *o*, and that either semivowel is possible in the remaining combinations, i.e. *o:* plus *e*, and {*e: a:*} plus *o*. In other words, the tendency is for the semivowel to harmonize with the flanking vowels.

(20) Intervocalic *y/w*-Insertion for noun (and related) stems

gloss	stem	suffixed form
a. final e:		
<i>Cv</i> :		
‘palm’	<i>bè</i> : (§4.2.3.2)	<i>à bé</i> : [↑] - <i>w-ò</i> ‘his/her’ ~ <i>à bé</i> : ⁻ - <i>y-ò</i> (or unsuffixed <i>à[↑] bè</i> :)
<i>nonmonosyllabic</i>		
‘tea’	<i>ʔàtté</i> : (FinSg)	<i>à[↑] ʔàtté</i> : ⁻ - <i>w-ò</i> ‘his/her’ ~ <i>à[↑] ʔàtté</i> : ⁻ - <i>y-ò</i> <i>ʔàtté</i> : ⁻ - <i>y-è</i> ‘my’
b. final o:		
‘office’	<i>bíró</i> : (FinSg)	<i>bíró</i> : ⁻ - <i>w-èy + H</i> (DefPl) ~ <i>bíró</i> : ⁻ - <i>y-èy + H</i> (possessed stem <i>bíróŋ</i> - ~ <i>bíró</i> : ⁻ - <i>y</i> -)
‘boat’	<i>bàtò</i> : (FinSg)	<i>bàtò</i> : ⁻ - <i>w-èy + H</i> (DefPl) ~ <i>bàtò</i> : ⁻ - <i>y-èy + H</i> (possessed stem <i>bàtò</i> : ⁻ - <i>y</i> -)
c. final a:		
<i>Cv</i> : (<i>inalienable</i>)		
‘name’	<i>mâ</i> : (unposs.)	<i>mâ</i> : ⁻ - <i>y-èy + H</i> (DefPl)
‘share’	<i>bâ</i> : (unposs.)	<i>bâ</i> : [↑] - <i>y-èy + H</i> (DefPl)
‘body’	<i>gâ</i> : (unposs.)	<i>gâ</i> : ⁻ - <i>y-èy + H</i> (DefPl)
<i>alienable nonmonosyllabic</i>		
‘late A.M’	<i>ʔàddúhá</i> : (FinSg)	<i>à[↑] ʔàddúhá</i> : ⁻ - <i>w-ò</i> ‘his/her’ ~ <i>à[↑] ʔàddúhá</i> : ⁻ - <i>y-ò</i> (or unsuffixed <i>à[↑] ʔàddúhá</i> :)
‘forge’	<i>déná</i> :	<i>déná</i> : ⁻ - <i>y-è</i> ‘my’
<i>inalienable nonmonosyllabic</i> (with occasional alienable forms)		
‘flank’	<i>cérá</i> :	<i>cérá</i> : ⁻ - <i>y-è</i> ‘my’ (alienable)
‘hip’	<i>ʔáŋkórá</i> :	<i>ʔáŋkórá</i> : ⁻ - <i>w-ò</i> ‘his’ (alienable) <i>ʔáŋkórá</i> : ⁻ - <i>y-è</i> ‘my’ (alienable)
d. final u:		
‘yam’	<i>kû</i> :	<i>à kû</i> : ⁻ - <i>w-ò</i> ‘his/her’ <i>kû</i> : ⁻ - <i>w-è</i> ‘my’ ~ <i>kû</i> : ⁻ - <i>y-è</i>

The rule is summarized as (21).

(21) **Intervocalic y/w-Insertion**

between a stem-final long vowel and a suffix-initial vowel...

a. if the two vowels **harmonize** in rounding, insert -y- between unrounded vowels, i.e. between {a: e:} and e, and insert -w- between rounded vowels, i.e. between {o: u:} and o.

b. if the vowels are **disharmonic** in rounding, insert -y- or -w- (dialectal choice) for nouns, i.e. between o: and e or between {a: e:} and o, and insert -y- for verbs, i.e. between o: and e.

3.7.2 Contractions of vyv and vwv at suffix boundaries

3.7.2.1 Prevocalic Diphthong-Deletion (ey and ow before suffix)

Most **nonmonosyllabic** stems whose nonfinal or unsuffixed form ends in a diphthong *ey* or *ow* (i.e. mid-height nucleus plus **harmonic** semivowel) delete this diphthong (as though it were a short vowel) before a V-initial suffix. For verbs, usually only *ey* is affected.

Monosyllabic stems do not contract: *béy* ‘know’, causative *béy-éyndí* ‘inform, cause to know’; *zèy-ò + H* ‘thief’ (nonfinal *zèy*); *gów-ò + H* ‘aromatic sedge’ (nonfinal *gów*). Historically, however, the now irregular 3Sg possessor form of *ɲâ* ‘mother’, namely *ɲó: + H*, was from a **ɲáw-ó* that did contract.

The largest group of nonmonosyllabic stems that are subject to Prevocalic Diphthong-Deletion is the set of modifying (i.e. attributive) adjectives. These typically have an **adjectival suffix** *-ow*, which is heard as *-òw* or rarely *-ôw* in the nonfinal form depending on tones of the stem. The corresponding suffixed forms show no trace of *-ow* before final/definite singular *-o + H* and definite plural *-ey + H* or the related alienable possessor suffixes (e.g. PossSg *-o*, PossPl *-ey*). For example, ‘ripe, cooked’ is nonfinal *nìn-òw*, final/definite singular *nìn-ò + H*, and definite plural *nìn-èy + H*. See §4.6.2.1 for an extensive list.

In one analysis of cases like these, the semivowel is first deleted by a rule that could be called Stem-Final Semivowel-Deletion. The resulting vowel cluster could then feed into Prevocalic V-Deletion, which would delete the stem-final vowel (§3.7.1.8), completing the annihilation of the stem-final diphthong. This two-step analysis is made problematic by diminutive forms, as shown below.

There are some nonmonosyllabic **nouns** that end in *ow* or *ey* in nonfinal forms for some or all speakers, with no trace of the diphthong in final/definite singular or definite plural suffixed forms. However, the trend among younger speakers is to replace the diphthong-final unsuffixed stems with new ones that are parasitic on the final/definite singular forms, the usual result being a noun with nonfinal *-u* and with final/definite singular *-o + H*. This trend is stronger for nouns than for adjectives. Examples of nouns (many of them with a derivational suffix) that still often have a diphthong in the nonfinal or unsuffixed form are in (22).

(22) Nouns with contracting diphthong

gloss	Nonfinal (NF)	Fin/Def Sg
a. ...ow		
<i>Agentive -kôw</i> (§4.5.7)		
‘brawler’	<i>zòw-kôw ~ zòw-k-ù</i>	<i>zòw-k-ò + H</i>
<i>not obviously segmentable</i>		
‘corpse’	<i>bùkôw ~ bùk-ù</i>	<i>bùk-ò + H</i>
‘bird’	<i>círôw ~ cír-ù</i> (etc.)	<i>cír-ò + H</i>
‘blind person’	<i>dànòw</i>	<i>dàn-ò + H</i>
[cf. verb <i>dànà</i> ‘become blind’]		
b. ...ey		
<i>derivational suffix -ey</i> (§4.5.3), <i>-rey</i> (§4.5.4)		
‘trip’	<i>dìr-éy</i>	<i>dìr-Ø-ò + H</i>
‘craziness’	<i>hól-éy</i>	<i>hól-Ø-ó + H</i>
‘knowledge’	<i>béy-réy ~ béy-r-ú</i>	<i>béy-r-ó + H</i>
<i>unsegmentable</i>		
‘hunger’	<i>hèrêy ~ hèr-ù</i>	<i>hèr-ò + H</i>
‘...-hood’	<i>-târêy</i>	<i>-târ-ò + H</i>
‘conversation’	<i>fóká:réy</i>	<i>fóká:r-ó + H</i>

Nonmonosyllabic **verbs** ending in *ey* show similar contractions before V-initial suffixes like causative or potential passive *-éyndí*. Examples: *hèrêy* ‘be hungry’ with causative *hér-éyndí* ‘make (sb) hungry’; *hájéy* ‘sift’ with potential passive *háj-éyndí* ‘be sifted’.

It is difficult to determine whether a parallel contraction applies to stem-final *ow* in verbs. The only nonmonosyllabic verbs ending in this diphthong are two apparently reduplicative stems *dò-dôw* ‘remove weeds around growing millet plants’ and its partial homophone *dò-dôw ~ dò-dôy* ‘float’, plus the somewhat irregular VO verb *dìnòw* ‘forget’. For ‘float’ I elicited an uncontracted causative *dó-dôw-éyndí* ‘make float’. I was unable to elicit a form of *dò-dôw* ‘remove weeds’ with V-initial suffix (the underived stem can also be used intransitively, which effectively blocks a suffixal passive). *dìnòw* ‘forget’ takes a lexicalized prevocalic form *dìŋŋ-* in 3Sg object *dìŋŋ-â* ‘forget him/her/it’; my assistant rejected causatives (a different expression like *lákál-ò Ìkâ:* ‘remove his/her mind’ is used to translate ‘cause to forget’). He indicated that, if forced to produce a morphological causative, he preferred *dìŋŋ-éyndí* over *#dín-éyndí* or *#dínów-éyndí*. Accordingly, there is (weak) evidence that *ow*, unlike *ey*, does not contract before suffixes. A curious fact is that *hìnèŋ* ‘be clean’ has variable pre-suffixal shapes of the sort we were looking for from *ow*-final stems: participle *?ì-Ìhínìw-ànt-ò + H ~ ?ì-Ìhínw-ànt-ò + H* ‘the clean one’, causative *híníw-éyndí* varying with *hínw-éyndí* ‘clean (sth)’. However, other speakers produced contracted variants *?ì-Ìhín-ànt-ò + H* and *hín-éyndí*.

The biggest problem for the analysis is a (nominal and adjectival) diminutive derivation with nonfinal *-íy-òw* and final/definite singular *-íy-à: + H* (definite

plural $-íy-èy + H$), as in nonfinal $hàns-íy-òw$ and final/definite singular $hàns-íy-à: + H$ ‘puppy’. See §4.9.1 for more examples. If we analyse $-íy-à: + H$ as the result of adding the final/definite singular suffix to nonfinal $-íy-òw$, this should come out as $\#-íy-Ø-ò + H$, since the nominal and adjectival nonfinal suffix $-ow$ has a final/definite singular form $-o + H$ rather than $-a: + H$, as seen in the nouns in (22a) above and in all relevant adjectives. The actual diminutive final/definite singular form $-íy-à: + H$ can only be explained by assuming that the entire diphthong $-òw$ is deleted before contractions occur. In this way the final/definite singular suffix is added directly to the diminutive morpheme $-íyà-$ (or $-íyâ-$), whose final a -vowel makes a final/definite singular output with final $-à: + H$ possible. This one-step analysis will also work for the other cases described above.

(23) Prevocalic Diphthong-Deletion

- a. (nouns, adjectives, verbs)
 - $ey \rightarrow \emptyset$ before a suffix-initial vowel in nonmonosyllabic stems
- b. (nouns, adjectives—but generally not verbs)
 - $ow \rightarrow \emptyset$ before a suffix-initial vowel in nonmonosyllabic stems

3.7.2.2 Contractions involving nouns plus demonstrative $H + wô$

Most nouns, adjectives, and numerals that are semantically compatible with demonstratives can take a singular demonstrative suffix $-ô:$ as an alternative to a final/definite singular form followed by a separate demonstrative $H + wô$ (§4.4.1), thus $hár-ô:$ ‘this water’ instead of the fuller $hár-ó wô$. For stems ending in a long vowel, there is no audible difference between the two-word and suffixal options.

Because the final vowel is lost, it is not always obvious whether demonstrative singular (DemSg) $-ô:$ is suffixed to the nonfinal form or to the final/definite singular form of the noun. The final/definite singular is more plausible, since when the demonstrative appears as a separate word $H + wô$, it is preceded by a suffixed final/definite singular form (if the noun has one). In any event, nouns that have final/definite singular $-o + H$ and that have a final short vowel in the nonfinal form allow the contracted demonstrative. Examples: final/definite singular $hàns-ó + H$ ‘dog’ (nonfinal $hànsî$) and demonstrative singular $hàns-ô:$ ‘this dog’; unsuffixed final/definite singular $cìŋŋà + H$ ‘rain’ with demonstrative singular $cìŋŋ-ô:$ ‘this rain’; and unpossessed inalienable $kàmbè$ ‘hand’ with demonstrative singular $kàmb-ô:$ ‘this hand’.

The demonstrative plural form in $-èy$ has similar phonology: $hàns-èy$ ‘these dogs’ (tonally distinct from definite plural $hàns-éy + H$ ‘the dogs’).

The majority of a -final nouns show uncontracted $H + wô$ after the final/definite singular form with $-à: + H$, as in nonfinal $?álfâ$ ‘marabout’, final/definite singular $?álf-à: + H$, demonstrative singular $?álf-à: wô$. The corresponding plural $?álf-èy$ (not $\#?álf-à:-w-èy$) shows that the demonstrative is postposed rather than

suffixal. This is also the case with the few nonmonosyllabic stems ending in other long vowels, e.g. *?àtté*: ‘tea’, demonstrative singular *?àtté*: ‘wô ‘this tea’.

A low-toned noun like *sùb-ò + H* ‘grass’ keeps its initial L-tone in the suffixed demonstrative form: *sùb-ò*: ‘this grass’. If a floating H-tone docks on the left, we get \uparrow *sùb-ò*:, as in *à w̄* \uparrow *sùb-ò*: *ɲà*: ‘it eats this grass’ with imperfective *w̄*. I do not hear any downstep on the second syllable.

3.7.3 Syncope

There is no productive **Syncope** rule. However, two stems show archaic syncope of the second short vowel in *CvCvC-* before V-initial suffixes.

The verb *kóróŋ* ‘get hot’ (**kórón*) takes the shape *konn-* (archaic *korn-*, §3.10.5) before V-initial suffixes, see (210b) in §4.3 and (332b) in §6.2.2. This involves Syncope of the second /o/, followed (for most speakers) by the consonantal assimilation /rn/ → /nn/ (*r*-Assimilation). Neither Syncope nor *r*-Assimilation is synchronically productive, and it might be better to simply specify that *kóróŋ* has an idiosyncratic prevocalic stem shape *konn-* (archaic *korn-*).

If *sénn-í* ‘language’ is synchronically derived from the verb *sèlèŋ* ‘speak’, a similar case of Syncope followed by consonantal assimilation is called for. In this case the derivation /selen-i/ → /selŋ-i/ → *sénn-í* would require a double assimilation, with the alveolar position of *l* spreading forward to *ŋ* while the nasality of *ŋ* spreads backward to *l*.

These alternations (‘hot’, ‘language’) are old and are found with the cognate stems in KS and Zarma, for example.

3.7.4 Treatment of stem-initial vowels

As noted in §3.1.4 and elsewhere, most “V-initial” noun stems actually begin with glottal stop *ʔ* and so have no special phonological interaction with the preceding material. Thus *?álf-à: + H* ‘marabout’, *à ?álf-à*: ‘his/her marabout’, *(?)áy = ndù ?álf-à*: ‘I and the marabout’.

The stem *?izé* ‘child’ (cf. possessed *?íz-ó: + H* ‘his/her child’ with different tones and vowel length), has a glottal stop in most contexts, but drops it when used as compound final. There it contracts with a preceding vowel at the end of the compound initial: *cìŋŋ-í:z-ò + H* ‘velvet mite’ (“child of rain,” cf. *cìŋŋà + H* ‘rain’), *gàwl-í:z-ò + H* ‘wild date’ (“child of wild date tree,” from *gàwl-ò + H*), *hèyl-í:z-ò + H* ‘kitten’ (“child of cat,” from *hèyl-ò + H*). The nonfinal forms have -*ì:zê*.

3.7.5 V-Lengthening and -Shortening processes

3.7.5.1 Presuffixal Cv-Verb-Stem Lengthening

A short-voweled Cv verb with nonhigh vowel is lengthened before derivational suffixes other than verbal noun *-noŋ*. Thus *kà* ‘come’ but comitative *kà:-ndù + H* ‘come with, bring’, verbal noun *kà:-r-ò + H* ‘arrival’ (alongside *kà-pòŋ + H*); *bà* ‘want’, potential passive *bá:-y-éyndí* ‘be desirable’, but unlengthened verbal noun *bà-pòŋ + H*. The 3Sg object form *bá:g-à* ‘want 3Sg’ has an irregular prevocalic stem-shape, though it does lengthen the stem vowel.

(24) Presuffixal Cv-Verb-Stem Lengthening

[Cv → [Cv:- before derivational suffix (excluding VblN *-noŋ + H*)
note: here “[“ indicates the left edge of the stem

3.7.5.2 Idiosyncratic Noun-Stem V-Lengthening

Two high-frequency nouns differing only in initial consonant, *hàr* ‘man’ and *fàr* ‘(cultivated) field’, show length alternations: *hàr sí:* ‘there is no man’ (illustrates indefinite function), *hàr fó:* ‘one man’ (illustrates nonfinal form), *hàr-pòŋ + H* ‘some men’ (indefinite plural), but long-voweled final/definite (mostly definite) singular *hà:r-ò + H* ‘the man’ and definite plural *hà:r-èy + H* ‘the men’. Likewise for ‘field’: *fàr fó:* ‘one field’, *fàr-pòŋ + H* ‘fields’, *fà:r-ò + H* ‘(the) field’, *fà:r-èy + H* ‘the fields’. These forms suggest a lengthening rule, confined to these two stems, before V-initial suffixes.

(25) Idiosyncratic Noun-Stem V-Lengthening

<i>hàr</i> ‘man’	→	<i>hà:r-</i>	before V-initial suffix
<i>fàr</i> ‘field’	→	<i>fà:r-</i>	"

See §4.1.2.4 for further morphological details and for other stems of similar shape that do not lengthen.

3.7.5.3 Lengthening of 3Sg *à* and 1Sg *ì + H*

3Sg clitic *à* (subject, preverbal object, complement of postposition) in an open syllable (i.e. not combined with a following clitic like transitive *î*) is subject to lengthening to *à:* under the influence of a preceding CvC or C morpheme. It does not apply to *à* as possessor of a following noun.

The triggering environments for the lengthening are in (26).

- (26) a. 3Sg subject *à* after...
hâl ‘if’ (and other senses)
mán ‘where?’
- b. 3Sg PP beginning with *à* after...
dám ‘put’
kóy ‘go’
- c. 3Sg object *à* after...
 Subjunctive *m̂*
 Perfective negative *màn + H*
 Future *nàm + H*

Lengthening is systematic in connection with (26c), since the morphemes in question fuse into clitic clusters with fixed pronunciation. It also seems to be fairly consistent after *hâl*. After the *CvC* verbs, lengthening is fairly common but not obligatory.

Examples are in (27).

- (27) a. *hâl* *à:* *kà* (*kûl*)
 if 3SgS come (all)
 ‘if he/she comes’
- b. *í↑ = ɨ̃* *‘hár-ó* *↑dám* [*à:* *gà*]
 1SgS=Tr water-Fin/DefSg put [3Sg in]
 ‘I put (some) water in it.’
- c. *ì* *kóy* [*↑á:* *bàndè*]
 1SgS go [3Sg behind]
 ‘I went (following) after him/her.’
- d. *pò* *nê* [*í = m = à:* *háv*]
 3PIS say [1SgSubju=Subju=3SgO tie]
 ‘They told me to tie it.’
- e. *bòr-èy* *↑mán = ‘á:* *jìsì* *nè:*
 person-DefPl PerfNeg=3SgO put.down here
 ‘The people didn't put it down here.’
- f. *à* *nàm = ↑á:* *‘kárú*
 3SgS Fut=3SgO hit
 ‘He/She will hit it.’
- g. *mán = á:* *‘bárâ*
 where=3SgS X.be
 ‘Where is he/she/it?’

Lengthening is not usual when the 3Sg *à* is at the beginning of a possessed NP. In this case, in careful speech a glottal stop is inserted before it to prevent it from syllabifying with the preceding consonant.

- (28) a. *hál* [(?)*à* *húw-ò*] *kâŋ*
 if [3SgS house-PossSg] fall
 ‘if his/her house falls’
- b. *ì* [↑]*nám* [(?)*à* *húw-ò*] *tóŋ*
 1SgS Fut [3SgS house-PossSg] burn
 ‘I will burn down his/her house.’

The other pronominal consisting of just a short vowel is 1Sg subject *ì+H*. In this form it occurs in a much narrower range of environments than 3Sg *à*. It is difficult to determine whether the 1Sg subject morpheme is lengthened after *hál*, since this combination is regularly contracted to *há=ỳ* or *há=↑ỳ+L*. However, where contraction does not occur I do hear lengthening: *hál ì: ↑kâ* ‘if I come’. A better example is with *mán* ‘where?’, which contracts less often: *mán=↑í: ‘bárâ* ‘where am I?’ alongside contracted *má=↑ỳⁿ ‘bárâ*. I conclude that the lengthening process applies to both 1Sg and 3Sg forms, these being the two subject clitics consisting of a short vowel.

3.7.5.4 No V-Shortening processes

There are no regular processes that shorten long vowels or long diphthongs. In HS, unlike KS, *Cv:C* stems keep their long vowel even when word-final or preconsonantal.

In one analysis of *Cu:* and *Ci:* stems that become *Cuw-* and *Ciy-* before V-initial suffixes, an ad hoc shortening rule applies in conjunction with Homorganic Semivowel Insertion, e.g. *Cu:-w-* becomes *Cu-w-* (§3.7.1.2, §3.7.1.5). However, there are alternative analyses that do not require a shortening rule.

3.8 Minor phonological alternations

In the present work, in contrast to earlier Songhay grammars, I have handled some morphologically specific phonological alternations in the relevant morphology chapters instead of, or in addition to, this phonology chapter. Among others the following alternations may be noted:

- allomorphs of personal pronominals (§4.3.4);
- final/definite singular and definite plural of nouns (§4.1);
- irregular stem-changes before causative *-éyndí*, notably *zúm-éyndí* ‘take down’ from *zùmbù* ‘go down’ (§6.2.2);
- truncated forms of semantically “light” nouns such as ‘place’ and ‘thing’, see (432) in §8.2.5;
- irregular forms of VO verbs before 3Sg object *-à* (§6.1.7);

- compounds involving *ʔizê* ‘child’ as second member (§4.8.5).

3.9 Tonology

3.9.1 Lexical tones of syllables and stems

The basic stem-level melodies, which can be realized on stems or words of variable syllable count, are {H}, {L}, {HL}, and {LHL}.

The only syllable-level tones are H, L, and <HL> (i.e. falling). Each of these occurs in both light and heavy word-final syllables, as shown in (29). Word-final <HL> is realized as such prepausally, but when phrased with a following word it most often appears as H plus a delinked floating L that downsteps a following H-tone (§3.9.5.9) or disappears before a following L-tone. This is strong evidence that the falling tone is in fact analysable as a contoured <HL>, i.e. a combination of atomic H and L tones. In nonfinal syllables, only H and L occur, since tone breaks in {HL} and {LHL} melodies are bunched at the right edge of the word.

(29) Basic tones by syllable type

	light (Cv)	heavy (CvC, Cv:, Cv:C)
H	√	√
<HL>	√	√
<LH>	—	—
L	√	√
<LHL>	—	—
<HLH>	—	—

Strikingly, <LH> (i.e. rising) tone is absent. This is a major difference between HS and other Songhay languages, and it has had far-reaching consequences for the (morpho-)phonology. Likewise, nonmonosyllabic stems may not end in a rising tone melody in their regular form (as spoken in isolation). That is, the stem/word-level melodies {LH} and {LLH} are disallowed in any form. However, because the initial and the final in a compound have separate tone melodies, {L}-{H} compounds are possible.

Rising tones are absent because HS underwent a **tone-flattening** process that applied within stems and words. This process simplified *...L.H on the two final syllables, and *...<LH> on a single syllable, to ...L. In some morphological contexts (but not for verb stems), an original final-syllable *<LH> is L-toned, but preserves the original H as a floating tone (transcribed as +H). It is expressed, if at all, as raising of the tone of the first syllable (or mora) of a following word that would otherwise be L-toned.

To be clear, a bisyllabic or longer word can appear with final ...L.H tones on the final two syllables due to interactions with a following word or clitic. For example, a lexically L.<HL> word, i.e. a bisyllabic with {LHL} melody, can delink the final L-

tone as indicated above, resulting in a final L.H sequence. In addition, when a clitic consisting of a H-toned nasal consonant, or the morpheme *ńdù + H* ‘with’, is cliticized to a V-final word otherwise ending in two L-toned *Cv̂* syllables, the combination produces a pre-surface /*Cv̂Cv̂ = ń/* or /*Cv̂Cv̂ = ńdù/*, whose <LH>-toned *CvN* syllable is flattened (this time upward) to H-tone (§3.9.6.3). In other words, the constraint against {LH} melodies applies only at word level, before tone sandhi at word or clitic boundaries.

Although {HL} tone melodies have not suffered the same fate as original *{LH} melodies, and remain viable in HS, most stems originally ending in *H.L are realized as H.<HL>, with the H-tone crossing over into the onset of the final syllable. On verbs, {HL} contour is always realized as H.<HL> rather than as H.L. The major exception is final/definite forms of nouns, which do not allow a final <HL> tone and therefore very often show final H.L syllable sequences, as in *cír-ò + H* ‘bird’. But aside from this class of exceptions, final H.L is rare; I can cite only *gá:bi* ‘strength’ and *ńdù + H* ‘with’.

3.9.1.1 Lexical tones of unpossessed nouns

To make a long story short, the regular tone melodies for unpossessed nouns are {H}, {L}, {HL}, and {LHL}. Rising melody {LH} is not found as an identifiable synchronic type, but a few inalienable nouns have traces of it in some suffixal inflections with pronominal possessor (see below). Most nouns respect their lexical melody in all unpossessed forms: nonfinal, final/definite singular, and definite plural. The location of the tone break in {HL} and {LHL} is slightly relocated in the final/definite forms but the word-level melody is still intact. In bisyllabic L.<HL> stems with final diphthong, the H-tone is lost without trace in final/definite forms due to contraction with a suffixal vowel.

Analyses of nominal tones are complicated by the difficulty of determining which form of a noun is lexically basic. As described more fully in §4.1.1.1, the original bare stem *X contrasted with suffixed forms including definite singular *X-ǒ: and definite plural *X-ěy. This markedness relationship has been inverted in HS for many common nouns because of changes in the morphosyntactic distributions of the original bare and definite singular forms. Instead of unmarked (including indefinite) versus suffixed definite, for some stems the “final/definite” form has generalized as the phrase-final word within a core NP (maximally noun-adjective-numeral), and it may be but need not be semantically definite. For such stems, the phrase-final form is the lexically basic citation form, and it now contrasts with a residueal nonfinal (linking) form used only before an adjective, a numeral, or the indefinite plural suffix.

This morphological rearrangement is complete for some nouns but not others (on which see §4.2.3.4). It is irrelevant to the identification of lexical tone melodies for the many nouns whose final/definite and nonfinal forms have the same melody. The nouns in (30a) are clearly **{H}-toned**, those in (30b) clearly **{L}-toned**. (For monosyllabic stems see §4.1.4.1-2.)

(30) Noun stems with lexical {H} and {L} melodies

gloss	Fin/Def Sg	Nonfinal
a. {H}-toned nouns	{H}	{H}
‘dispute’	<i>cít-ó + H</i>	<i>cít-ú</i>
‘water’	<i>hár-ó + H</i>	<i>hárí ~ hár-ú</i>
‘cloud’	<i>búr-ó + H</i>	<i>búr-ú</i>
‘piece’	<i>céps-ó + H</i>	<i>céps-ú</i>
‘Muslim New Year’	<i>dádáb-ó + H</i>	<i>dádáb-ú</i>
b. {L}-toned nouns	{L}	{L}
‘salt’	<i>cìr-ò + H</i>	<i>cìrì ~ cìr-ù</i>
‘supper’	<i>hàwr-ò + H</i>	<i>hàwr-èy ~ hàwr-ù</i>
‘mortar’	<i>hùmbùr-ò + H</i>	<i>hùmbùr-ù</i>

The definite plural (with suffix *-ey + H*) is tonally parallel to the final/definite singular form shown in (30), e.g. *cít-éy + H*, *cìr-èy + H*.

Nouns of {HL} lexical melody are illustrated in (31). The melody is audible in both the final/definite forms and in the nonfinal form. However, the location of the tone break differs from the final/definite singular to the nonfinal form, because final/definite suffixes do not allow the contoured tone <HL> while nonfinal forms have this tone. (In practice, the nonfinal form, which is by definition phrased with a following word or indefinite plural suffix, will delink its final L-tone and the stem-final syllable will appear with a surface H-tone.)

(31) Nouns with lexical {HL} melody

gloss	Fin/Def Sg {HL}	Nonfinal {HL}
a. final <i>â</i> <i>borrowings (< Arabic >)</i>		
‘usefulness’	<i>náf-â: + H</i>	<i>náfâ</i>
‘marabout’	<i>?álf-â: + H</i>	<i>?álfâ</i>
b. others		
<i>probable or certain borrowings</i>		
‘merchandise’	<i>já:g-ò + H</i>	<i>já:g-û</i>
‘fonio (grain)’	<i>sérémb-ò + H</i>	<i>sérémb-û ~ sérémbê</i>
<i>not obviously borrowed</i>		
‘Bozo person’	<i>sórk-ò + H</i>	<i>sórk-û</i>
‘stem fibers’	<i>fént-ò + H</i>	<i>fént-û</i>
‘planted field’	<i>hé:r-ò + H</i>	<i>hé:rî ~ hé:r-û</i>

‘leech’	<i>nálg-ò + H</i>	<i>nálg-û</i>
‘brick’	<i>fér-ò + H</i>	<i>féré ~ fér-û</i>
‘bird’	<i>cír-ò + H</i>	<i>círôw ~ círí ~ cîr ~ cír-û ~ círá</i>
‘seedstock’	<i>sónkón-ò + H</i>	<i>sónkón-û</i>

gá:bi ‘strength, force’ is unusual in having a L-toned, rather than <HL>-toned, final syllable. The noun is most common in the PP *ndù gá:bi* ‘by force’.

The remaining regular lexical melody is {LHL}. Two subtypes can be distinguished: trisyllabic and longer stems with H-toned penult, and bi- and trisyllabic stems with L-toned penult and <HL>-toned ultimate. The first type, illustrated in (32), behaves like the {HL} type in (31) with the addition of one or two extra syllables at the beginning. Quadrisyllabics (other than borrowings) are probably always treated prosodically as compounds even when the initial and final do not occur elsewhere. Quadrisyllabic nouns with {LHL} melody can be realized syllabically as L.H.H.L or as L.L.H.L in the final/definite singular, with L.L.H.L typical of stems with long vowels in the penult.

(32) Trisyllabic and longer {LHL} nouns with H-toned penult

gloss	Fin/Def Sg {LHL}	Nonfinal {LHL}
a. trisyllabic		
‘custom’	<i>?àlá:d-à: + H</i>	<i>?àlá:dâ</i>
‘writing’	<i>hântúm-ò + H</i>	<i>hântûm</i>
‘vehicle’	<i>móbíl-ò + H</i>	<i>móbîl</i>
‘pigeon sp.’	<i>gùntás-ò + H</i>	<i>gùntás-û</i>
‘ball, lump’	<i>gùngún-ò + H</i>	<i>gùngún-û ~ gùngûn</i>
b. quadrisyllabic		
‘Thursday’	<i>?àlkàmí:s-à: + H</i>	<i>?àlkàmí:sâ</i>
‘pre-dawn’	<i>?àlfázár-ò + H</i>	<i>?àlfázâr</i>
‘vulture sp.’	<i>dìlimdá:l-ò + H</i>	—

The situation is trickier with bi- and trisyllabic {LHL} stems with L-toned penult in the nonfinal form. A $(C\grave{v})C\grave{v}C\grave{v}C$ stem with final nondeleting sonorant (nasal, liquid) has a final/definite singular form $(C\grave{v})C\grave{v}C\acute{v}C-ò + H$ that still reflects the entire {LHL} melody. I can also cite one noun-like numeral of this type (33a). Trisyllabic stems with nonfinal form $C\grave{v}C\grave{v}C\acute{v}$ also manage to preserve the full {LHL} melody in the final/definite singular, by relocating the H-tone onto the penult, resulting in final/definite singular $C\grave{v}C\acute{v}C-ò + H$ (33b). However, bisyllabic {LHL} stems with nonfinal $C\grave{v}(C)C\acute{v}$ (33c), or with nonfinal $C\grave{v}(C)C\acute{v}y/w$ whose final diphthong is removed before a V-initial suffix by Prevocalic Diphthong Deletion (§3.7.2.1) (33d), have final/definite singular forms of the type $C\grave{v}(C)C-ò + H$, with no trace of the H in the lexical melody {LHL}. Because there are good phonological reasons for the reduction of {LHL} in these bisyllabic stems to {LL},

i.e. to a flat {L} melody, in the final/definite singular form, there is no reason to consider them to be of a lexically mixed tonal type. They are lexically {LHL}, but lose the H-tone under specifiable conditions.

(33) Bisyllabic nouns with lexical {LHL} melody

gloss	Fin/Def Sg {LHL}	Nonfinal {LHL}
a. <i>C̣ṿC̣ṿC̣</i> in nonfinal with noncontracting final consonant 'thousand'	<i>zèmbér-ò + H</i> (DefSg)	<i>zèmbêr</i> (NF, FinSg)
b. <i>C̣ṿC̣ṿC̣ṿ</i> in nonfinal, for the tone shift see §3.9.6.2. 'fatigue'	<i>zàràb-ò + H</i>	<i>zàràbí</i>
c. <i>C̣ṿ(C)C̣ṿ</i> in nonfinal (suffix indicates third person possessor) 'paternal aunt' 'belly'	<i>hàw-ò + H</i> 'his/her' <i>gùnd-ò + H</i> 'his/her'	<i>hàwê</i> (3PossSg <i>hàwâ</i>) <i>gùndê</i>
d. <i>C̣ṿC̣ṿy/w</i> in nonfinal with final contracting diphthong 'hunger' 'corpse'	<i>hèr-ò + H</i> <i>bùk-ò + H</i>	<i>hèr-êy</i> (~ <i>hèr-ù</i>) <i>bùk-ôw</i> (~ <i>bùk-ù</i>)

{LH} melody is generally not allowed in noun stems. Compounds and iterations (full-stem reduplications) like *zùrbù-[zàrb-ó + H]* 'rags' are apparent exceptions. In fact, they consist of a {L}-toned stem plus an attached and tonally independent {H}-toned stem.

I can, however, cite the Arabic borrowing *?àddúhá:* 'mid-morning', which is used both phrase-finally and nonfinally in core NPs. This stem seems to have the tone pattern of e.g. 'Thursday' in (32b) above, but there is no (audible) final L-toned syllable, except in possessed forms. The first syllable is from the Arabic definite prefix *al-*, and it may be that this prefix is treated as external to the domain of the basic lexical tone melody.

More interestingly, four {L}-toned inalienable nouns that derive from proto-forms with bisyllabic *L.H tone pattern still preserve traces of the original melody in possessed forms with 1st/2nd person possessor. For example, from {L}-toned *ɲàndè ~ wàndè* 'wife' we would expect a {L}-toned 1Sg possessor form *#ɲànd-èy + H*, compare *bà:bè* 'father' and 1Sg possessor form *bà:b-èy + H* 'my father'. The actual form for 'my wife' is *ɲànd-êy ~ wànd-êy*, see §4.2.2.3 for discussion and more examples. The tone alternations reflecting an original {LH} lexical melody are now isolated and make little morphophonological sense synchronically.

In addition to the stable, consistent {H}, {L}, {LH}, and {LHL} lexical melodies described so far, there are also some **mixed tone-classes** whose nonfinal and final/definite singular (or, for inalienables, unpossessed and possessed) forms diverge tonally in ways that cannot be accounted for by reasonable phonological

rules. These are the {HL}/{H} class which spreads the initial H-tone to the right edge in final/definite forms, the numerals *fó*: ‘1’ and *wóy* ‘10’ that have the opposite {H}/{HL} pattern (§4.1.2.2), and the {H}/{L} and {HL}/{L} classes that drop tones to {L} in the final/definite forms (§4.1.2.3).

3.9.1.2 Lexical tones of adjectives

For the major class of descriptive adjectives, a full list is given in §4.2.6.1. A few examples not involving diminutive-like forms are repeated here as (34). The related verbs are shown in the column on the left. It is easy to see that the verb’s tones are not transferred to the associated adjective. As analysed here, most ordinary adjectives (and all participles) have {L} tone melodies (34a-d); the minority that do not are listed in (34e-f) or covered below.

(34) Adjectives

verb	gloss	Adj (Nonfinal)	Adj (Fin/Def Sg)
a. typical {L}-toned adjectives with final -òw (productive, §4.6.2.1)			
<i>dùngù</i>	‘be lukewarm’	<i>dùng-òw</i>	<i>dùng-ò + H</i>
<i>hóttó</i>	‘be bitter’	<i>hòtt-òw</i>	<i>hòtt-ò + H</i>
<i>reduplicated, irregular</i>			
<i>bá:</i>	‘be many/much’	<i>bò:-b-òw</i>	<i>bò:-b-ò + H</i>
b. {L}-toned deverbal participles and ordinals (§4.5.6)			
<i>húsú</i>	‘be unkempt’	<i>hùs-àntè</i>	<i>hùs-ànt-ò + H</i>
c. {L}-toned with final <i>i</i> (§4.6.2.3), only example			
<i>bé:rî</i>	‘be big, grow’	<i>bè:rî</i>	<i>bè:r-ò + H</i>
d. {L}-toned quadrisyllabic iterations with final <i>ey</i> (§4.6.2.4)			
<i>mótú-mótéy</i>	‘be soggy’	<i>mòtù-mòt-òw</i>	<i>mòtù-mòt-ò + H</i>
e. {HL}-toned color adjectives with <i>éy</i> (§4.6.2.6), all known examples			
<i>cìrèy</i>	‘be red’	<i>círèy</i>	<i>cír-ó + H</i>
<i>kà:rèy</i>	‘be white’	<i>ká:rèy</i>	<i>ká:r-ó + H</i>
f. {HL}-toned reduplicative <i>C̣-Ĉ</i> adjectives (§4.6.2.5), all known exx.			
<i>kú:, kú-kû</i>	‘be long/tall’	<i>kú-kû</i>	<i>kú-k-ó + H</i>
<i>bí-bî</i>	‘be black’	<i>bí-bî ~ bí-b-òw</i>	<i>bí-b-ó + H</i>

As (34) suggests, most nondiminutive adjectives are lexically {L}-toned. However, very often the first syllable of a {L}-toned adjective acquires a secondary H-tone, due to any of the following: a) Rightward H-Spreading when the preceding noun ends in a H-tone; b) the tonal effect of absolute prefix *?i- + H*, which is used in the

absence of a preceding overt noun; or c) Adjectival Tone-Raising, a dissimilatory process that applies when a {L}-toned noun combines with a {L}-toned adjective. For example, *bò:-b-ò + H* ‘many, much’ (final/definite singular form) appears in the form $\hat{b}ó:-b-ò + H$ in *hárí* $\hat{b}ó:-b-ò + H$ ‘a lot of water’ (Rightward H-Spreading), $\text{ʔi-}\hat{b}ó:-b-ò + H$ ‘a lot’ (with absolute prefix), and *wà:* $\hat{b}ó:-b-ò + H$ ‘a lot of milk’ (Adjectival Tone-Raising). We therefore actually hear the underlying L-tone only after a modified noun ending in underlying <HL>-tone, as in *hám* *bò:-b-ò + H* ‘a lot of meat’ (*hám*).

There are a few adjectives with a diminutive-like form. They have *-(i)y-ôw* in the nonfinal form, after a {L}-toned stem. The {H}-toned bare stem ending in *-(i)yá* functions syntactically like the final/definite singular form of most nouns and adjectives, though it is unsuffixed. The final/definite form raises the tone of a following L-toned syllable, so I represent it with floating H, but the raising could also be attributed to Rightward H-Spreading (§3.9.5.3). The corresponding verb is {L}-toned; it may be segmentally identical to the final/definite singular form, or it may lack the final *ya* syllable. Two examples are in (35).

(35) Diminutive adjectives

verb	gloss	adjective	
		Nonfinal	Fin/Def Sg
a. <i>kàtìyà</i>	‘be small/young’	<i>kà(t)t-íy-ôw</i>	<i>kát-íyá + H</i>
b. <i>màrì</i>	‘be slender’	<i>màr-(i)y-ôw</i>	<i>már-(i)yá + H</i>

For fuller information see §4.6.2.8 and §4.9.8. Noun-adjective compounds with final diminutive-like variants of otherwise nondiminutive adjectives (§4.9.4-5) show other tonal patterns.

3.9.1.3 Lexical tones of numerals

Cardinal numerals behave syntactically much like adjectives, but the primary numerals ‘1’ to ‘10’ have special morphosyntactic features. Tone melodies of numerals from ‘1’ to ‘10’ are either {H} (*fó:* ‘1’, *híŋká* ‘2’, *tá:cí* ‘4’, *gú:* ‘5’, *wóy* ‘10’) or {HL} (*hínzà* ‘3’, *ʔíddú* ‘6’, *ʔí:yê* ‘7’, *yá:hâ* ‘8’, *yággâ* ‘9’). Since all of these begin with a H-toned syllable, the floating H associated with absolute prefix *ʔi- + H* has no tonal effect on the stem. (The transcription *ʔi- + H* is based on its behavior with modifying adjectives.)

For ‘20’ and ‘30’ (irregularly related to ‘two’ and ‘three’, respectively) I heard *wàráŋkà* ‘20’ and *wàránzà* ‘30’, both with {LHL} melody. Among the noun-like stems for larger numbers, we do get {L} in *zàngù + H* ‘hundred’, while ‘thousand’ has a {LHL} melody: *zèmbêr*.

All numerals can occur finally within NPs in the unsuffixed forms shown above. If there is no overt noun, the absolute prefix is added to numerals from ‘1’ to ‘10’

but not to higher numerals. Numerals also have a suffixally marked definite singular form with the same suffix as in the final/definite singular of many nouns). With numerals, the suffix is reserved for clearly definite contexts, as in *?i-híŋk-ó + H* ‘the [same] two’). The tones of the definite singular forms obey regular nominal/adjectival tonology rules for final/definite singular suffixation, except that *wóy* ‘10’ and *fó:* ‘1’ have an unexpected {HL} melody in definite *wóy-ò + H* ‘the ten’ and *fíy-à: + H ~ fúw-à: + H* ‘the one’. They appear to be **the only {H}/{HL} stems** among nouns, numerals, or adjectives.

3.9.1.4 Lexical tones of underived verb stems

The full set of underived *Cv*, *Cv:*, *CvC*, and *Cv:C* verbs known to me is given in (36), organized under each of these headings by tone pattern.

(36) Verb-stem tones (monosyllabics)

a. *Cv* (complete list)

- H *héⁿ* ‘be worthless’ (origin unknown, irregular), *té* ‘become’
 <HL> *bî* ‘(day) break’ (variant *bî:*), *dî* ‘catch fire’ (variant *dîn*), *fê* ‘announce’, *nê* ‘say’, *tê* ‘come!’ (imperative only), *tê* ‘(e.g. season) happen’, *yê* ‘return’ (and related serial-verb *yô* ‘do again’)
 L *bà* ‘want’, *cì* or *kì* ‘speak, gossip’, *dù* ‘get, find’, *kà* ‘come’, *tà* ‘accept’, *zà* ‘take’, *dì* ‘take’ (variant *dîn*), *zà* ‘receive’

b. *Cv:* (complete list)

- H *bá:* ‘be abundant’, *bí:* ‘spin (string)’, *bú:* ‘die’, *cé:* ‘call, summon’, *dí:* ‘see’, *fú:ⁿ* ‘fart’, *há:ⁿ* ‘ask (inquire)’, *hé:ⁿ* ‘weep’, *hí:* ‘lend’ (also <HL>), *hó:* ‘hunt’, *hó:ⁿ* ‘take!’ (imperative only), *kú:* ‘be long, tall’, *má:* ‘hear’ (VO verb), *má:* ‘(e.g. rains) be abundant’, *nó:* ‘give’, *sí:* ‘not be’ (quasi-verb), *tá:* ‘sew’, *té:* ‘make, do’, *tó:* ‘arrive’, *tó:* ‘be full’, *wá:* ‘defecate’, *wí:* ‘kill’, *zé:* ‘swear an oath’, *zí:* ‘swim’ or ‘kick’, *zú:* ‘sip’
 <HL> *fî:ⁿ* ‘blow nose’, *hî:* ‘lend’ (also H), *sî:* ‘test’, *wâ:* ‘(God) preserve (sb)’
 L *fò:* ‘greet’, *H + gò:* ‘be (somewhere)’ (quasi-verb), *kà:* ‘take away, remove’, *ŋà:* ‘eat’

c. *CvC* (complete list)

- H *bén* ‘end’, *béy* ‘know’, *bów* ‘break’, *cén* ‘(water) spring out’, *cín* ‘build’, *ców* or *céw* ‘study, read’, *dów* ‘uproot, pull out’ (<*dógú), *féw* ‘explode’, *féy* ‘separate, divorce’, *góy* ‘work’, *háw* ‘tie’, *háy* ‘give birth’, *hín* ‘be able’, *hín* ‘cook’, *jín* ‘be first’, *kóm* ‘take away (from sb)’, *kóy* ‘go’, *kún* ‘get pregnant’, *mán* ‘approach’, *mún* ‘pour, dump’, *nín* ‘be ripe, cooked’, *sáŋ*

- ‘slap’, *táw* ‘be new’, *tóŋ* ‘roast’, *yéy* ‘get cool’, *zów* ‘look back’
 (*zógú)
- <HL> *bâŋ* ‘need (new) clothes’, *bôy* ‘lead (animals), *cîm* ‘be right’,
dâŋ ‘strangle’, *dêŋ* or *dên* ‘cross’, *dên* ‘forge’, *dêy* ‘buy’, *dîn*
 (or *dî*) ‘be lit’, *fûn* ‘make a hole in’, *gôn* ‘swallow’, *gûm*
 ‘cover, turn over’, *hây* ‘be open (wide)’, *jên* ~ *jêŋ* ‘be tired,
 fail’, *kâŋ* ‘fall’, *kôn* ‘hate’, *lêm* ‘make string’, *nân* ‘press, push
 on’, *nêŋ* ‘precede, beat (to a goal)’, *tîn* ‘be heavy’
- L *cèy* ‘weave’, *dâm* ‘put (somewhere), *dîn* (or *dî*) ‘catch’, *dùm*
 ‘walk (sb) to the door’, *dùm* ‘suck’, *hâŋ* ‘drink’, *hùn* ‘leave, go
 from’, *jèy* ‘spend a long time’, *jòw* ~ *jèw* ‘be thirsty’, *kòm*
 ‘(milk) thicken’, *mèy* ‘possess’, *nâŋ* ‘leave, abandon’, *sèy*
 ‘disperse’, *tâŋ* ‘push’, *tùn* ‘get up’, *zèy* ‘(plant) sprout’, *zèy*
 ‘steal’, *zòw* ‘fight’
- d. Cv:C (complete list)
- H *ŋá:n* ‘know, be expert in’, *tá:y* ‘get wet’, *zé:n* ‘get old’
- <HL> *dô:n* ‘sing’ (cognates are L-toned), *gâ:n* ‘dance’, *gâ:y* ‘stand,
 stop’, *hâ:w* ‘be ashamed’, *hâ:y* ‘spend middle of day’, *kâ:n* ‘be
 sweet, good; be sharp’, *wâ:y* ‘milk (e.g. cow)’
- L *bâ:n* ‘be soft’ and ‘be in good health’, *dò:n* ‘be lightweight’,
mâ:y ‘be out of sight’

The H-toned stems in HS correspond to H-toned stems in other tonal Songhay languages (Zarma, TSK, Kaado, Dendi). Likewise, <HL>-toned stems correspond to cognates with <HL>. The alternation of *hí:* and *hî:* ‘lend’ probably reflects borrowing of this stem from KS, which is nontonal. There are a few other historical problems involving H and <HL> monosyllables (including *dô:n* ‘sing’) but they need not detain us here.

The L-toned stems in (36) reflect a mix of L and <LH> proto-forms, along with a smattering of others. Those from original <LH> tone are *fò:* ‘greet’, *H+gò:* ‘be’, *kâ:* ‘take away, remove’, *ŋà:* ‘eat’, *hâŋ* ‘drink’, *sèy* ‘disperse’, and possibly (to judge by Zarma) *tùn* ‘get up’. On the other hand, *bà* ‘want’ appears to be from **bâ*, and cognate sets for *cì* ‘speak’, *bî:* ‘do at night’, and *nâŋ* ‘leave’ include some cases with <HL> or H tone.

I now present representative data (not exhaustive unless so indicated) showing the attested tone patterns of bisyllabic HS verbs (37). In addition to the unproblematic H.H and L.L, other well-attested sequences are H.<HL> (often from *HL) and L.<HL>, while L.H does not occur at word-level.

(37) Verb-stem tones (bisyllabics)

a. CvCv (examples)

- H.H *dúru* ‘pound (in mortar), *túru* ‘braid (hair of)’
 H.<HL> *bí-bí* ‘be black’, *fêrê* ‘go into exile’, *fórô* ‘wail’, *húrá* ‘enter’,
kú-kú ‘be long’

- L.H —
 L.<HL> —
 L.L *dìrà* ‘walk, go away’, *gòrò* ‘sit’, *jìsì* ‘put down, set’, *tàbà* ‘taste’, *tùrù* ‘reply’, *yèkà* ‘come back’, *zùrù* ‘run’
- b. Cv:Cv (examples)
- H.H *há:rú* ‘laugh’, *fó:rú* ‘skin and butcher’, *má:ní* ‘be fatty’, *ná:sú* ‘be plump’, *nú:sí* ‘be inserted’
 H.<HL> *bé:rí* ‘grow up’, *dá:bû* ‘shut’, *fó:mâ* (also L.<HL>) ‘be a show-off’, *hó:lê* ‘trust’, *má:tê* ‘sense’, *mó:rú* ‘be or go far’, *né:rê* ‘sell’, *só:sê* ‘suspect’
- L.H —
 L.<HL> *bò:nô* ‘be nearly ripe’, *fà:jí* ‘miss (nostalgically)’, *fò:mâ* (also H.<HL>) ‘be a show-off’, *gò:rô* ‘snore’, *là:lâ* ‘be bad’, *wù:rú* ‘shout’
 L.L *mò:rú* ‘caress’, *ṅà:sù* ‘scratch’, *tò:sù* ‘urinate’
- c. CvCCv (examples)
- H.H *fánsí* ‘dig’, *fáttá* ‘exit’, *fillá* ‘repeat’, *fúnsú* ‘be swollen’, *hóttó* ‘be bitter’, *kúṅgú* ‘be sated’
 H.<HL> *gársí* ‘grind (with stones)’, *fírsí* ‘spit (jet)’, *háwrú* ‘eat supper’, *hénsê* ‘do on purpose’ or ‘do very much’, *séllê* ‘be in good health’, *sínjî* ‘implant’, *sóndû* ‘castrate’, *súndû* ‘be absorbed’, *téyfâ* ‘be an intermediary’, *wéltê* ‘be happy’, *wúnjî* ‘refuse’, *zúkkê* ‘fine’
- L.H —
 L.<HL> *cìndí* ‘remain’, *dòntô* ‘be sent (on a mission)’, *hàrsí* ‘clear throat by coughing’, *jìrbî* ‘sleep’, *kòttô* ‘rip’, *kùmsí* ‘wrap in end of garment’
 L.L *hàngà* ‘follow’, *hènsè* ‘fix’, *hòṅgù* ‘remember’, *wàngù* ‘combat’, *yèddà* ‘consent’
- d. CvCvC (examples)
- H.H *kórónṅ* ‘be hot’, *zápéy* ‘be hurt’
 H.<HL> *kúfâl* ‘lock’, *márêy* ‘be wounded’, *ṅínêy* ‘bathe’, *túfêy* ‘spit’
 L.H —
 L.<HL> *hèrêy* ‘be hungry’, *kùbêy* ‘get married’, *tìsôw* ‘sneeze’
 L.L *bùyày* ‘converse (at night)’, *dìndòw* ‘forget’, *fàhàm* ‘understand’, *cìrèy* ‘be red’, *kùbèy* ‘meet’, *sèlèṅ* ‘speak’, *sùkùm* ‘have trouble breathing’
- e. CvCCvC (complete list)
- H.H *dánjéy* ‘be quiet’, *déṅkéṅ* ‘tiptoe’, *gúṅgúm* ‘lean over’, *hámnyé* ‘offer help’, *héṅgén* ‘listen’, *húnzám* ‘rest’, *káṅkám* ‘squeeze’

H.<HL>	<i>jéllél</i> ‘(horse) rear’, <i>síntín</i> ‘begin’, <i>sónkôm</i> ‘squat’
L.H	—
L.<HL>	<i>hàntûm</i> ‘write’, <i>zìnzîm</i> ‘gnaw’, <i>zònkôm</i> ‘peck’
L.L	<i>dèndèn</i> ‘imitate’, <i>fòrsèy</i> ‘fade, lose color’, <i>fùnfan</i> ‘search through’, <i>gùrjèy</i> ‘fight, wrestle’, <i>tòntòŋ</i> ‘add’, <i>wòymèy</i> ‘go in afternoon’, <i>zànkàm</i> ‘stride, swagger’
f. <i>Cv:CvC</i>	
H.H	<i>dé:béy</i> ‘reach up’, <i>cí:néy</i> ‘gossip about’, <i>dó:néy</i> ‘be accustomed’, <i>ná:néy</i> ‘trust’, <i>ŋá:rèy</i> ‘beg, implore’
H.<HL>	—
L.H	—
L.<HL>	—
L.L	<i>gà:rèy</i> ‘chase away’, <i>hà:mèy</i> ‘snatch’, <i>kà:rèy</i> ‘be white’, <i>sò:lòm</i> ‘get ready (to go)’, <i>zà:ràm</i> ‘leave around noon’

The H.<HL> stems include many Fulfulde borrowings ending in *ê*.

The L.<HL> stems of shapes ending in simple *Cv* reflect either <LH>.L or L.<HL> stems, which sometimes shift back and forth even in other Songhay languages. The HS preference for the L.<HL> pattern is consistent with this language’s stronger tendency to bunch tone breaks as close as possible to the right edge of the word, favoring contoured <HL> tone on the final syllable. TSK and to some extent Zarma tend to keep original <LH>.L patterns with the contoured tone on the first syllable. Compare HS L.<HL> patterns in *dòntô* ‘be sent (on a mission)’ (37c), and its dialectal variant *dèntê*, with Zarma *dòntòn* and TSK *dèntè* with their <LH>.L pattern.

Trisyllabic verb stems are illustrated in (38), exemplifying with *CvCvCv* shape.

(38) Verb-stem tones (trisyllabics)

CvCvCv (examples)

H.H.H	<i>bátálá</i> ‘be cheap’, <i>jígírí</i> ‘tremble’, <i>cíkírí</i> ‘rub’, <i>ménéné</i> ‘melt, dissolve’, <i>sósóbú</i> ‘remove bran from (millet)’
H.H.<HL>	<i>kúkúré</i> ‘roast on fire’, <i>téféré</i> ‘hobble (tie legs of)’, <i>súbúrí</i> ‘stay calm’, <i>tílású</i> ‘be necessary’
L.L.<HL>	<i>hàsàrà</i> ‘be ruined’, <i>kògòtò</i> (also L.H.L) ‘cough’, <i>sùtùrà</i> ‘protect’, <i>tàbàtí</i> ‘succeed’, <i>zàràbî</i> ‘get tired’
L.H.L	<i>kògòtò</i> (also L.L.<HL>) ‘cough’ (semi-onomatopoeic)
L.L.L	<i>bèbèrè</i> ‘talk a walk’, <i>hàlàcì</i> ‘destroy’, <i>kàtiyà</i> ‘be small’, <i>mìmisì</i> ‘drizzle’, <i>mùmùsù</i> ‘smile’, <i>sàfàrì</i> ‘treat, care for medically’

H.H.H, H.H.<HL> (from *H.H.L), and L.L.L are unproblematic. Of interest is the distinction between L.L.<HL> and L.H.L. The latter is not attuned to normal HS tone patterning, given that HS elsewhere tends strongly to favor a final contoured tone, so that original *L.H.L should normally appear in HS as L.H.<HL> rather than

L.H.L. Thus HS *hàsàrà* ‘be ruined’ corresponds to TSK *hàsírà* and Zarma *hàsàrà* (all ultimately from Arabic). Of the two L.H.L. verbs, *kògótò* is a variant of the more regular *kògòtò* (and is arguably onomatopoeic), and this variant may have been influenced by the noun *kògót-ò + H* ‘(a/the) cough’, a morphological form that does not allow a final-syllable contoured tone.

3.9.1.5 Floating H-tones

Floating H is a pervasive presence in HS in the analysis presented here, though other interpretations are possible. It is associated with numerous proclitics and suffixes, and with one prefix (absolute prefix on adjectives). Most unpossessed and some possessed core NPs (maximally noun-adjective-numeral) end in a floating H. In the analysis here, a floating H is stipulated for particular morphemes, but there are other analytic possibilities that could replace this stipulation with more general principles (see discussion later in this section).

A floating H associated with a preceding word **docks on** (=attaches itself to) the first syllable of the word or morpheme to its right; for the phonology see Rightward Floating-H Docking §3.9.5.2. It is audible only when the morpheme to the right would otherwise begin in a L-tone. Therefore a floating H is vacuous when the following morpheme already begins in a H-tone, or when there is no following morpheme (prepausally). Some morphemes resist docking of a floating H from another morpheme to their left. A subset of these resistant morphemes have their own lexically associated floating H, but in this case positioned to their left, so the floating H in this case docks on the final syllable of the preceding word, see Leftward Floating-H Docking §3.9.6.1. Phrasal bracketing is also a factor, for example in sequences like [A+H [B C]]. Here B is closely phrased with C and may disregard the preceding floating H.

Floating L-tones also occur, but they are always the result of delinking the L-tone of a word- or morpheme-final <HL> syllable. Prepausally, the syllable in question has the full <HL> tone. By contrast, when a word ending in floating H occurs prepausally, the H simply disappears.

The morphemes and words that are **followed by floating H** are those in (39). Note that they themselves are either L-toned, or atonal. Atonal morphemes, included in (39a) and (39d), surface as H- or L-toned depending on the tones of the stem. In the case of final H-tone, it is moot whether a floating H must be stipulated since Rightward H-Spreading would have the same phonological effects.

(39) Morphemes followed by floating H

category	form
a. unpossessed nouns	
atonal, with final L- (or H-)tone spread from the noun stem	
Final/definite singular (unpossessed)	<i>-o + H ~ -a: + H</i>
Definite plural (unpossessed)	<i>-ey + H</i>

- with final L- (or H-)tone (arguably with suffix $-\emptyset + H$)
 nouns with zero Fin/Def Sg marking: $kòy\grave{r}\grave{a} + H$ 'village'
 $c\acute{e}y\acute{d}\acute{y}\acute{a} + H$ 'rainy season'
 generic human noun $b\grave{o}r + H$ '(some)one'
 the only {L}-toned numeral $z\grave{a}\eta\grave{g}\grave{u} + H$ 'hundred'
- b. possessed nouns
 with final L- or H-tone spread from the noun stem
 3Sg possessor of Sg inalienable $-o + H \sim -a: + H$
 3Sg possessor of Pl inalienable $-ey + H$
 with final L-tone spread from the noun stem
 1st/2nd person inalienable possessor 1Sg $-\grave{e}y + H$
 1Pl $-\grave{e}y\text{-}nd\grave{i} + H$
 2Sg $-\grave{a}\eta + H$
 2Pl $-\grave{a}n\text{-}d\grave{o}\eta + H$
- c. pronominal clitics
 L-toned subject pronominals (first/second persons)
 1Sg subject $\grave{i} + H$
 2Sg subject $\grave{\eta} + H$
 1Pl subject $y\grave{o} + H$
 2Pl subject $w\grave{o} + H$
 L-toned 3Pl pronominals (subject and other categories)
 3Pl subject $j\grave{o}\eta + H$
 3Pl preverbal object $j\grave{o}\eta + H$
 3Pl before postposition $j\grave{o}\eta + H$
- d. inflectional particles preceding VP
 L-toned
 Imperfective $g\grave{u} + H \sim \grave{w} + H$
 Future $n\grave{a}m + H \sim n\grave{a}\eta + H$
 (Perfective) negative $m\grave{a}n + H \sim m\grave{a}\eta + H$
 Imperfective negative $s\grave{u} + H$
 Infinitival $k\grave{u} + H \sim \grave{w} + H$
- e. other
 atonal, with final L- or H-tone spread from the stem
 Verbal noun $-j\eta + H$
 Indefinite plural $-j\eta + H$
 with final L-tone
 Reciprocal (allomorph) $c\grave{e}r + H$
 'with' preposition $\acute{n}\acute{d}\grave{u} + H$
 'only' or 'must' $k\grave{a}l + H$
 Weak topic $k\grave{a}y + H$

Examples of unsuffixed final/definite singular nouns, cf. (39a) above, are given in (40a-c). The first two examples involve unsuffixed {L}-toned nouns, *kòyrà + H* and *cìjɲà + H*, that raise the tone of the first syllable of the verb. In (40c), the {H}-toned noun *céydíyá + H* has a similar effect on the verb; this could be attributed either to a floating H or to Rightward H-Spreading.

- (40) a. *kòyrà* \uparrow *dírà*
village walk
'The (whole) village has traveled.'
- b. *cìjɲà* \uparrow *kâ*
rain(-Fin/DefSg) come
'It rained.'
[for younger speakers also, with suffixed noun, *cìjɲ-ò* \uparrow *kâ*]
- c. *céydíyá* \uparrow *mán* *ʰúrâ*
rainy.season PerfNeg enter
'The rainy season hasn't come in (=begun).'

There are two primary historical sources for floating H. One is the delinking of the final H-tone from an earlier *<LH>-toned syllable (no syllable-level rising tone survives as such in HS). This is the case with *-o + H* ~ *-a: + H* and *-ey + H* in (39a), which reflect definite singular *-ǒ: and definite plural *-ěy. It is also probably the case with topic morpheme *kây + H* (cf. TSK *kǎy*). The second source is the rightward jumping of an original H-tone from a morpheme, which then drops to L-tone. Several of the HS morphemes that bear a floating H correspond to H-toned morphemes in TSK. This is the case for the 1st/2nd person subject pronominals in (39c), the imperfective negative and infinitival morphemes in (39d), *údu + H* 'with', and the *-ɲoŋ + H* morphemes in (39c,e).

Because the floating H is so widespread in HS, one should consider alternatives to an analysis that simply stipulates its lexical association with specific morphemes. One possible reanalysis is morphosyntactic, another is phonological. Both would dispense with the stipulated floating H as such, and would posit rules directly raising the tone at the left edge of the following word under specified conditions.

To determine whether the floating-H effect is predictable, we must supplement the list of floating-H bearing morphemes in (39) above) with a complementary list of morphemes and words that are **clearly not followed by floating H** (41). Since words ending in a H-tone have the same phonological effect on the following word as words ending in floating H, only morphemes and words that end (or can end) in other than a H-tone are included.

(41) Morphemes not followed by floating H

category	form
a. unpossessed nouns	
<i>with final <HL>-tone</i>	
nouns with zero Fin/Def Sg	e.g. <i>bònê</i> ‘trouble’, <i>-jɛnɛy</i> ‘lack of’
b. possessed nouns	
<i>with final <HL>- or L-tone (after Tonal Rhythm)</i>	
PossSg	-ô ~ -ò ~ -à:
PossPl	-ɛy ~ -èy
1st/2nd person alienable, Sg noun	1Sg -ê ~ -è 1Pl -éy-ndiy-â: ~ -èy-ndíy-à: 2Sg -ó-nòŋ ~ -ò-nôŋ 2Pl -ó-ndòŋ ~ -ò-ndôŋ
1st/2nd person alienable, Pl noun	1Pl -éy-ndiy-ɛy: ~ -èy-ndíy-èy 2Sg -éy-nòŋ ~ -èy-nôŋ 2Pl -éy-ndòŋ ~ -èy-ndôŋ
nouns with zero PossSg marking	e.g. <i>X kòyrâ</i> ‘X’s village’ cf. <i>X kòyr-ɛy</i> ‘X’s villages’
c. pronouns and pronominal clitics	
<i>pronouns with final <HL>- tone</i>	
1Sg (independent)	?ây
1Pl (independent and object)	yérí
2Sg (independent)	ní
2Pl (independent and object)	wàràŋ
3FullSg	?ángá
3FullPl	ñjéy
<i>pronouns with final L-tone</i>	
1Sg preverbal object	nèy
2Sg preverbal object	nàŋ
3Sg subject	à
3Sg preverbal object (allomorph)	à
3Sg before postposition	à
2Pl imperative	wò
<i>with final <HL>- or L-tone (after Tonal Rhythm)</i>	
3Sg VO object	-â ~ -â
3Sg preverbal object (allomorph)	ŋ
d. inflectional particles preceding VP	
<i>L-toned</i>	
Perfect	nàŋ
XImpf	bò

Progressive <HL>-toned	<i>nò</i>
Subjunctive	<i>m̂ ~ f̂</i>
Transitive	<i>f̂</i>
e. other	
<i>with final L-toned syllable</i>	
verb stems	e.g. <i>kà</i> ‘come’
postpositions	e.g. <i>bòŋ</i> ‘on’, <i>gà(:)</i> ‘on’
Reciprocal (postverbal)	<i>cèrè</i>
Strong definite	<i>H + d̂i</i>
‘be’	<i>H + gò:</i>
‘here’	<i>nè:</i>
<i>with final <HL>-toned syllable</i>	
verb stems	e.g. <i>húrâ</i> ‘go in’
postpositions	e.g. dative <i>sé, d̂ó</i> ‘chez’
numerals	e.g. <i>hínzâ</i> ‘3’
‘around’	<i>héré</i>
‘also’	<i>mô</i>
Emphatic	<i>dâ</i>
demonstratives	<i>H + wô</i> , plural <i>H + w-êy</i>
Relative or focus	<i>gâ</i>
‘what?’	<i>mî:ŋ</i>
‘there’ or ‘it is’	<i>nôŋ</i>

The first possible reanalysis would argue that tone-raising is predictable from **morphosyntactic configurations**. The starting observation is that most unpossessed (and some possessed) nouns and noun-adjective combinations end in floating H, see (39a-b) and the indefinite plural in (39b). Likewise, most pre-VP inflectional morphemes end in floating H (39d). On the other hand, most verbs, postpositions, and late-NP particles (such as discourse-functional morphemes) lack a floating H.

The fact that even unsuffixed nouns (e.g. *kòyrâ + H* ‘village’ and place names like *hùmbùrì + H*) end in floating H is particularly telling. The only simple NPs that do not have floating H are possessed alienables, inalienables with 3PossSg or 3PossPl (but not regular 3Sg) suffixes, and inalienables with 1Sg or 2Sg possessor suffix that end in <HL>-tone due to tone-spreading from the stem.

Likewise, (39b-c) include the majority of pronominal-subject and inflectional particles that precede VPs. Since pronominal subjects function as NPs, one could combine them with the NPs just described. By contrast, verbs, postpositions, and NP-final particles do not have floating tones. The generalization would therefore be that tone-raising applies to the left edge of a word that follows either a core NP or a preverbal inflectional morpheme.

However, there are several exceptions to this generalization that make a purely morphosyntactic reanalysis impossible synchronically, though one can imagine a future version of the language where these exceptions have been leveled out. Among pronominal-subject morphemes, 3Sg *à*, 3FullSg *?ángâ*, and 3FullPl *ñjêy* do

not have a floating H. There is no floating H after preverbal pronominal-object morphemes (except 3Pl *jòŋ + H*), or after the 3Sg object suffix *-a* on VO verbs. Among nonpronominal pre-VP inflectional morphemes, there is no floating H after subjunctive *m̂ ~ ñ̂*, transitive *ñ̂*, or perfect *nàñ̂*, for example. So while a simple reanalysis, replacing stipulated (lexical) floating H's with a morphosyntactically controlled tone-raising rule focusing on NPs, would account for a majority of the data, it would have to recognize a significant number of exceptions.

The other possible reanalysis is **phonological**. It would argue that the tone-raising is not due to a floating H, nor to morphosyntactic categories, rather to **tone dissimilation**. The idea would be that a {L}-toned word following a word that ends in a L-tone raises the tone of its first syllable (or first mora if the word is monosyllabic). This could be interpreted as motivated **rhythmically**, and/or as a device to mark word boundaries prosodically.

In this analysis, floating H's stipulated for words ending in a H-toned syllable are dispensed with, since they can be accounted for by an independently justified process of Rightward H-Spreading (§3.9.5.3). This includes all nouns and numerals ending (after word-internal tone processes) in final/definite singular (or 3Sg inalienable possessor) *-ó*, the plural counterpart *-éy*, and indefinite plural *-jóŋ*, as well as {H}-toned verbs with verbal noun *-jóŋ*.

This takes care of words/morphemes ending in H-tone. Since there are no <LH> tones at syllable level in HS, there remain only words ending in <HL>- and L-toned syllables. The phonological reanalysis of the "floating-H" effect would be that words/morphemes ending in a L-toned syllable, but not a <HL>-toned syllable, raise the tone of a following L-toned syllable to H.

This solves the basic problem with the morphosyntactic analysis, since many of the exceptions to tone-raising in the latter analysis involve words (including inflectional particles) that "happen to" end in a <HL>-toned syllable. The phonological reanalysis is also supported by the existence of an independently justified tonal dissimilation of the same type that occurs in noun-adjective sequences, see Adjectival Tone-Raising (§3.9.4.2).

However, it is not the case that all words ending in a L-toned syllable are triggers for tone-raising in the following word. (42) contains some words and morphemes ending in L-tone that have no tonal effect on a following word. For example, 1Sg object *nèy* has no tonal effect on *bànà* in (42a), and postposition *bòŋ* has no tonal effect on *bì*: in (42b).

- (42) a. *bá: = ɛ́ ɛ́ = ɛ́ nèy bànà, ì sú ɛ́ = ɛ́ = ɛ́ 'té:*
 even=2SgS=Tr 1SgO pay, 1SgS ImpfNeg=Tr=3SgO do
 'Even if you-Sg paid me, I wouldn't do it.' (*bâ:*)
- b. *ì ɛ́dú [ʔàtté: jín-èy] ɛ́[á bòŋ] bì:*
 1SgS get [tea gear-DefPl] [3Sg on] yesterday
 'Yesterday I got (=found) the tea gear on it.'

A further problem with the phonological reanalysis is that some L-toned $C\grave{v}$ function morphemes fail to raise their tones after a floating H. These include infinitival $k\grave{u} + H$ (43a) and imperfective negative $s\grave{u} + H$ (43b).

- (43) a. $k\grave{a}l$ $k\grave{u}$ $\uparrow s\acute{e}l\grave{e}\eta$ $[k\grave{o}-k\grave{o}y-\grave{o}$ $s\acute{e}]$
 $/k\grave{a}l + H$ $k\grave{u} + H$ $s\grave{e}l\grave{e}\eta$ $[k\grave{o}-k\grave{o}y-\grave{o} + H$ $s\acute{e}]/$
 except Infin speak [chief-Fin/DefSg Dat]
 ‘except speaking to the chief’
- b. \grave{i} $s\grave{u}$ $\uparrow d\acute{i}r\grave{a}$
 $/\grave{i} + H$ $s\grave{u} + H$ $d\acute{i}r\grave{a}/$
 1SgS ImpfNeg walk
 ‘Even if you-Sg paid me, I wouldn’t do it.’

So neither the morphosyntactic nor the phonological reanalysis works cleanly. A combination of the two would come closer to getting the facts right. For example, one could limit the tonal dissimilation to core NPs (up to and including a numeral) and to pre-VP inflectional morphemes. However, even such a combined reanalysis would leave a number of exceptions. This is because some morphemes of the supposedly favorable morphosyntactic and phonological types do not have a floating-H effect: some pronominal clitics (3Sg \grave{a} , 2Pl imperative $w\grave{o}$), some possessed nouns, some pre-VP inflectional morphemes (e.g. perfect $n\grave{a}\eta$).

So our choice is either to stipulate a large number of floating H's, or to go for a combined morphosyntactic/phonological analysis and still have to list a fair number of exceptions. A case can be made for either approach. The practical advantage of the stipulative approach is that users of the grammar and dictionary can see at a glance which morphemes and words have a floating-H effect on following words, rather than having to do complex calculations.

However, there is one robust phonological generalization that can be stated as a constraint (44).

(44) **No floating H after word-final <HL> syllable**

No floating H occurs after a word which in isolation ends in a <HL>-toned syllable (after word-internal phonology).

This is particularly relevant to 1Sg and 2Sg inalienable possessor forms, which appear (after tone-spreading from the stem) either as L-toned $-\grave{e}y + H$ and $-\grave{a}\eta + H$ (with floating H) or as <HL>-toned $-\acute{e}y$ and $-\acute{a}\eta$ (without floating H). One can therefore represent these suffixes as $/-\grave{e}y + H/$ and $/-\grave{a}\eta + H/$, and have (44) delete the floating H in e.g. $h\acute{a}s-\acute{e}y$ ‘my (maternal) uncle’ and $h\acute{a}s-\acute{a}\eta$ ‘your-Sg uncle’.

(44) refers to the form of the word before any inter-word tone processes apply. In particular, a $C\grave{v}C + H$ morpheme such as future $n\grave{a}m + H$ does not lose its floating H when it is itself affected by a preceding floating H. Hence $/\grave{i} + H$ $n\grave{a}m + H$ $d\acute{i}r\grave{a}/$ is realized, via \grave{i} $n\grave{a}m$ $d\acute{i}r\grave{a}/$ (after Rightward Floating-H Docking), as \grave{i} $\uparrow n\acute{a}m$ $\uparrow d\acute{i}r\grave{a}$ ‘I will walk’. The fact that intermediate $n\grave{a}m$ is <HL>-tone does not result in the

deletion of the floating H that follows it. This floating H appears as a H-tone on the first syllable of the verb *dírà*, even though this H-tone is then downstepped due to delinking of the L-tone in intermediate /*nâm*/.

(44) is also relevant to combinations involving a word otherwise ending in a <HL> tone plus a demonstrative *H + wô* or plural *H + w-éy*. Consider (45), where final/definite singular *sùb-ò + H* ‘grass’ and possessed *à sùb-ô* ‘his/her/its grass’ are followed by *H + wô*.

- (45) a. *sùb-ó↑* *wô*
 /*sùb-ò + H* *H + wô*/
 grass-Fin/DefSg Dem
 ‘this/that grass’
- b. *à* *sùb-ó* *‘wô*
 /*à* *sùb-ô* *H + wô*/
 3SgP grass-PossSg Dem
 ‘this/that grass of his/her/its’

I hear downstepped *‘wô* in (45b) but not in (45a). If this is correct, it suggests that the floating H in /*H + wô*/ in (45b) is deleted, then (as usual) a final <HL>-toned syllable in a nonfinal word becomes H+L, with the delinked L-tone realized as downstep on the following word (§3.9.5.9). In (45a), on the other hand, the floating H docks on the left, replacing the L-tone of the second syllable of ‘grass’, and there is no reason to downstep. However, this phonetically subtle distinction needs further verification.

In the high-frequency cliticized combination *né:↑ = wò* ‘here’, for theoretical *né:↑ = ‘wô*, *wô* is usually pronounced with L-tone.

3.9.2 Tone overwriting in derivational suffixation

Derivational verbal suffixes impose either {H} or {L} tone melody on the preceding stem. In the endocentric derivations, the same tone extends to the end of the suffix itself. The relevant suffixes are in (46). Both *-éyndí* and *-à* are multifunctional.

(46) Verbal derivational suffixes

category	suffix	stem melody	reference
a. endocentric (verb-to-verb)			
Causative	<i>-éyndí</i>	{H}	§6.2.2
Potential passive	"	"	§6.2.4
Resultative passive	<i>-à</i>	{L}	§6.2.3
Unspecified object	"	"	"

b. nominalizing				
Agentive	-kôw	{L}		§4.5.7, §4.8.2

The overwriting **erases the lexical tone** of the underived input verb. For example, *gòrò* ‘sit’ is L-toned but has H-toned causative *gór-éyndí* ‘cause to sit, set’. Similarly, the verb *ká:tí* ‘shout’ is {H}, but drops to {L} in the agentive form *kà:tì-kôw* (final/definite singular *kà:tì-k-ò + H*) ‘town crier; muezzin’. For more examples and discussion see the sections indicated.

The {L}- or {H}-toned derived verb stem is subject to further modifications of the sorts also applicable to underived verbs or nouns. Within the word, the singular-subject imperative suffix *-ŋ* (arguably *-ŋ̄*) imposes tone changes on the final two syllables of a verb. There are also various tone-sandhi rules applying across word-boundaries, such as Rightward H-Spreading (see below). Nouns, including agentives, are subject to various tone rules if they are possessed.

There are also a number of **nominal derivational** endings that impose {L} melody on the preceding stem. The suffix itself may have a tone distinct from the flat {L} of the stem.

(47) Nominal derivational suffixes or compound finals

category	suffix	preceding stem	reference
‘-hood’	-târêy	{L}	§4.8.7
‘owner of’	-kòynì	{L}	§4.5.5
Diminutive	-íy-òw	{L}	§4.9.1

For example, *gùndê* ‘belly’ ends in a <HL>-toned syllable, but becomes {L} in the derivation *gùndê-kòynì* ‘pregnant woman’ (lit. “one who has a belly”).

3.9.3 Presuffixal Cv: Tone-Raising (monosyllabic noun before suffix)

L-toned stems of the shape *Cv̇:* or *Cv̇* (i.e. V-final monosyllabic stems) are sometimes raised to H-tone in suffixal contexts.

For verbs, the only clear example of tone-raising is *bá:g-à* ‘want it’, the 3Sg object form of VO verbs *bà* ‘want’. The form *bá:g-à* is archaic and isolated in HS. Other examples that may sound tone-raised are, in my current understanding, variably upstepped rather than raised to H-tone. This is the case with *gò:ʔ=nè* ‘be here’ and *gò:ʔ=nò* ‘be there’, with cliticized demonstrative adverbs.

For nouns, the relevant stems are *Cà:* or *Cè:* monosyllables in their (usually infrequent) combinations with a final/definite suffix. Such nouns avoid the (singular) final/definite singular suffix when unpossessed, but allow it when possessed. They may also accept definite plural *-ey + H*. I observed shifts to H-toned stem in these combinations.

(48)	gloss	nonfinal	‘his/her X’	Definite plural
a.	‘campground’	<i>gâ:</i> ~ <i>gá:</i>	<i>à gá:-w-ò</i> ~ <i>à[†] gâ:</i> ~ <i>à gá:</i>	<i>gá:-w-éy + H</i> ~ <i>gá:-y-éy + H</i>
b.	‘milk’	<i>wà:</i>	<i>à wá:†-y-ò</i> ~ <i>à[†] wá:</i>	<i>wá:†-y-èy + H</i>
	‘share’	<i>bà:</i>	<i>à[†] bà:</i>	<i>bá:†-y-èy + H</i>
c.	‘borassus palm’	<i>bè:</i>	<i>à bé:-w-ò</i> ~ <i>à bé:-y-ò</i> ~ <i>à[†] bè:</i>	<i>bé:-y-èy (PossPl)</i>

‘Campground’ (48a), an uncommon noun that some speakers do not know, fluctuates between *gâ:* and *gá:* as lexically basic shapes, even when unsuffixed, so its suffixed forms with H-toned *gá:* could simply be based on the H-toned variant. This is clearly the case in definite plural *gá:-w-éy + H* ~ *gá:-y-éy + H*, where the suffix as well as the stem is H-toned. So I focus on (48b-c).

In the 3Sg possessor column (‘his/her ...’), we see that ‘milk’ (48b) and ‘borassus palm’ (48c) remain L-toned when no suffix is added, but that they become H-toned when there is such a suffix. These alienably possessed forms are subject to Tonal Rhythm (see below), and one could argue that the tone-raising is a device to satisfy the requirement that the syllables differ tonally. However, given the lexical L-tone, the straightforward way to satisfy this constraint would have been by shifting the *-o* or *-ey* suffix to <HL>-tone (e.g. #*à[†] wá:-y-ò* ‘his/her milk’), in the fashion of lexically L-toned bisyllabic nouns (*à[†] sùb-ò* ‘his/her grass’). Therefore a morphologically specialized tone-raising rule must be posited.

(49) Presuffixal *Cv*: Tone-Raising

A *Cv̇*: noun stem appears as *Cv̇:-* before final/definite suffixes, and before the closely related alienable-possessor suffixes

For speakers who pronounce the plural of ‘milk’ as *wá:†-y-èy + H* with H.L tone pattern, the tone-raising rule affects only the first syllable. Compare *gá:-w-éy + H* ‘campgrounds’, with H.H pattern, which suggests that the stem variant *gá:* (rather than variant *gâ:* plus Presuffixal *Cv*: Tone-Raising) is at hand. In alienably possessed forms with *-o* or *-ey*, a {HL} melody is required by the Tonal Rhythm rule (see below), given that the stem vowel is H-toned.

My current view is that Presuffixal *Cv*: Tone-Raising does not apply as such to inalienably possessed forms such as *bà:-y-ndì + H* ‘our share’ (stem *bà:*), whose surface pitch pattern seems to me to differ subtly from that of *má:-y-ndì + H* ‘our name’ (stem *mâ:*). The phonetic difference is not great and it may be that Presuffixal *Cv*: Tone-Raising does apply at least variably to *bà:-y-ndì + H*. The same issue arises with pronominally conjugated forms of postposition *gâ:* ~ *gâ* such as *gâ:-y-ndì*

‘on us’ (§5.9.4), since postpositions are closely related to inalienably possessed nouns.

3.9.4 Tonal dissimilation processes

3.9.4.1 Tonal Rhythm (possessed nouns, imperatives, VO verbs)

Tonal Rhythm operates within the final two syllables (penult and final) of alienably possessed nouns, some third-person possessor forms of inalienably possessed nouns (those based on 3PossSg or 3PossPl), singular-subject imperative verbs, and VO verbs with 3Sg object suffix. The penultimate tone is a key factor, but only the last syllable is modified.

For the possessed nouns, if the suffix complex (disregarding the stem) has more than one syllable, the domain of Tonal Rhythm begins with the last presuffixal syllable internal to the stem and contains all suffixes, resulting in a domain of three or four syllables. The exception is that indefinite plural *-noŋ*, which can follow the 1Sg alienable possessor suffix, is excluded from the domain (this is not surprising since this suffix has only minimal phonological interaction with the preceding stem).

Examples of **inputs** to Tonal Rhythm are in (50). The input syllables constituting the domain of the rule (which has not yet applied) are in brackets; any syllables to their left are disregarded. For example, in a trisyllabic {LHL}-toned noun like *dà[bár-ò] + H* ‘strategem’, we can disregard the L-toned antepenult and apply Tonal Rhythm to the {HL}-toned remainder.

(50)	input	gloss
	a. alienable noun, final/definite singular form	
	<i>{L}-toned</i>	
	<i>[bùg-ò] + H</i>	‘hut’
	<i>hùm[bùr-ò] + H</i>	‘mortar’
	<i>{H}-toned</i>	
	<i>[dénŋ-ó] + H</i>	‘charcoal’
	<i>[ʔálf-â:] + H</i>	‘marabout’
	<i>{HL}-toned</i>	
	<i>[cír-ò] + H</i>	‘bird’
	<i>[ká:r-ò] + H</i>	‘bus’
	<i>{LHL}-toned</i>	
	<i>dà[bár-ò] + H</i>	‘strategem’
	b. inalienable noun, 3Sg possessor form	
	<i>{L}-toned</i>	
	<i>[bànd-ò] + H</i>	‘(his/her) back’
	<i>{H}-toned</i>	
	<i>[míyⁿ-ó] + H</i>	‘(his/her) mouth’

<i>hám</i> [búr-ó] + <i>H</i>	‘(his/her) hair’
{HL}-toned	—
—	—
{LHL}-toned	
<i>ze</i> [kér-ò] + <i>H</i>	‘(his/her) buttock’
<i>gà</i> -[gáb-ò] + <i>H</i>	‘(his/her) jaw’
c. unaffixed verb stem	
{L}-toned	
[gòrò]	‘sit’
<i>bè</i> -[bèrè]	‘take a walk’
[tùrù]	‘braid’
{H}-toned	
[túrú]	‘reply’
<i>bé</i> [n-éyndí]	‘bring to an end’
{HL}-toned	
[húrá]	‘go in’
[jínêy]	‘bathe’
<i>té</i> [fêrê]	‘hobble’
{LHL}-toned, trisyllabic or <i>Cv̂CCv̂</i>	
<i>kò</i> [gòtô] ~ <i>kò</i> [gótô]	‘cough’
[jìrbî]	‘sleep’
{LHL}-toned, <i>Cv̂Cv̂C</i>	
[tìsôw]	‘sneeze’
d. VO transitive verbs	
{L}-toned	
[dù]	‘get’
[dìnòw]	‘forget’
{H}-toned	
[dí:]	‘see’
[ɲá:n]	‘know’
{HL}-toned	
[mân] ~ [mân]	‘approach’

After any relevant affixation, Tonal Rhythm converts inputs based on the stems in (50) into outputs like those in (51). There are three main points to note. First, all forms affected by Tonal Rhythm **end in a L-tone element**, i.e. in either a L- or <HL>-toned syllable. Second, throughout the Tonal Rhythm domain, **no two adjacent syllables have the same tone**. Since nonfinal syllables cannot be contoured, this entails an up-and-down rhythm. Third, with the exception of imperatives of *Cv̂Cv̂C* verbs, the tone of the **leftmost syllable in the domain** determines the tones of all following syllables. If this leftmost syllable is H-toned, we get H.L, H.L.<HL>, or H.L.H.L depending on the number of following syllables. If the leftmost syllable is L-toned, we get L.<HL>, L.H.L, or L.H.L.<HL>.

The irregularity in $C\hat{v}C\hat{v}C$ verbs is that the imperative comes out as $C\acute{v}C\hat{v}C(-\eta)$ instead of the expected $\#C\hat{v}C\hat{v}C(-\eta)$. It may be relevant that since the nasal suffix is usually inaudible after a consonant, the $\#C\hat{v}C\hat{v}C(-\eta)$ output would have been homophonous (both tonally and segmentally) to the unsuffixed form of the stem. All other verbs have clearly audible distinctions between unsuffixed and imperative forms; this applies even to $C\hat{v}CC\hat{v}$, which ends in a vowel so that the nasal suffix is audible.

In (51), italicized subdivision labels like “{L}-toned” refer to the lexical tone of the stem (for nouns, the final/definite singular, not shown).

- (51) a. alienable noun, all possessed forms
- | PossSg (X's) | 1Pl possessor ('our') | gloss |
|---------------------|----------------------------|---------------------|
| <i>{L}-toned</i> | | |
| <i>X [bùg-ò]</i> | <i>[bùg-éy-ndiy-â:]</i> | 'X's/our hut' |
| <i>X hùm[bùr-ò]</i> | <i>hùm[bùr-éy-ndiy-â:]</i> | 'X's/our mortar' |
| <i>{H}-toned</i> | | |
| <i>X [dèng-ò]</i> | <i>[dèng-èy-ndiy-â:]</i> | 'X's/our charcoal' |
| <i>{HL}-toned</i> | | |
| <i>X [ʔálf-à:]</i> | <i>[ʔálf-èy-ndiy-â:]</i> | 'X's/our marabout' |
| <i>X [cír-ò]</i> | <i>[cír-èy-ndiy-â:]</i> | 'X's/our bird' |
| <i>X [ká:r-ò]</i> | <i>[ká:r-èy-ndiy-â:]</i> | 'X's/our bus' |
| <i>{LHL}-toned</i> | | |
| <i>X dà[bár-ò]</i> | <i>dà[bár-èy-ndiy-â:]</i> | 'X's/our strategem' |
- b. inalienable noun in 3PossSg/Pl form, illustrated with 3FullSg *ʔángâ* possessing a singular noun in 3PossSg form
- | | |
|---------------------------------------|-------------------------|
| <i>{L}-toned</i> | |
| <i>ʔángâ [bànd-ò]</i> | 'his/her (own) back' |
| <i>{H}-toned</i> | |
| <i>ʔángâ ʰám[búr-ò]</i> | 'his/her (own) hair' |
| <i>ʔángâ [ʰmíyⁿ-ò] + H</i> | 'his/her (own) mouth' |
| <i>{HL}-toned</i> | |
| — | — |
| <i>{LHL}-toned</i> | |
| <i>ʔángâ zè[kér-ò] + H</i> | 'his/her (own) buttock' |
| <i>ʔángâ gà-[gáb-ò] + H</i> | 'his/her (own) jaw' |
- c. Imperative verb, singular subject
- | | |
|---|-------------------|
| <i>{L}-toned, ...L.L to ...L.<HL></i> | |
| <i>[gòrò-η]</i> | 'sit!' |
| <i>bè-[bèrê-η]</i> | 'take a walk!' |
| <i>[tùrù-η]</i> | 'reply!' |
| <i>{H}-toned, ...H.H to ...H.L</i> | |
| <i>[túrù-η]</i> | 'braid!' |
| <i>bé[n-éyndì-η]</i> | 'bring to an end' |
| <i>{HL}-toned, ...H.<HL> to H.L</i> | |
| <i>[húra-η]</i> | 'go in!' |

<i>[nínèy(-ŋ)]</i>	‘bathe!’
<i>té[fèrè-ŋ]</i>	‘hobble!’
<i>{LHL}</i> -toned, trisyllabic or <i>Cv̂CCv̂</i> , ... <i>L.<HL></i> unchanged	
<i>kò[gòtò-ŋ]</i>	‘cough!’
<i>[jìrbî-ŋ]</i>	‘sleep!’
<i>{LHL}</i> -toned, <i>Cv̂(C)Cv̂C</i> , ... <i>L.<HL></i> to ... <i>H.L</i>	
<i>[tísòw(-ŋ)]</i>	‘sneeze!’

d. VO verb with 3Sg object suffix

<i>{L}</i> -toned	
<i>[dùw-â]</i>	‘got him/her/it’
<i>[dìŋŋ-â]</i>	‘forgot him/her/it’
<i>{H}</i> -toned	
<i>[díy-à]</i>	‘saw him/her/it’
<i>[ŋá:n-à]</i>	‘knew him/her/it’
<i>{HL}</i> -toned	
<i>[mán-à]</i>	‘approached him/her/it’

For nouns (51a-b), Tonal Rhythm (along with deletion of the final floating H-tone) without further affixation suffices to **convert unpossessed to possessed** forms, e.g. *bùg-ò + H* ‘hut’ to its basic possessed form *bùg-ò*. For the verbs (51c-d), Tonal Rhythm is an adjunct to a suffix. The imperative suffix is *-ŋ* (arguably *-ŋ̄*), but when the suffixal nasal is deleted (after a stem-final consonant), only Tonal Rhythm marks the word form as imperative. This is seen in (52), which shows the most common pronunciation of the imperative with no audible nasal suffix. The pre-surface forms on the far right reflect the operation of Tonal Rhythm but not the later deletion of the suffixal nasal.

(52)	gloss	stem	singular imperative
a. lexically {H} or {HL}			
	<i>{H}</i>		
	‘bathe’	<i>nínèy</i>	<i>nínèy-Ø</i> (< /nínèy-ŋ/))
	<i>{LH}</i>		
	‘be quiet’	<i>dánjéy</i>	<i>dánjèy-Ø</i> (< /dánjèy-ŋ/))
b. lexically {L} or {LHL}			
	<i>{L}</i>		
	‘forget’	<i>dìnòw</i>	<i>dìnòw-Ø</i> (< /dìnòw-ŋ/))
	<i>{LHL}</i>		
	‘sneeze’	<i>tísòw</i>	<i>tísòw-Ø</i> (< /tísòw-ŋ/))

Historically, it is likely that Tonal Rhythm **originated by leftward spreading of a final <HL> tone**. This is clearest in the singular imperative, where suffix *-ŋ* (perhaps specifically *-ŋ̄*) is a contraction from 2Sg pronoun *nî*. The possessed forms subject to Tonal Rhythm also originated in combinations of nouns with encliticized

<HL>-toned pronouns 1Sg *ʔây* and 2Sg *nî*, but subsequent analogical processes have obscured this (Heath 2011).

The role of the leftmost syllable in the relevant domain can be focused on by comparing {H}-toned *héb-ó + H* ‘market’ with {L}-toned *sùb-ò + H* ‘grass’ with various possessors (53). The syllable-by-syllable surface tones are shown by H’s and L’s underneath, disregarding the tones of the proclitic 3Sg and 3Pl pronouns in the last two examples. Observe how the same suffixes and suffix complexes have different tones with these two nouns.

(53)	‘market’ {H}	‘grass’ {L}
‘my ...’	<i>héb-è</i> H.L	<i>sùb-ê</i> L.<HL>
‘our ...’	<i>héb-èy-ndí-y-à:</i> H.L.H.L	<i>sùb-éy-ndì-y-â:</i> L.H.L.<HL>
‘your-Sg ...’	<i>héb-ò-n-òŋ</i> H.L.<HL>	<i>sùb-ó-n-òŋ</i> L.H.L
‘your-Pl ...’	<i>héb-ò-n-d-òŋ</i> H.L.<HL>	<i>sùb-ó-n-d-òŋ</i> L.H.L
‘his/her ...’	<i>à héb-ò</i> H.L	<i>aʔ sùb-ò</i> L.<HL>
‘their ...’ (<i>nòŋ + H</i>)	<i>nòŋ héb-ò</i> H.L	<i>nòŋ ʔsúb-ò</i> H.< ⁴ HL> (due to floating H)

In ‘their grass’ in (53), Tonal Rhythm applying at word-level produces *sùb-ò*. This L.<HL> sequence is complicated at the phrasal level by the docking of the floating H associated with the 3Pl possessor *nòŋ + H*, which initially produces <HL>.<HL>. Since <HL> is not allowed in a nonfinal syllable, this is theoretically realized as H.<⁴HL> with a downstepped falling tone on the final syllable (§3.9.5.7). In practice I usually hear bisyllabics in this construction as *nòŋ ʔsúb-ò* with final L-toned syllable; this deserves further study.

Combinations of 3Pl possessor *nòŋ + H* with **trisyllabic** nouns of various lexical tone melodies are illustrated in (54). In *nòŋ ʔhám[bùr-ò]* ‘their mortar’ (54a), the medial L-toned syllable of the trisyllabic noun serves as a buffer, so that Rightward Floating-H Docking on the first syllable does not interfere with Tonal Rhythm (which accounts for the <HL>-tone on the ultimate). However, the {LHL}-toned stems end up in the 3Pl form with H.⁴H.L tones, from <HL>.H.L after Rightward Floating-H Docking.

(54)	gloss	stem	‘their ...’
a.	{L}-toned ‘mortar’	<i>hùm[bùr-ò] + H</i>	<i>ɲòŋ ↑húm[bùr-ò]</i>
b.	{H}- and {HL}-toned stems		
	{H}-toned ‘night’	<i>cí[gín-ó] + H</i>	<i>ɲòŋ cí[gín-ò]</i>
	{HL}-toned ‘hobbles’	<i>té[fér-ò] + H</i>	<i>ɲòŋ té[fér-ò]</i>
c.	{LHL}-toned stems		
	‘stratagem’	<i>dà[bár-ò]</i>	<i>ɲòŋ ↑dá[‘bár-ò]</i>
	‘pigeon sp.’	<i>gùn[tás-ò] + H</i>	<i>ɲòŋ ↑gún[‘tás-ò]</i>

If the word is of a morphological category that Tonal Rhythm should apply to, but the word is **monosyllabic**, we might expect Tonal Rhythm to be inapplicable. This expectation is validated for possessed nouns, though the only evidence is from a handful of *Ca*: nouns, since such inalienables remain monosyllabic when possessed. So in (55a) below, the 3PossSg forms simply preserve the lexical tone of the noun. Tonal Rhythm does not apply to these forms.

The other grammatical category that provides evidence on this matter is the imperative of verbs. Here we find that all monosyllabic stems that take imperative suffix *-ŋ* have their lexical tones overridden by a {HL} melody. This is consistent with Tonal Rhythm, which requires a final {HL} sequence within its domain (55b).

(55) Monosyllabic words potentially subject to Tonal Rhythm

a.	inalienable noun, 3Sg possessor form, illustrated with 3PossSg		
	verdict: no Tonal Rhythm		
	stem	3PossSg (with 3FullSg <i>ʔáŋgâ</i>)	gloss
	{L}-toned		
	<i>bà:</i>	<i>ʔáŋgá bà:</i>	‘share’
	{H}-toned		
	<i>gá:</i>	<i>ʔáŋgá ‘gá:</i>	‘body’
	{HL}-toned		
	<i>mâ:</i>	<i>ʔáŋgá ‘mâ:</i>	‘name’
b.	singular-subject imperative verb		
	verdict: Tonal Rhythm applies		
	stem	Imperative	gloss
	{L}-toned		
	<i>ŋâ:</i>	<i>ŋâ:-ŋ</i>	‘eat’
	<i>tâ</i>	<i>tâ-ŋ</i>	‘receive, accept’

<i>{H}-toned</i>		
<i>bów</i>	<i>bów-Ø</i> (~ <i>bów-ŋ</i>)	‘shatter’
<i>cé:</i>	<i>cé:-ŋ</i>	‘call’
<i>{HL}-toned</i>		
<i>kâŋ</i>	<i>kâŋ-Ø</i>	‘fall’
<i>wów</i>	<i>wów-Ø</i> (~ <i>wów-ŋ</i>)	‘insult’

The rule can be formulated, making specific reference to rhythms (alternation of H's and L's) as (56).

(56) Tonal Rhythm (possessed nouns, imperatives, VO verbs)

a. categories

- i. all alienably possessed nouns
- ii. inalienably possessed nouns with nonmonosyllabic 3Poss singular or plural morphology, excluding regular 3Sg possessor and excluding 3Poss forms of monosyllabic *Ca*: stems
- iii. singular-subject imperative of verbs
- iv. VO transitive verb with 3Sg object *-a*

b. phonological domain

- i. the indefinite plural suffix *-ŋoŋ + H* is excluded, otherwise...
- ii. mono- and bisyllabic words: entire word
- iii. trisyllabic and longer words: minimally the two rightmost syllables, extending leftward (if necessary) to the rightmost syllable that is internal to the stem

c. process

- i. the imperative of *CvCvC* verbs is irregularly *CvCvC(-ŋ)*, otherwise...
- ii. if the word is bisyllabic or longer: starting with the input tone of the leftmost syllable in the domain, alternate H- and L-toned syllables to the right edge of the word, but the final syllable must end in a L-toned coda if not L-toned; in other words, ...

...H.H, ...H.<HL>, and ...H.L	→ ...H.L
...L.L and ...L.<HL>	→ ...L.<HL>
- iii. if the word is monosyllabic, disregard lexical tone and make the word <HL>-toned.

As indicated earlier in this section, the historical origin of these Tonal Rhythms forms is likely to have been encliticization (and eventual suffixation) of a <HL>-toned morpheme **Cv(C)* to the stem. Would a similar phonological analysis work synchronically? If so, it would have to involve leftward spreading of tone features.

The most favorable case for this is the imperative. If we take the suffix to be /-ŋ/, we would have the input-output relationships in (57), excluding the irregular treatment of *CvCvC* stems mentioned earlier.

(57)	input	output
	a. /H.H-ŋ̂/	H.<L-ŋ̂>
	/H.<HL>-ŋ̂/	"
	b. /L.L-ŋ̂/	L.<H-ŋ̂>
	c. /L.<HL>-ŋ̂/	"

In this interpretation, in (57a) the L-tone component of the <HL>-toned suffix **pushes left**, occupying the entire final syllable. In (57b), on the other hand, the entire suffixal <HL> contour is realized on the final syllable. The same output occurs in (57c), where however we cannot determine whether the <HL> on the final input syllable may have contributed to the output <HL>.

A similar model could be used for the 3Sg object form of VO verbs; we would posit underlying /-â/. The possessed nouns forms are more difficult, but we might posit a possessed (**Poss**) morpheme consisting of a segmentally unaffiliated <HL> tone that then fuses with the final/definite singular form of the noun, generating the 3PossSg form of inalienables and the PossSg form of alienables, and (with some further morphology) the 1Sg and 2Sg possessor forms for alienables.

If we choose this alternative analysis, there is clearly a **leftward push** of tone elements from a suffix, but this push goes father than what would be needed to satisfy word-level constraints. For example, in (57a) an output #H.<H-ŋ̂>, where the suffixal <HL> simply merges with the initial H-tone of the final syllable to surface as <HL>, would have been an acceptable word-level output. But it would not have been rhythmic, and instead we get the rhythmic H.<L-ŋ̂> with its tone break at the syllable boundary.

Above all, a mechanical tonological analysis starting with posited <HL> tones on suffixes would not account for the more complex possessed forms, where the domain of Tonal Rhythm encompasses as many as four syllables, as in *hùm[bùr-éy-ndìy-â:]* ‘our mortar’ versus [*ʔálf-èy-ndíy-à:]* ‘our marabout’ (51a). To get such forms to come out right, we would have to posit a <HL>-tone on -ey- and another on -a:, and show how these inputs produce the outputs, using a mix of conflicting left-to-right and right-to-left cross-currents. I prefer a rhythmic analysis along the lines of (56).

3.9.4.2 Adjectival Tone-Raising

When a noun ending in L-tone (bisyllabic L.L, monosyllabic L, etc.) is followed by a L-toned adjective (L, L.L, etc.), the first syllable of the adjective is raised to H. If there is only one syllable in the adjective, its first mora is raised to H, so the result is falling <HL>-tone. Since most nouns and adjectives are bisyllabic (including nonfinal suffix -u on nouns, and final/definite suffixes on adjectives), the most common pattern is underlying [L.L][L.L] becoming [L.L][[↑]H.L]. The process is highly visible, since most adjectives are underlyingly L-toned.

Historically, this is probably a vestige of a process still observable in TSK, where the key process is tone-raising in the final syllable of the noun (final mora if monosyllabic), resulting initially in [L.H][L.L]. Rightward H-Spreading then spreads the H to the first syllable of the adjective. This is followed in turn by Anticipatory Dissimilation which slightly lowers the first of two H's separated by a word boundary. So the derivation in TSK is [L.L][L.L] → [L.H][L.L] → [L.H][↑H.L] → [L.H↘] [↑H.L], where ↘ indicates a slight dissimilatory pitch drop. In HS, by contrast, there is no audible trace of the original raising of the noun-stem-final syllable (or mora).

Among many L-toned adjectives in HS are *bè:rì* 'big' and *bò:-b-òw* 'many, much'. Adjectival Tone-Raising applies to them after L-toned nouns like *sùb-ò + H* 'grass' (nonfinal *sùb-ù*) and *wòy-ò + H* 'woman' (nonfinal *wòy*). Examples are in (58), and the rule is given as (59).

- (58) a. *sùb-ù* $\hat{\uparrow}$ *bó:-b-òw*
 grass-NF much-Adj
 'a lot of grass'
- b. *wòy* $\hat{\uparrow}$ *bé:r-ò + H*
 woman big-Fin/DefSg
 'a/the big woman'

(59) Adjectival Tone-Raising

Raise the first syllable of a L-toned adjective (first mora if monosyllabic) when it follows a noun ending in L-tone:

[...L]_N [L.L]_{Adj} → [...L]_N [H.L]_{Adj}

It is difficult to find an example of a monosyllabic adjective combined with a L-toned noun. One can concoct such an example by adding *hày-òw* 'wide, spacious' in its nonfinal variant *hày* to a {L}-toned noun like *gàndè* 'chest (of body)', resulting in *gàndè* $\hat{\uparrow}$ *hày* 'wide chest', as long as a second modifier follows.

3.9.4.3 Pronominal-Clitic Upstep

A L-toned (C) $\hat{\nu}$ proclitic is upstepped variably to a somewhat higher pitch than it would otherwise have before a word beginning in a L-toned syllable. The process applies to 3Sg \hat{a} (subject, object, postpositional complement) and to plural-subject imperative *wò*.

- (60) a. \hat{a} *gòrò*
 3SgS sit
 'He/she sat down.'

- b. \grave{a}^\uparrow *jìsì-ŋ*
 3SgO put.down-ImprtSgS
 ‘Put-2Sg it down!’
- c. $i^\uparrow = \acute{\eta}$ $^\uparrow gá:s-ó$ $^\uparrow jìsì$ [\grave{a}^\uparrow *bòŋ*]
 1SgS=Tr calabash-Fin/DefSg put.down [3Sg on]
 ‘I put the calabash down on it.’
- d. $wò^\uparrow$ *bisà*
 2PIImprtS go.past
 ‘Keep-2PIS going!’

Some nominally *Cv̂* morphemes (*nê* ‘say’, dative *sê*, postposition *dô* ‘at, chez’) are optionally pronounced as L-toned, in which case they are compatible with upstep on preceding \grave{a} . Thus $\grave{a} nê \sim \grave{a}^\uparrow nê$ ‘he/she said’, 3Sg dative $\grave{a} sê \sim \grave{a}^\uparrow sê$ ‘to/for him/her’.

It is more difficult to determine under what conditions 3Sg object (as opposed to subject) \grave{a} is also subject to upstep. 3Sg object is expressed by a distinct allomorph $\acute{\eta}$ in several environments, so the relevant combinations with \grave{a} are these: 3Sg object $\acute{\eta}$ in imperatives of OV transitives, and lengthened 3Sg object = \grave{a} : following certain pre-VP inflectional morphemes (subjunctive \acute{m} , perfective negative $màn + H$, and future $nàm + H$). Examples of these combinations before a verb with initial L-toned syllable are in (61).

- (61) a. \grave{a}^\uparrow *jìsì-ŋ*
 3SgO put.down-Imprt
 ‘Put-2Sg it down!’
- b. $w = \grave{a}^\uparrow$ *jìsì*
 2PIS.Imprt=3SgO put.down
 ‘Put-2Pl it down!’ (from / $wò \grave{a} \dots$ /)
- c. $\acute{í} = m = \grave{a}^\uparrow$ *jìsì*
 1SgSubju=Subju=3SgO put.down
 ‘that I might put it down’
- d. \grave{a}^\uparrow $màn = \acute{á}$: *jìsì*
 3SgS PerfNeg=3SgO put.down
 ‘He/She did not put it down.’
- e. \grave{a}^\uparrow $nàm = \acute{á}$: *jìsì*
 3SgS Fut=3SgO put.down
 ‘He/She will put it down.’

Upstep clearly can occur in the imperatives (61a-b). After perfective negative $màn + H$ and future $nàm + H$, the issue is moot since the floating H suffices to account for the raised tone of the 3Sg object clitic (61d-e). However, the subjunctive morpheme \acute{m} does allow the following \grave{a} : to be upstepped before a L-tone. The

phonology of this combination, underlying / \hat{m} à/, is perhaps complicated by delinking of the L-tone segment of \hat{m} . I am assuming that the delinked L simply merges with the underlying L-tone of the 3Sg object clitic, which is subsequently upstepped with no reference to the tone of \hat{m} . But if upstep precedes delinking, the delinked L could in theory downstep the upstep, if that makes any sense.

3.9.4.4 Anticipatory HH-Dissimilation

While Tonal Rhythm and Adjectival-Tone Raising are basic phonological rules that operate at a more or less phonemic level, the next rule is a low-level phonetic process. When two H-toned syllables come together across a word-boundary, the one on the left tends to “blink” and lowers its pitch slightly. The effect is to provide a subtle prosodic cue for the word boundary. The process has no effect when the two H-tones are already differentiated, viz., when one or the other is in a domain that has undergone Downstep. Moreover, as a low-level process, Anticipatory HH-Dissimilation may be overridden (defeated) by other factors that affect pitch, including the gamut of “rhetorical” factors (emphasis, focus, stem versus particle).

There are fewer combinations resulting in ...H][H... clashes than one might think. For example, pronominal (subject, object, possessor) and MAN proclitics are either L- or <HL>-toned, both of which guarantee pitch differentiation vis-à-vis a following word with H-tone onset. (Contrast TSK, which has many H-toned proclitics.) It is also hard to juxtapose H-toned nouns, since subject and object in transitives are always separated by another word or clitic.

However, we can get ...H][H... clashes in the following combinations, among others: a) {H}-toned verb followed by a H-initial noun (such as the object of a VO verb or the complement of a postposition) or by a H-initial adverb; b) H-initial verb preceded by an {H}-toned word that is not downstepped (intransitive subject in perfective positive aspect, direct object of an imperative); c) two H-toned nouns in a loose compound; and d) H-toned noun before H-initial postposition (especially if the latter is noun-like). Examples are in (62), where the slight lowering of the first H is marked by the symbol \neg . Elsewhere I **generally omit this symbol** in text transcriptions.

- (62) a. \hat{a} $k\acute{o}y\neg$ $g\acute{a}:w\acute{o}$
 3SgS go Gao
 ‘He/She went to Gao.’
- b. $g\acute{a}b-\acute{o}\neg$ $w\acute{i}:-\emptyset$
 hawk-Fin/DefSg kill-Imprt
 ‘Kill-Sg the hawk!’
- c. $[t\acute{o}nd-\acute{o}\neg$ $g\acute{a}m-\grave{o}]$ $\uparrow g\acute{a}$
 [stone-Fin/DefSg middle-PossSg] on
 ‘in the middle of the stone (=mountain)’

When the second of two clashing H's is at the beginning of a prosodically and/or rhetorically weak element, such as a simple postposition (e.g. dative *sê*), Anticipatory HH-Dissimilation rarely applies. Instead, the weak element usually lowers its own pitch level.

As formulated here, Anticipatory HH-Dissimilation is a subtle phonetic effect. If the affected syllable is *CvC*, the pitch lowering actually occurs on the coda of the syllable. For example, if we pluralize 'stone' in (62c), we get [tónɔ-éy-ɾ gám-ò] ↑gá 'in the middle of the stones (=mountains)', where the syllable *éy* is realized with a slightly falling pitch (from high to semi-high), just enough to give a prosodic signature to the word boundary.

(63) Anticipatory HH-Dissimilation

When two H-tones come together at a word-boundary, other things being equal, the first H tends to undergo a slight dip in the pitch of its final mora

3.9.4.5 Rhetorical versus phonological word-level pitch dropping

A more extreme pitch drop, word-level rather than syllable- or mora-level, occurs when a word X precedes a rhetorically high-octane word Y that is articulated forcefully. There are two recurrent combinations of this type: a) a noun, a fuller NP, or a clause (such as a conditional antecedent) ending with *kûl* 'all', b) a verb or phrase followed by an interjection-like intensifier.

In the case of *kûl*, the lowering actually does operate at the **phonological level** in the case of a few high-frequency combinations in the sense 'each/every' (§5.4.3.2): *hàn*↓ *kûl* ... 'every/any day (that ...)', *dèy*↓ *kûl* ... 'every/any place (that ...)', and *bòr*↓ *kûl* ... 'everyone/anyone (who ...)'. The stems are *hán* 'day' (final/definite singular *hán-ó + H*), *dèy* 'place' (irregular final/definite singular *dúw-ó + H*), and *bòr* 'person' (final/definite singular *bòr-ò + H*). The tone-lowering is marked by the ↓ arrow at the end of the affected word. It also applies when relative *kâ* is added to the same nouns, with 'each/every' understood, e.g. *bòr*↓ *kâ* ... 'any person who' (§8.2.5).

In other, less lexicalized combinations involving *kûl*, and in all combinations ending in an intensifier, a somewhat similar word-level pitch lowering applies to the preceding word. I regard this as rhetorical (intonational) and phonetically variable rather than categorically phonological (tonal) in nature, though this conclusion can be debated, and I indicate it (if at all) by the downstep symbol ˘ at the end of the affected word. If this word already ends in a L-toned syllable, the ˘ is not needed.

- (64) a. *ì* *dí:* [*háns-éy*˘ *kûl*]
 1SgS see [dog-DefPl all]
 'I saw all the dogs.'

- b. [[$\hat{ɪ}$ $\hat{ká}$] [$\hat{ɪ}$ $\hat{mâ}\eta$ $\hat{kâ}$]⁴ $kû$]
 [[2SgS come] [2SgS PerfNeg come] all]
 ‘whether you-Sg come or not’ (cf. §9.5.1.4)
- c. \grave{a} $hóttó$ ⁴ $rók!$
 3SgS be.bitter bitter.Intens
 ‘It is very bitter.’

In (64c), for example, the pitch of *hóttó* may actually be lower than that of the preceding *à*.

3.9.5 Left-to-right spreading rules

A general trend in HS phonology is for a H-tone to spread or shift to the right. The H in question may be a nonfinal tone within a word, a word-final H that spreads into the next word, or a floating H-tone that docks on the word to its right. There are also some atonal suffixes that acquire their tones by spreading from the preceding stem. L-tones do not move or spread rightward of their own volition, but the rightward movement or spreading of a H-tone may push a L-tone rightward.

Leftward movement of tones is more limited, and is motivated by specific constraints, such as that against <LH> tones in syllables, and that against <HL> in syllables whose rime is a final/definite suffix; see §3.9.6.1-3 below.

Lexical tone patterns for bisyllabic and longer stems already reflect a tendency to bunch tone breaks at the right edge of the stem. For example, *C \acute{v} C \grave{v} is generally reflected as HS C \acute{v} C \grave{v} (i.e., *HL reflected as H.<HL>, with the H-tone pushing into the final syllable), and trisyllabic L.L.<HL> is much more common than L.H.L (except in final/definite forms of nouns). Original *C \grave{v} C \acute{v} is likewise reflected as HS C \grave{v} C \acute{v} with the original final H erased (or in some cases surviving only as a following floating H). So even before synchronically recognizable rightward tone movement and spreading, lexical representations have already done some of the work. See especially the section on lexical tones of underived verbs (§3.9.1.4).

3.9.5.1 Atonal Suffix Spreading

The atonal suffixes are those in (65). Arguably the indefinite plural and verbal noun suffixes are morphemically identical (or related).

(65)	category	form
	a. C-initial	
	- <i>ɲoŋ</i> + H	Indefinite plural
	- <i>ɲoŋ</i> + H	Verbal noun
	- <i>ndi</i> + H	1Pl possessor (inalienable)

b. V-initial with floating H

<i>-o + H ~ -a: + H</i>	Final-singular (alienable)
<i>-o + H ~ -a: + H</i>	3Sg possessor (inalienable)
<i>-ey + H</i>	Definite plural

The C-initial suffixes (65a) are more straightforward since they do not contract with stem-final vowels. The final tone of the preceding stem is copied onto the suffix. In the most transparent situation, the presuffixal syllable has a flat H- or L-tone that extends into the final suffix. If the presuffixal syllable is <HL>-toned, its L-tone component is delinked and realized on the final syllable. This could be formulated as a tone-jumping rule, but it can also be analysed as a two-part process, viz., spreading from <HL>.X to <HL>.L, followed by Word-Internal <HL> → H+L (§3.9.5.4).

The indefinite plural is illustrated in (66), and the (homophonous) verbal noun suffix in (67).

(66)		‘water’ (H.H)	‘grass’ (L.L)	‘bird’ (H.<HL>)
	Nonfinal/bare	<i>hárí</i>	<i>sùb-ù</i>	<i>círôw</i>
	Indefinite plural	<i>hárí-ńón + H</i>	<i>sùb-ù-ńòŋ + H</i>	<i>círów-ńòŋ + H</i>
(67)		‘hit’ (H.H)	‘sit’ (L.L)	‘enter’ (H.<HL>)
	stem	<i>káru</i>	<i>gòrò</i>	<i>húra</i>
	Verbal noun	<i>káru-ńón + H</i>	<i>gòrò-ńòŋ + H</i>	<i>húra-ńòŋ + H</i>

The TSK cognate suffix is H-toned *-yów* in both grammatical functions.

In inalienably possessed nouns, 1Pl possessor *-ndi + H* always follows 1Sg possessor *-èy + H*. The underlying L-tone on the latter spreads to *-ndi + H*, which is therefore always L-toned, while the final tone from the stem spreads into *-èy* itself: *bà:b-èy-ndi + H* ‘our father’, *hás-éy-ndi + H* ‘our maternal uncle’ (*bà:bè, hásê*).

The two remaining atonal suffixes (65b) consist of rimes in syllabic terms. Both are associated with following floating H-tones, which (in my opinion) have no tonal effect on the words in question (except in phrasal contexts requiring Leftward Floating-H Docking). One of these suffixes is *-o + H ~ -a: + H*, which for alienable nouns is final-singular (or in some cases definite singular), and for inalienables is the 3Sg possessor form. The other is definite plural *-ey + H*. When these suffixes are added to a stem-final consonant, they get their tones by spreading from the preceding syllable, subject to adjustments. When they are added to a stem-final vowel (or to nonfinal suffix *-u-*), the stem and suffixal vowels fuse into a short vowel whose quality features are generally those of the suffix but whose tone is that of the stem-final vowel. An unusual feature of *-o + H ~ -a: + H* and *-ey + H* is that they do not allow <HL> tone in their syllables, so the suffixal tone must be flattened when they fuse with a <HL>-toned stem-final (or nonfinal suffix) vowel (§3.9.5.6). Examples are in (68). The nonfinal form reveals the lexically basic tone. The

suffixed forms of ‘bird’ and ‘acacia pod’ have L-toned suffixes, though the nonfinal forms end in a <HL>-tone.

(68)		‘water’	‘stick’	‘bird’	‘acacia pod’
		H.H	L.L	H.<HL>	H.H.<HL>
	nonfinal	<i>hári</i>	<i>bùnd-ù</i>	<i>círôw</i>	<i>cíngíl-û</i>
	Fin/DefSg	<i>hár-ó + H</i>	<i>bùnd-ò + H</i>	<i>cír-ò + H</i>	<i>cíngíl-ò + H</i>
	DefPl	<i>hár-éy + H</i>	<i>bùnd-éy + H</i>	<i>cír-èy + H</i>	<i>cíngíl-èy + H</i>

The process may be summarized as (69).

(69) **Atonal-Suffix Spreading**

- a. A C-initial atonal suffix copies the final preceding tone.
- b. A V-initial atonal suffix gets its tone by spreading from the preceding syllable (C-final stem) or from the preceding vowel (V-final stem).

For the subsequent adjustments, see Word-Internal <HL> → H+L (§3.9.5.4), L.L.<HL> → L.H.L (§3.9.6.2), Final <HL> Flattening (§3.9.5.5), and for C-final nouns <HL> → H.L (§3.9.5.6).

The alternative analysis for the *-o + H* ~ *-a: + H* and *-ey + H* suffixes is that the H-tone is initially on the suffixal vowel. If the stem is {H}-toned, we could just represent the outputs as *-ó* ~ *-á:* and *-éy*, and attribute tone-raising on the following word to Rightward H-Spreading (rather than to Rightward Floating-H Docking). If the stem ends in a L-tone, i.e. if the stem is {L}- or {LHL}-toned, the idea would be that the underlying suffixal H-tone would be forced to delink since a final rising tone, or a word-level melody ending in rising {...LH}, are not allowed in HS.

This would be feasible technically, and may well have been historically true. However, the floating H is no longer confined to nouns with final/definite suffixes; it also applies to defective nouns like *kòyrà + H* ‘village’ and *wà: + H* ‘milk’ that do not allow the final/definite singular suffix. In other words, the floating H is now a more abstract feature associated with the relevant grammatical categories.

I have excluded the inalienable possessor forms 1Sg *-èy + H* and 2Sg *-àŋ + H* from the list of atonal suffixes, on the theory that they are basically L-toned. They do, however, allow spreading of a preceding H-tone into the syllabic nucleus, confining the L-tone to the coda (*-èy*, *-àŋ*). Since most inalienable noun stems end in a <HL>- or L-toned syllable, in most cases the output could also be correctly produced by taking the suffixes to be atonal and applying Atonal-Suffix Spreading through to the end of the word. However, there are a handful of {H}-toned inalienables like *ʔáŋkórá:* ‘hip’ and *gá:* ‘body’, and the final falling tone in e.g. *ʔáŋkór-èy* ‘my hip’ (§4.2.2.2) requires positing a L-toned suffix.

3.9.5.2 Rightward Floating-H Docking

In the analysis that I generally follow here, a **floating H** is lexically or grammatically associated with the stem or morpheme to its left, but it normally **docks on** the word or morpheme to its right. For a list of the relevant morphemes, and discussion of alternative (morphosyntactic and phonological) interpretations of the phenomena, see §3.9.1.5.

Certain L-toned morphemes resist being raised by a preceding floating H.

(70) Morphemes that do not raise their tone after floating H

morpheme	gloss
<i>sù + H</i>	Imperfective negative
<i>H + dì</i>	Strong definite
<i>H + gò:</i>	'be'
<i>kù + H</i>	Infinitival

hà:r-ò + H 'man' induces raising on a following {L}-toned verb like *dírà* 'walk, travel' (71a) and on a following {L}-toned inflectional morpheme like perfective negative *mân + H* (71b). However, imperfective negative *sù + H* (71c), strong definite *H + dì* (71d), and *H + gò:* 'be' (71e) remain L-toned. This is also true of infinitival *kù + H*; since this syllabic allomorph is mainly postconsonantal, I use *bà:b-à + n + H* 'your-Sg father' in (71f).

- (71) a. *hà:r-ò* \uparrow *dírà*
man-Fin/DefSg walk
'The man walked/traveled.'
- b. *hà:r-ò* \uparrow *mân* \uparrow *dírà*
man-Fin/DefSg PerfNeg walk
'The man did not walk/travel.'
- c. *hà:r-ò* *sù* \uparrow *dírà*
man-Fin/DefSg Impf.Neg walk
'The man does not walk.'
- d. *hà:r-ó \uparrow* *dì*
man-Fin/DefSg StDef
'that (aforementioned) man'
- e. *hà:r-ó \uparrow* *gò:* *bàmàkò*
man-Fin/DefSg be B
'The man is in Bamako (city).'

- f. $\dot{\iota}$ $\uparrow s\acute{e}'l\acute{e}\eta\uparrow = [nd\grave{u}$ $\uparrow b\acute{a}:b-\grave{a}\eta]$ $[k\grave{u}$ $b\acute{e}n]$
 1SgS speak=[with father-2SgP [Infin finish]
 'I finished speaking with the man.'

So far as I can determine, the morphemes in (70) likewise fail to raise after a {H}-toned word by Rightward H-Spreading, a process closely related to Rightward Floating-H Docking. This is certainly the case with infinitival $k\grave{u} + H$.

Strong definite $H + d\grave{i}$ and $H + g\grave{o}$: 'be' throw the floating tone back onto the rightmost syllable of the preceding word; see Leftward Floating-H Docking §3.9.6.1.

When the floating H successfully docks to the right on a {L}- or {LHL}-toned word, the resulting tones (prior to any further tonal interactions with another following word) are as shown in (72).

- | | | |
|------|-----------------|--|
| (72) | lexical | after floating H |
| | a. monosyllabic | |
| | L | <HL> |
| | b. bisyllabic | |
| | L.L | H.L |
| | L.<HL> | H.<HL> (not easily distinguished from H.L) |
| | c. trisyllabic | |
| | L.L.L | H.L.L |
| | L.L.<HL> | H.L.<HL> |

For example, $k\grave{a}$ 'come', $\eta\grave{a}$: 'eat', $g\grave{o}r\grave{o}$ 'sit', $t\acute{i}s\acute{o}w$ 'sneeze', $b\grave{e}-b\grave{e}r\grave{e}$ 'walk around', and $z\grave{a}r\grave{a}b\acute{i}$ 'become tired' combine with infinitival $k\grave{u} + H$ as $k\grave{u}$ $\uparrow k\acute{a}$, $k\grave{u}$ $\uparrow \eta\acute{a}$:, $k\grave{u}$ $\uparrow g\acute{o}r\grave{o}$, $k\grave{u}$ $\uparrow t\acute{i}'s\acute{o}w$, $k\grave{u}$ $\uparrow b\acute{e}-b\grave{e}r\grave{e}$, and $k\grave{u}$ $\uparrow z\grave{a}r\grave{a}b\acute{i}$. For the internal downstep in $H.<HL>$, see §3.9.5.7.

The monosyllabic type (72a) shows that Rightward Floating-H Docking does not fully obliterate the following L-tone. However, when the relevant monosyllabic word is itself followed by another word, the <HL> tone is generally realized as H plus floating L (realized as downstep on the following word).

In the bisyllabic and trisyllabic cases, it would similarly be possible to have the floating H initially dock on just the onset of the first syllable, then spread to the end of the syllable boundary, see Word-Internal <HL> → H+L (§3.9.5.4).

(73) Rightward Floating-H Docking

A floating H associated with a preceding morpheme is realized on the onset of the first syllable of the following L-initial particle or word.

exceptions: does not apply to the morphemes in (70) above.

Some further examples are in (74).

- (74) a. *bòr-èy* \uparrow *fá:r-ò*
 person-DefPl field-3
 ‘the people’s field’ (*bòr-èy + H, fá:r-ò*)
- b. *ì* *sù* \uparrow *bá* [*w* \uparrow *gòrò*]
 1SgS ImpfNeg want [Infin sit]
 ‘I don’t like to sit.’ (*ì + H, sù + H, bà, w + H, gòrò*)
 (*sù + H* is one of the morphemes that does not undergo raising)

In examples throughout the grammar, if \uparrow appears at the left edge of a word, that word has either undergone Rightward Floating-H Docking or Rightward H-Spreading, which of course are closely related processes. If the preceding word ends in a H-tone, either process could have been at work. If the preceding word ends in a L-toned syllable, as in (74a-b), Rightward Floating-H Docking must be at work.

3.9.5.3 Rightward H-Spreading (word or stem boundary)

This rule involves spreading of a morpheme- or word-final H (not a floating H) into the first syllable of the word to the right, with the same phonological effect on that word as with Rightward Floating-H Docking (preceding section). Of course it would be possible to combine the two into a more general rule.

The process is very common in TSK and must have been important in Proto-Eastern-Songhay. However, I noted in the preceding section that a number of formerly H- and <LH>-toned proclitics, particles, and nominal suffixes have evolved in HS into L-toned morphemes associated with a following floating H. In the proto-language, the phonological process was of the type [...H] plus [L.L...] → [...H][H.L...], but in these cases the synchronic HS process is [...L]+H plus [L.L...] → [...L][H.L...].

However, the original process also remains alive and well in HS with words that have not themselves dropped from H to L tone. In some combinations within a clause, a word or stem ending in a H-tone spreads this tone into the first syllable of a following {L}-toned word. As a clearly independent phenomenon, this is best seen with {H}-toned verbs. This is because many nouns, adjectives, and numerals, including those that are themselves {L} or {HL}-toned, have an associated floating H (in the analysis used here). If we ascribe the same floating H to {H}-toned nouns and other stems, there is no need for a phonological spreading rule other than that involving the floating H. This is not an issue for verbs, since there is no evidence for floating H’s associated with them (i.e. there are no {L}-toned verbs that raise the tone of a following word).

{H}-toned verbs that induce an initial H-tone in a following {L}-toned word are exemplified in (75).

- (75) a. *à* *kóy* \uparrow *hùmbùrì*
 3SgS go Hombori
 ‘He/She went to Hombori.’ (*hùmbùrì*)

- b. *à* *dí:* $\uparrow f\acute{a}:r\text{-}\grave{e}y$
 3SgS see field-DefPl
 ‘He/she saw the fields.’ (*f\grave{a}:r\text{-}\grave{e}y + H*)
- c. *ì* *zígí* [$\uparrow s\acute{o}:r\text{-}\grave{o}$ *b\grave{o}\eta*]
 1SgS go [upstairs on]
 ‘I went upstairs (onto the roof terrace).’ (*s\grave{o}:r\text{-}\grave{o} + H*)
- d. *à* *w* *\eta\acute{a}:n\acute{e}y* [$\uparrow w\acute{o}^*y\text{-}\acute{o}\uparrow$ *dì*]
 3SgS Impf trust [woman-Fin/DefSg StDef]
 ‘He/she trusts that woman.’
- e. *\acute{a} = \eta* *n\grave{e}y* *k\acute{a}rú* [$\uparrow k\acute{a}mb\text{-}\grave{e}y$ $\uparrow g\hat{a}$]
 3SgS=Tr 1SgO hit [hand-1SgP on]
 ‘He/She hit me on the hand.’

Rightward H-Spreading would also work for *kóy* ‘go’ when followed by a verb (or other VP-initial word), as opposed to a noun denoting the destination as in (75a). However, *kóy* is unusual in that the infinitival *kù + H* that we would expect to follow it is generally absent, unlike the case with other verbs. We must therefore consider the possibility that infinitival *kù + H* is virtually present, i.e., it is segmentally deleted but leaves behind its floating H.

- (76) a. *à* *kóy* $\uparrow h\hat{a}\eta$
 3SgS go drink
 ‘He/She went to drink.’
- b. *\eta\grave{o}\eta* *kóy* [$\uparrow f\acute{e}:g\text{-}\grave{o}$ *k\acute{o}:sú*]
 3PIS go [sheep-Fin/DefSg buy]
 ‘He/She went to buy a/the sheep-Sg.’

It was mentioned briefly above that {H}-toned nouns could be analysed as having a floating H in their final/definite forms. However, Rightward H-Spreading would have exactly the same tonal effect on the following word. For example, if we combine *h\acute{a}ns-\acute{o} + H* ‘dog’ with a following {L}-toned word like *dìr\grave{a}* ‘walk’, the floating H will produce the attested output *h\acute{a}ns-\acute{o} \uparrow d\acute{i}r\grave{a}* ‘the dog walked’. However, we would get the same result without the floating H, i.e. /*h\acute{a}ns-\acute{o} d\grave{i}r\grave{a}*/ → *h\acute{a}ns-\acute{o} \uparrow d\acute{i}r\grave{a}* by Rightward H-Spreading.

Indeed, there is one situation in NPs where no floating H can be reasonably ascribed. This is the combination of a {H}-toned nonfinal (NF) form of a noun with a following {L}-toned adjective or numeral. As seen in (77a-c), the first syllable of the modifier is raised to H-tone.

- (77) a. *h\acute{a}r\acute{i}* $\uparrow b\acute{o}:-b\text{-}\grave{o} + H$
 water much-Fin/DefSg
 ‘a lot of water’ (*b\grave{o}:-b\text{-}\grave{o} + H*)

- b. *góy* \uparrow *bé:ri*
 work[noun] big
 ‘a big job’ (*bé:ri*)
- c. *dór-ú* \uparrow *zángù*
 disease-NF hundred
 ‘a hundred diseases’ (*zángù + H*)

So the main limitation of Rightward H-Spreading is jurisdictional. The more floating H’s we posit, the fewer cases of Rightward H-Spreading across word/stem boundaries we need to recognize.

Most adjectives are {L}- or {HL}-toned so they are ineligible as triggers for Rightward H-Spreading anyway. They do have a floating H-tone in their suffixal final/definite forms. However, there are also a few adjectives that show diminutive-like morphology, and these are {H}-toned in the otherwise unsuffixed final/definite singular, e.g. *dúngúr-íyá(+H)* ‘short’, see §4.6.2.8. We could posit a floating H, as with other adjectives. But as with {H}-toned nouns, the floating H could be omitted and Rightward H-Spreading would produce the correct tonal form of the following word anyway, as in [*wòy dúngúríyá*] \uparrow *dírà* ‘the short woman walked’.

With basic numerals the situation is more interesting, since some of them are {H}-toned (*hínká* ‘2’) and others are {HL}-toned (*hínzá* ‘3’). The latter have no raising effect on a following word, so there is no basis for assuming that floating H is regular with numerals. The {H}-toned numerals do have a tone-raising effect on the following word, and a case can be made that this should be attributed to Rightward H-Spreading. However, the one {L}-toned numeral, ‘hundred’, also raises the tone. The verb *kà* raises its first tone (\uparrow *kâ*) in (78b-c) but not in (78a). Examples (78b-c) also illustrate the fact that a monosyllabic L-toned stem like ‘come’ becomes <HL>-toned when affected by spreading.

- (78) a. [*wòy* *hínzá*] *kà*
 [woman three] come
 ‘Three women came.’
- b. [*wòy* \uparrow *zángù*] \uparrow *kâ*
 hundred
 ‘A hundred women came.’
- c. [*wòy* *hínká*] \uparrow *kâ*
 two
 ‘Two women came.’

The few forms other than verb stems that have a final H-tone and therefore trigger Rightward H-Spreading are in (79).

(79)	form	gloss	example
	<i>zá:</i>	‘since’	<i>zá: ↑bí:</i> ‘since yesterday’
	<i>tán</i>	‘only’	<i>[tónɔ-ó tán] ↑bòŋ</i> ‘on the mountain only’

Many apparent exceptions to Rightward H-Spreading that might be found in transcriptions are actually cases where the verb ends in a <HL>-toned syllable, whose L-tone delinks. For example, /*húrá b̀ùg-ò+H*/ surfaces as *húrá b̀ùg-ò* ‘entered the hut’, but this is not a true exception to Rightward H-Spreading.

There are two types of authentic exception. One is that a few grammatical morphemes refuse to raise their L-tone to H even when following a H-tone. We saw this with Rightward Floating-H Docking (§3.9.5.2), where imperfective negative *s̀ù+H*, strong definite *H+d̀ì*, *H+g̀ò:* ‘be’, and infinitival *k̀ù+H* resist raising due to a preceding floating H (their tones can be raised by a following H-toned clitic). The first three of these are constrained to follow NPs, but infinitival *k̀ù+H* can follow verbs. The fact that it fails to raise its tone after a {H}-toned verb (80) suggests that the morphemes resistant to Rightward Floating-H Docking also resist Rightward H-Spreading.

(80)	<i>à</i>	<i>ẁ</i>	<i>hín</i>	<i>[k̀ù</i>	<i>↑dírà]</i>
	3SgS	Impf	be.able	[Infin	walk]
	‘He/She can walk/travel.’				

As we might expect, Rightward H-Spreading also fails when the two adjacent words in question belong to different prosodic phrasing units, or for that matter when a speaker pauses in mid-sentence. One might argue that this is what is really going on in (80) above, though I doubt it (control verbs like *hín* ‘be able’ are tightly phrased with the following infinitival VP). I do think this is why *d̀àngà* ‘like’, which (along with anything to its right that is grouped with it) does not seem to allow itself to raise to *↑d̀àngà*.

A PP can sometimes behave in this fashion, though there is probably some variation in this respect (compare French liaison). In (81), the relevant phrasal boundary is marked by %.

(81)	a.	<i>ǹòŋ</i>	<i>↑hímà</i>	<i>[ẁ</i>	<i>hénjéŋ</i>	<i>%%[[ǹòŋ</i>	<i>↑b̀óŋ]</i>	<i>‘s̀é]]</i>
		3Pl	ought	[Infin	listen	%%[[3Pl	head]	Dat]]
		‘They ought to listen to themselves.’ (also ... <i>[ǹjéy b̀òŋ s̀é]</i>)						
	b.	<i>ì</i>	<i>d̀í:</i>	<i>ǹóŋ</i>	<i>%%[c̀èr</i>	<i>↑b̀ándè]</i>		
		1SgS	see	3PIO	%%[Recip	behind]		
		‘I saw them together (=with each other).’						

The process can be formulated as (82). It really should be consolidated with Rightward Floating-H Docking, but keeping them apart might make the data more transparent to readers.

(82) **Rightward H-Spreading** (word boundary)

Given [...H] [L...] at a word-boundary the H-tone spreads rightward into the onset of the first syllable of the second word, with the same phonological effects as Rightward Floating-H Docking.

exceptions: as for Rightward Floating-H Docking

As with Rightward Floating-H Docking, the foothold gained by the spreading H in the first mora of the second word can then be expanded by a further spread to the end of the first syllable, as described in the next section.

3.9.5.4 Word-Internal <HL> → H+L

In a nonfinal syllable within a word, a <HL>-tone (i.e. <HL>) is unstable, and the H-tone component spreads to the end (i.e. coda) of the syllable. The L-tone component is delinked from this syllable; either it is realized on the following syllable (if atonal), or it merges with a preexisting L-tone on that syllable.

This process is a reflection of **word-level constraints** that also apply to underived stems, insofar as contrasts between L and H tone components within a stem are concentrated at the word's right edge. However, there is a difference between the constraints affecting stems and the present phonological process. As we have seen, underived stems overwhelmingly favor $C\acute{v}C\hat{v}$ with H.<HL> pattern over $C\acute{v}C\hat{v}$ with H.L. Historically, $C\acute{v}C\hat{v}$ stems generally reflect Proto-Eastern Songhay * $C\acute{v}C\hat{v}$, whereby the H-tone has spread into the onset of the final syllable. In Word-Internal <HL> → H+L, on the other hand, something like / $C\hat{v}CC\hat{v}$ / is realized as $C\acute{v}CC\hat{v}$, so the rightward spreading of the H does not go beyond its own syllable.

There are a number of morphological contexts that show a nonfinal <HL>-tone at some point in a derivation. For example, when an **atonal syllabic suffix** follows a <HL>-toned syllable, we first get ...<HL>.L] by Atonal Suffix Spreading (§3.9.5.1). Then the <HL> simplifies to H, resulting in ...H.L]. Example: *círôw* 'bird' plus indefinite plural $-p\acute{o}\eta + H$ first becomes / $círôw-p\acute{o}\eta + H$ / as the atonal suffix gets its tone from the left, then *círôw-p\acute{o}\eta + H* as the medial <HL>-tone is simplified.

Word-Internal <HL> → H+L is also at work when either Rightward Floating-H Docking or Rightward H-Spreading introduces a H-tone into the onset of a nonmonosyllabic word with initial heavy syllable. For example, L.L-toned verb *tò:sù* 'urinate' appears as $\hat{t}ó:sù$ (not # $tò:sù$) as the result of a floating H from the left, as in / $\hat{1} + H$ $tò:sù$ / → $\hat{t}ó:sù$ 'I urinated', and as the result of Rightward H-Spreading, as in the verb-verb sequence *kóy* $\hat{t}ó:sù$ 'go to urinate'.

(83) Word-Internal <HL> → H+L

The H component of a <HL>-toned syllable shifts to the right edge (=coda) of the syllable before a L-toned or atonal syllable within the word.

3.9.5.5 Final <HL> Flattening (final/definite substantives)

Final/definite singular and definite plural suffixes may appear with H- or L-tone but never with contoured <HL>-tone in unpossessed nouns. (Segmentally related suffixes in alienably possessed nouns do allow contoured tones.) With some exceptions, nonmonosyllabic nouns and numerals that end lexically in a contoured <HL>-toned Cv, Cey, or Cow syllable flatten this syllable to L-tone in final/definite forms while leaving nonfinal-syllable tones unaffected. The underlying (lexical) <HL>-tone is inferred from the nonfinal form of the stem, which for some nouns can also occur NP-finally, especially in indefinite function. In the case of inalienables, including kin and body-part terms, the morphologically “definite” forms function as third person possessor forms (‘his/her’).

The situation is simplest for lexically {HL} and {LHL} bisyllabic nouns (and compound finals), which take H.<HL> and L.<HL> form in the absence of a definite suffix (84).

(84) Final <HL> Flattening (bisyllabics)

NF (or unpossessed)	Fin/Def Sg	gloss
a. L.<HL> → L.L		
<i>nominalizations with -êy or -mî after {L}-toned stem</i>		
<i>hîn-êy</i>	<i>hîn-ò + H</i>	‘(the) means’
<i>fâr-mî</i>	<i>fâr-m-ò + H</i>	‘farming’
<i>abstractives with -târêy after {L}-toned stem</i>		
<i>bàrè-târêy</i>	<i>bàrè-târ-ò + H</i>	‘blacksmith-hood’
<i>nouns not obviously derived</i>		
<i>bônê</i>	<i>bôn-ò + H</i>	‘trouble’
<i>bùkôw (~ bùk-ù)</i>	<i>bùk-ò + H</i>	‘corpse’
<i>cèrê</i>	<i>cèr-ò + H</i> (‘his/her’)	‘friend’
<i>gùndê</i>	<i>gùnd-ò + H</i> (‘his/her’)	‘belly’
<i>hàwê</i>	<i>hàw-ò + H</i> (‘his/her’)	‘paternal aunt’
<i>hèrêy (~ hèr-ù)</i>	<i>hèr-ò + H</i>	‘hunger’
<i>kòwrî (~ kòwr-û)</i>	<i>kòwr-ò + H</i>	‘stem’
<i>tù:rî ~ tù:r-û</i>	<i>tù:r-ò + H</i>	‘tree’
b. H.<HL> → H.L		
<i>cîrôw ~ cîr-û ~ cîrî</i>	<i>cîr-ò + H</i>	‘bird’
<i>dá:l-û</i>	<i>dá:l-ò + H</i>	‘scratch marks’
<i>hé:rî ~ hé:r-û</i>	<i>hé:r-ò + H</i>	‘planted portion of field’
<i>hínzâ</i>	<i>hínz-ò + H</i>	‘3’
<i>kúmb-û</i>	<i>kúmb-ò + H</i>	‘Dogon (person)’
<i>sé:g-û</i>	<i>sé:g-ò + H</i>	‘shrub sp. (<i>Calotropis</i>)’
<i>tín-û ~ tínô</i>	<i>tín-ò + H</i>	‘profit’
<i>tíl-û</i>	<i>tíl-ò + H</i>	‘amulet’

In (84a), the lexical H-tone element is lost without a trace in the final/definite. In (84b), in effect the tone break between H and L is merely repositioned leftward.

The same pattern is found with {HL}-toned trisyllabics, which shift from nonfinal H.H.<HL> to final/definite H.H.L (85a). {LHL}-toned trisyllabics whose nonfinal form is L.H.L (instead of L.L.<HL>) can also be fit without problem into this pattern (85b).

(85) Final <HL> Flattening ({HL}-toned trisyllabics)

NF (or unpossessed)	Fin/Def Sg	gloss
a. H.H.<HL> → H.H.L		
<i>kùŋkún-û</i>	<i>kùŋkún-ò + H</i>	‘fist’
<i>sérémb-û</i>	<i>sérémb-ò + H</i>	‘fonio (grain)’
b. H.H.<HL> → H.H.L		
<i>gùntás-û</i>	<i>gùntás-ò + H</i>	‘speckled pigeon’
<i>gùŋgún-û ~ gùŋgún</i>	<i>gùŋgún-ò + H</i>	‘ball, lump’

However, trisyllabics of the type L.L.<HL> can salvage the lexical H-tone by shifting it to the left in definite forms of the type L.H.L, as in *zàràbî* ‘fatigue’, definite *zàràb-ò + H*. See L.L.<HL> → L.H.L (§3.9.6.2). Nevertheless, these cases are not counterexamples to the generalization that final/definite suffixes must be noncontoured H- or L-toned.

For a long list of nouns with final/definite *-à: + H* corresponding to nonfinal *â*, see §4.1.3.2. Disregarding the length alternation, we see that the tones are in conformity with Final <HL> Flattening.

Also consistent with the constraint against final/definite contour-toned suffixes, but achieving it in an irregular fashion, are a small set of stems that are {HL}-toned in the nonfinal form but appear as all {H}-toned in the final/definite forms, as in *hásê* ‘maternal uncle’, *hás-ó + H* ‘his/her maternal uncle’. See §4.1.2.2 for an inventory of these {HL}/{H} nouns.

Agentives with *-kôw* (after a tone-dropped stem) have L-toned final/definite form *-k-ò + H* (§4.5.7). These stems do not undergo the shift L.L.<HL> → L.H.L described in §3.9.6.2.

For the splitting of final-syllable <HL> into H.L in suffixed forms of nouns with final *Cv(:)C* syllable, see §3.9.5.6.

3.9.5.6 <HL> → H.L (final/definite forms of ...*CvC* nouns)

The preceding section pointed out that unpossessed nouns do not allow contoured <HL> tones on final/definite suffixes, which are intrinsically atonal but must appear as either H- or L-toned by spreading from the stem (§3.9.5.5). If the input stem is C-final, i.e. if it ends in ...*CŷC*, the suffix has its own syllable. The output is therefore ...*CŷC-ò + H* or plural *CŷC-èy + H*. That is, the final L-tone element of the stem

jumps to the suffixal syllable. Additional syllables to the left, if any, are unaffected. The process is akin to Final-L Delinking at stem and word boundaries (§3.9.5.8).

Examples are in (86).

(86) Tones in nonfinal forms versus final/definite singular forms of nouns

Nonfinal <i>Cv(:)C</i> -final	Fin/Def Sg	gloss
<i>ká:r-û ~ kâ:r</i>	<i>ká:r-ò + H</i>	‘bus’ (French <i>car</i>)
<i>kùsûw</i>	<i>kùsûw-ò + H</i>	‘dust’
bisyllabic V-final		
<i>tín-û ~ tìnô</i>	<i>tín-ò + H</i>	‘profit’
<i>tíl-û</i>	<i>tíl-ò + H</i>	‘amulet’
<i>sé:g-û</i>	<i>sé:g-ò + H</i>	‘shrub sp. (<i>Calotropis</i>)’
<i>hé:rî ~ hé:r-û</i>	<i>hé:r-ò + H</i>	‘planted portion of field’
<i>kúmb-û</i>	<i>kúmb-ò + H</i>	‘Dogon (person)’
tri- and quadrisyllabic V-final		
{HL}		
<i>kún̄kún-û</i>	<i>kún̄kún-ò + H</i>	‘fist’
{LHL}		
<i>gùntás-û</i>	<i>gùntás-ò + H</i>	‘speckled pigeon’
<i>kùnù-kún-û</i>	<i>kùnù-kún-ò + H</i>	‘fog’
<i>kùsù-kús-û</i>	<i>kùsù-kús-ò + H</i>	‘couscous’

3.9.5.7 Word-medial downstep

A more complex situation occurs when the word into which an initial H has intruded from the left (due to docking or spreading) is underlyingly of the type $C\hat{v}C\hat{v}...$, $C\hat{v}:C\hat{v}...$, or $C\hat{v}CC\hat{v}...$, i.e. with an initial L-toned syllable (light or heavy) followed by a <HL>-toned syllable (or any syllable beginning with a H-tone component). In TSK, for example, the light-syllabled type $C\hat{v}C\hat{v}...$ would not allow a H-tone to intrude into the first syllable by spreading or docking, but the heavy-syllabled patterns can allow an intrusive H to occupy the initial mora of the first syllable, hence $\hat{1}C\hat{v}:C\hat{v}...$ and $\hat{1}C\hat{v}CC\hat{v}...$ In TSK, the principle is that the underlying initial L-tone autosegment cannot be totally erased by an intrusive tone; if the initial syllable is light (i.e. monomoraic) and is followed by a H-tone, intrusion from the left is blocked.

In HS, my data suggest that an intrusive H coming from the left is not blocked by the constraints that operate in TSK. Indeed, whether the initial syllable is heavy or light, in HS the intrusive H spreads to the end of the first syllable, pushing the original L-tone out of that syllable. In my interpretation of a phonetically tricky issue, the L-tone survives in the form of downstep of the following syllable. Schematically, floating H plus $C\hat{v}(:)C\hat{v}$ is realized as $\hat{1}C\hat{v}(:)C\hat{v}$ and floating H plus

the uncommon $C\grave{v}(:)C\acute{v}C\grave{v}$ is realized as $\hat{C}\acute{v}(:)C\acute{v}C\grave{v}$. Actual pronunciations of such words in sentence context are influenced by other factors, so the “downstep” is in comparison with what the word would otherwise sound like.

The most important of these other phonetic factors is that the pitch of a H-toned syllable tends to be pushed up a notch when it is immediately followed by a L-toned syllable (**HL-boundary factor**), so in $C\acute{v}C\acute{v}C\grave{v}$ the second syllable often has slightly higher pitch than the first although both are H-toned. In $\hat{C}\acute{v}(:)C\acute{v}C\grave{v}$, the middle syllable is caught in the crossfire between downstep (which tries to push down its pitch) and the HL-boundary factor (which tries to push its pitch up in anticipation of the next tone break). There are also other phonetic factors at work, including pitch **downdrift** near the end of long intonation groups. Anyone doing serious research on HS, including carefully listening to tapes, should be aware that tonal transcriptions like $\hat{C}\acute{v}(:)C\acute{v}C\grave{v}$ are normalized idealizations.

In (87a), the verb is of type $C\grave{v}C\acute{v}C$, syllabified as $C\grave{v}.C\acute{v}C$, with initial light (monomoraic) syllable. In (87b), the (alienably possessed) noun would otherwise be of the type $C\grave{v}C\acute{v}$. In both cases, the intrusive H pushes the initial-syllable L tone rightwards, where it is realized as downstep. The immediately pre-surface form of the stem is shown in parentheses after the free translation.

- (87) a. \grave{i} $\hat{h}\acute{e}'r\acute{e}y$
 1SgS be.hungry
 ‘I got hungry.’ (*hèrêy*)
- b. $\eta\grave{o}$ $\hat{s}\acute{u}'b-\acute{o}$
 3PIP grass-PossSg
 ‘their grass’ (compare à' *sùb-ô* ‘his/her grass’)

In (88a-c), we have similar cases with L.<HL> tone pattern, except that the initial syllable is heavy. We might expect this to combine with a floating H on the left as <HL>.<HL>, since the bimoraic first syllable could accommodate a contour tone. But in HS this is not what happens. Contoured tones are not allowed except for word-final <HL>-toned syllables, and even these are regularly flattened to H-tone (plus floating L) when another word follows. So floating H plus L.<HL> is realized as H.'<HL>.

- (88) a. \grave{i} $\hat{c}\acute{i}\acute{n}'d\acute{i}$
 1SgS remain
 ‘I remained.’ (*cìndì*)
- b. $s\grave{u}b-\acute{o}$ $\hat{l}\acute{a}:'l\acute{a}$
 grass-Fin/DefSg be.bad
 ‘The grass is/was bad.’ (*là:là*)
- c. $\eta\grave{o}$ $\hat{g}\acute{u}r'j-\acute{e}y$
 3PIP fight-PossPl
 ‘their fights’ (compare à' *gùrj-êy* ‘his fights’)

Prepausally, the <HL> contour in a downstepped syllable is hard to hear, especially in a *Cv* syllable as in (88b-c). It is usually flattened into a mid to low level tone in prepausal position, and I have had difficulty distinguishing it from a L-tone. However, when the word in question is followed by another within the intonation group, the L in <HL> usually delinks. Especially before a {L}-toned word, the downstepped H is often heard with a mid-range pitch, lower than that of the first syllable, but higher than that of a following L-toned syllable. Compare (89) with (88a) above, focusing on the final syllable of ‘remain’.

- (89) *nòŋ* $\hat{c}ín^d\acute{í}$ *nè:*
 3PlS remain here
 ‘They stayed here.’
 phonetic [nòntʃíndìnè]

The conflicting phonetic factors mentioned above apply here as well; in some cases the pitch of the second syllable of ‘remain’ can actually be higher than that of the first syllable.

Another situation where a H.* H word emerges is when a H.L-toned bisyllabic word is followed by one of the morphemes that are preceded by a floating H that docks to the left: *H + gò:* ‘be’, strong definite *H + dî*, or a demonstrative pronoun (see Leftward Floating-H Docking, §3.9.6.1). {HL}-toned *cír-ò + H* ‘bird’ (90a), and {L}-toned *sùb-ò + H* ‘grass’ that has combined with a floating H on its left edge to become H.L $\hat{H}sùb-ò + H$ at word level (90b), can illustrate.

- (90) a. *cíʔr-ó $\hat{\uparrow}$* *dî*
 bird-Fin/DefSg StDef
 ‘that (same/aforementioned) bird’
- b. *nòŋ* $\hat{H}sùb-ò-ó $\hat{\uparrow}$$ *gò:ʔ = nè:*
 /nòŋ + H sùb-ò + H H + gò: = nè:/
 3PIP grass-PossSg be=here
 ‘Their grass is here.’

The same HL-toned bisyllabics also undergo internal downstep when a following particle consisting of just a sonorant consonant cliticizes to its final syllable. An example is (369) in §7.2.1.5.

Again, the downstep is not always audible. Since the relevant morphemes to the right are L-toned, the preceding H-tone (even though downstepped) can be upped a notch by the HL-boundary effect, and the actual relative pitch of the two syllables in the affected word is variable.

Another relevant situation is when a L.H.L trisyllabic, a type found only in suffixed forms of {LHL}-toned nouns (including diminutives), combines with a floating H on the left. This is realized as H.*H.L, with the same caveats as before. The forms in (91) are from *gùntás-ò + H* ‘speckled pigeon’, *zàráb-ò + H* ‘fatigue’, and diminutive *bàt-íy-à: + H* ‘small box’.

- (91) a. *nòŋ* $\hat{\uparrow}$ *gún'tás-ò*
 3PIS speckled.pigeon-PossSg
 'their speckled pigeon'
- b. *nòŋ* $\hat{\uparrow}$ *zá'ráb-ò*
 3PIS fatigue-PossSg
 'their fatigue'
- c. *nòŋ* $\hat{\uparrow}$ *bá't-íy-à:*
 3PIS box-Dimin-PossSg
 'their little box'

Consider also what happens when an initial *NC* cluster resyllabifies, with the nasal becoming part of the preceding syllable. Suppose that the nasal itself is L-toned (*n̄*), that the first full syllable of the word is H- or <HL>-toned (*jêy*), and that the final syllable of the preceding word is H- or <HL>-toned (*kâ*). When the nasal resyllabifies, its syllable is initially <HL>-toned (*kân*), but the L may delink (*kân + L*) and induce downstep on the first full syllable of the word (92).

- (92) *ká =* $\hat{\uparrow}$ *n̄jêy* *fú:ní* [[*nòŋ* *kún-èy*] *gà*]
 /*kâ* *ñjêy* *fú:ní* [[*nòŋ + H* *kún-èy*] *gà*]/
 when=3FullPI search [[3PIP inside-PossPI] in]
 'when they searched inside them' (92.01a)

The analysis outlined above can be formulated as (93).

(93) **Word-Medial Downstep**

When a <HL>.H sequence occurs (after tonological rules) in a bisyllabic sequence within a word, the result is realized as H.⁴H.

3.9.5.8 Final-L Delinking

HS has many lexical stems and particles ending in a <HL>-toned syllable, and additional words of this type are produced by word-internal phonological processes, such as Atonal Suffix Spreading (§3.9.5.1), as well as by spreading or docking of a H-tone in the initial mora of a heavy monosyllable.

When such a <HL>-final word is followed by another word (as opposed to being prepausal), the <HL>-tone normally surfaces as H-tone. The <HL> tone divides into a H-tone component that spreads to the end of the syllable, and a delinked L-tone that is pushed off into inter-word space.

As an example, consider /*í + H* *ŋà:*/ 'I ate', which appears in isolation (i.e. prepausally) as *í* $\hat{\uparrow}$ *ŋâ:*. If this is followed by *nè:* 'here', the <HL>-tone of $\hat{\uparrow}$ *ŋâ:* becomes H, and the delinked L merges with the L of *nè:*, as in *í* $\hat{\uparrow}$ *ŋá:* *nè:* 'I ate here'. Likewise, the lexically <HL>-toned verb *kâŋ* 'fall' occurs (prepausally) in *í* *kâŋ* 'I

fell’, and before *nè*: ‘here’ with H-tone as *ì káŋ nè*: ‘I fell here’. The rule also affects <HL>-toned monomoraic stems or morphemes, such as *hû* ‘house’ in /hû bè:rì/, realized as *hú bè:rì* ‘a big house’.

(94) **Final-L Delinking**

A word-final <HL>-toned syllable (i.e. <HL>) (usually) delinks its L when followed by another word; the delinked L initially floats between the two words.

This floating L will either merge into another L-tone that is already there, or force downstep on a following H-tone.)

For purposes of Final-L Delinking, a morpheme consisting solely of a consonant (e.g. *w* or *ŋ*) may function as the “word-final” <HL>-toned syllable in (94). This is seen in (95a), where the transitive (Tr) morpheme consisting of a nasal is syllabified as the coda to the last syllable of ‘dog’. Likewise, if a morpheme begins with a nasal-stop cluster, its nasal may constitute the coda of the final syllable of the preceding word. In (95b), /ɲòŋ + H/, transitive /ŋ/, and the first syllable /n̄/ of the 3FullPl pronoun constitute a single surface syllable [ɲóŋ]. The derivation is /ɲòŋ + H ŋ n̄/ → /ɲǒŋ + L/ by Final-L Delinking → /ɲóŋ + L/ by <LH> → H Flattening (§3.9.6.3).

- (95) a. *háns-ó = ɲ* *hà:r-ò* \uparrow *námà*
 /háns-ó + H = ɲ hà:r-ò + H nàmà/
 ‘dog-Fin/DefSg=Tr man-Fin/DefSg bite’
 ‘The dog bit the man.’
- b. *ɲóŋ* \uparrow = *ɲ* *n̄jêy* *kárú*
 /ɲòŋ + H ɲ ñjêy kárú/
 3Pl Tr 3FullPl hit
 ‘(They_x said) they_y hit them_x.’

Final-L Delinking involves inter-word tone/pitch relationships and is not completely obligatory. It is subject to rhetorical factors, such as the prosodic salience of the following word. For example, *ñjêy kûl* ‘all of them’ looks like a good candidate for Final-L Delinking, so we might expect \uparrow #*ñjêy* *kûl* with downstepped *kûl*. However, *kûl* ‘all’ is nearly always rhetorically “stressed.” The pitch of the preceding word is lowered to frame the high-pitched quantifier. The result is *ñjêy[˩] kûl*, where the initial tone of *kûl* is higher than that of the (downstepped) pronoun. In cases like this, when downstep is not observed I transcribe the first word with final <HL>-toned syllable, though phonetically the relevant syllable may have a flattish mid or lower-mid pitch.

3.9.5.9 Downstep at word boundary

A floating L-tone, delinked from a word-final <HL>-toned syllable, is realized as a pitch drop on a following word that begins with a H-tone. A floating L has no audible effect on a word beginning with a L-tone.

Downstep is common because final-syllable falling tones are very common in HS. There are many stems with H.<HL> syllable sequences (generally reflecting *HL), many possessed noun forms ending in <HL> tones, and many particles and function words such as demonstrative *H + wô*, transitive *ɛ̃*, and subjunctive *m̃ ~ ɛ̃*.

The pitch decline is often rather sharp, and it is not clear to what extent a downstepped H-tone is audibly distinct from a L-tone in the same position. “Tone” in HS, as in other languages, is articulatorily complex. The difference between H and L probably involves phonation type as well as f_0 frequency. Certainly a long L-toned vowel as in *kâ:r-ò + H* ‘crocodile’ sounds creaky when the word is pronounced in isolation. It is quite possible that phonation and other cues are audible even when a {H}-toned word is sharply downstepped. Informants are also able to distinguish e.g. downstepped H.H ‘*ĆĆĆ*’ from downstepped HL ‘*ĆĆC̀*’, at least in careful style.

The **domain** affected by downstep is, in theory, a H-toned sequence within a (compact) word, e.g. *Ć*, *ĆĆĆ*, and *ĆĆĆĆ*. We can perhaps include a following L-tone within the domain, as in *ĆĆC̀*, insofar as the pitch of the whole word is lowered. The pitch within such idealized domains is flat before a pause. However, when the downstepped domain is medial within a prosodically connected phrase, the following element may affect the right edge. This is especially true of trisyllabic as opposed to shorter domains. This is another way of saying that the downstepped domain is not always sharply defined beyond the first syllable.

Consider {H}-toned verb *káru* ‘hit’ and H.<HL>-toned verb *húra* ‘enter’.

- (96) a. $i\hat{\uparrow} = \acute{ɛ̃} = \acute{ɛ̃}$ ‘*káru*
 /î + H ɛ̃ ɛ̃ *káru*/
 1SgS Tr 3SgO hit
 ‘I hit him/her/it.’
- b. *m̃* ‘*húra*
 /*m̃* *húra*)/
 2SgSubju enter
 ‘You-Sg must come in!’
- c. *m̃* *gòrò*
 /*m̃* *gòrò*/
 2SgSubju sit
 ‘You-Sg must sit down!’

In (96a), ‘*káru*’ is heard with variably (sometimes sharply) lowered pitch, making its {H}-tone melody difficult to distinguish from the already {L}-toned melody of

(96c) by pitch alone. Subtle phonation differences may distinguish the tones of *'kárú* from those of *gòrò* even when their pitch as such converges, since *'kárú* still sounds more “sung” than *gòrò*. In addition, the two syllables of *'kárú* have exactly the same pitch, while *gòrò* is more flexible in this respect.

In (96b), it is possible for the speaker to lower the pitch of the final <HL>-toned syllable of *'húrâ* beyond that of the already downstepped first syllable. So it is at least marginally possible to distinguish all word-level melodies in spite of downstep.

In (97), there is again a downstepped {HL} noun, but this time it is trisyllabic H.H.L. In at least some realizations, the medial syllable *séy* is slightly higher-pitched than the initial syllable *há*, which makes it easier to hear the word-internal tone break. In this case, the downstep is sharpest on the first syllable, then loses steam.

- | | | | |
|------|--------------------------------|--------------------|-------------|
| (97) | <i>m</i> | <i>'hás-éy-ndì</i> | <i>↑fò:</i> |
| | /m̂ | hás-éy-ndì + H | fò:/ |
| | 2SgSubju | our uncle | greet |
| | 'You-Sg must greet our uncle!' | | |

HS downstep on a word X does not reset the pitch ceiling for subsequent words in the phrase or clause. There is undoubtedly a tendency for phrasal groups to gradually decline from start to finish (downdrift), but listening to HS gives one the impression of a piston-like up and down pitch pattern among adjoining words. So, in (98) the downstep on ‘dog’ does not prevent the following {H}-toned word from resuming something close to the clause-initial pitch.

- | | | | |
|------|-----------------------|------------------|-------------|
| (98) | <i>i↑ = ŋ</i> | <i>'háns-ó</i> | <i>kárú</i> |
| | /i + H | ŋ háns-ó + H | kárú/ |
| | 1SgS | Tr dog-Fin/DefSg | hit |
| | 'I hit-Past the dog.' | | |

The process is summarized informally in (99).

(99) **Downstep**

A preceding floating L-tone induces a pitch drop (sometimes sharp) on a following word-initial H-tone autosegment, which may extend over one or more syllables within its word.

Rhetorical factors may diminish or impede downstep. Such words as *kûl* ‘all’ and adjectival intensifiers like *dús!* ‘very rotten’ are almost always pronounced forcefully, and simply brush off any preceding floating L-tones.

For word-medial downstep, reflecting the intrusion of external H-tones from the left and/or from the right, see §3.9.5.7 above.

3.9.6 Right-to-left spreading processes

The majority of processes that spread or reposition tones move from left to right, as detailed above. However, there are three processes parallel to those except that they shift or spread a H-tone from right to left. First, there are a few grammatical morphemes that behave as though they had an associated floating H-tone to their left (not their right), and this H-tone can dock on the right edge of the preceding word (§3.9.6.1). Second, when a V-final trisyllabic noun whose basic tone pattern is L.L.<HL> combines with a final/definite suffix *-o + H* or *-ey + H* that merges into the final syllable, a prohibition on surface L-tone for the suffixal syllable forces the lexical H-tone onto the medial syllable, resulting in L.H.L (plus floating H) (§3.9.6.2). Finally, a presurface <LH>-toned syllable that results from cliticization of a H-toned nasal morpheme to a L-toned final syllable is flattened and raised to H-tone (§3.9.6.3).

In addition to the right-to-left processes that are officially recognized here, there is an alternative analysis of Tonal Rhythm (§3.9.4.1) that involves leftward pushing of a suffixal tone as the suffix fuses with the stem-final syllable.

3.9.6.1 Leftward Floating-H Docking (or Leftward Raising)

Four morphemes induce a H-tone on the final syllable of a preceding {L}-toned stem under some conditions.

- | | | |
|-------|-------------------------------------|---|
| (100) | form | gloss |
| | a. <i>H + dî</i> | Strong definite |
| | b. <i>H + wô</i>
<i>H + w-êy</i> | Demonstrative ('this/that')
(plural) |
| | c. <i>H + gò:</i> | 'be' |

Consider the combinations of the L-toned morphemes *dî* and *gò:* with immediately preceding {L}-toned final/definite singular forms *sùb-ò + H* 'grass' and *kòyrà + H* 'village' and definite plural forms *sùb-èy + H* and *kòyr-èy + H* (101). The final syllable of the noun is raised to H-tone before *H + dî* and *H + gò:*. The symbol $\hat{\uparrow}$ at the right edge of the word indicates that the final H-tone is due to docking of floating H from the right, but as usual this symbol adds no phonetic information.

- | | | | | | |
|-------|------------|-------------------|---|---|--|
| (101) | gloss | final/definite | Strong Def | Dem | 'be' |
| | a. 'grass' | | | | |
| | Sg | <i>sùb-ò + H</i> | <i>sùb-ó$\hat{\uparrow}$ dî</i> | <i>sùb-ó$\hat{\uparrow}$ wô</i> | <i>sùb-ó$\hat{\uparrow}$ gò:</i> |
| | Pl | <i>sùb-èy + H</i> | <i>sùb-éy$\hat{\uparrow}$ dî</i> | <i>sùb-éy$\hat{\uparrow}$ w-êy</i> | <i>sùb-éy$\hat{\uparrow}$ gò:</i> |

b. 'village'

Sg *kòyrà + H* *kòyrá↑ dî* *kòyrá↑ wô* *kòyrá↑ gò:*
 Pl *kòyr-èy + H* *kòyr-éy↑ dî* *kòyr-éy↑ w-éy* *kòyr-éy↑ gò:*

If the immediately preceding word is {H}-toned, there is no audible tone change, as with *háw-ó + H* 'cow' (102a). A H.L-toned bisyllabic noun like *cír-ò + H* 'bird' theoretically combines with a following H-tone as H.^{*} H (with downstep), though it is difficult to hear the distinction between H.^{*} H and H.L (102b). For stems with final <HL>-toned syllable see (108) below.

(102)	gloss	final/definite	Strong Def	Dem
a.	'cow'			
	Sg	<i>háw-ó + H</i>	<i>háw-ó dî</i>	<i>háw-ó wô</i>
	Pl	<i>háw-éy + H</i>	<i>háw-éy dî</i>	<i>háw-éy wô</i>
b.	'bird'			
	Sg	<i>cír-ò + H</i>	<i>cír-[*]ó↑ dî</i>	<i>cír-[*]ó↑ wô</i>
	Pl	<i>cír-èy + H</i>	<i>cír-[*]éy↑ dî</i>	<i>cír-[*]éy↑ wô</i>

There is an analytical issue in (101a-b) and (102b). Since the noun has its own floating H, if we attribute a preceding floating H to *dî* and company, the underlying sequences will be of the type /NOUN + H H + dî/, with not one but two floating H's in the same no-man's-land between the two words. In one possible derivation, the postnominal H is unable to dock to its right, so it is deleted, allowing the H preceding *dî* to dock to its left (103a). In another possible derivation, the postnominal H is blocked from docking to its right for one reason or another, so it is forced to dock to its left (103b).

(103)	a.	/kòyrà + H	H + dî/	underlying
		/kòyrà	H + dî/	first floating H canceled
		<i>kòyrá↑</i>	<i>dî</i>	Leftward Floating-H Docking
	b.	/kòyrà + H	(H +)dî/	underlying
		"	"	Rightward Floating-H Docking fails
		<i>kòyrá↑</i>	<i>dî</i>	Leftward Floating-H Docking

If underlying representations like /NOUN + H H + dî/ are recognized, the first floating H must either be canceled or fused with the second floating H.

The only way to decide between the two models (103a) and (103b) is to position one of the morphemes in (100) after a {L}-toned word that is not associated with its own floating L. This can be done with *H + dî*, in its function as a right-edge marker in relative clauses. I do frequently, but not always, hear a final L-tone raised to H before this morpheme. My interpretation of the data is that the raising is regular, but that it is sometimes inaudible because the sequence occurs at the end of a long clause and is therefore subject to phonetic **downdrift**. Examples are in (104). (104b)

is especially difficult phonetically since the first syllable of ‘sit’ is raised by a preceding floating H, resulting in word-medial downstep (§3.9.5.7). If my analysis is correct, at least as a mental ideal for native speakers, it follows that $H + d\grave{i}$ does have an associated preceding floating H that docks to the left, and this is shown in the underlying representations under the output forms.

- (104) a. $m\grave{e}$ $k\acute{a}$ \grave{a} $g\grave{o}r\acute{o}\uparrow$ $d\grave{i}$
 /mé $k\hat{a}$ \grave{a} $g\grave{o}r\grave{o}$ H + $d\grave{i}$ /
 time Rel 3SgS sit StDef
 ‘(at) the time when he/she sat’
- b. $m\grave{e}$ $k\acute{a}$ \grave{i} $\uparrow g\acute{o}r\acute{o}\uparrow$ $d\grave{i}$
 /mé $k\hat{a}$ $\grave{i} + H$ $g\grave{o}r\grave{o}$ H + $d\grave{i}$ /
 time Rel 1SgS sit StDef
 ‘(at) the time when I sat’
- c. $m\grave{e}$ $k\acute{a}$ \grave{a} $b\grave{e}-b\grave{e}r\acute{e}\uparrow$ $d\grave{i}$
 /mé $k\hat{a}$ \grave{a} $b\grave{e}-b\grave{e}r\grave{e}$ H + $d\grave{i}$ /
 time Rel 3SgS take.walk StDef
 ‘(at) the time when he/she took a walk’
- d. $m\grave{e}$ $k\acute{a}$ \grave{i} $\uparrow b\acute{e}-b\grave{e}r\acute{e}\uparrow$ $d\grave{i}$
 /mé $k\hat{a}$ $\grave{i} + H$ $b\grave{e}-b\grave{e}r\grave{e}$ H + $d\grave{i}$ /
 time Rel 1SgS take.walk StDef
 ‘(at) the time when I took a walk’

Demonstrative $H + w\hat{o}$ can also occur at the end of a relative clause, and has a similar effect: the final syllable of $b\grave{e}-b\grave{e}r\grave{e}$ is raised to H-tone in (105) as in (104d) above.

- (105) $d\grave{e}y\downarrow$ $k\acute{a}$ \grave{i} $\uparrow b\acute{e}-b\grave{e}r\acute{e}\uparrow$ $w\hat{o}$
 place Rel 1SgS take.walk Dem
 ‘(in) this/that place where I took a walk’

With some difficulty I was able to concoct a similar example (admittedly artificial) involving $H + g\grave{o}$: ‘be’ (106).

- (106) [$h\grave{a}:r-\grave{o}$ $g\acute{a}$ $b\grave{e}-b\grave{e}r\acute{e}\uparrow$] $g\grave{o}:$ $\uparrow b\acute{a}m\grave{a}k\grave{o}$
 [man-Fin/DefSg Rel take.walk] be Bamako
 ‘A/The man who took a walk is in Bamako.’

Examples (105-6) justify the representations $H + w\hat{o}$ and $H + g\grave{o}$: with preceding floating H. I therefore formulate the rule as (107), cf. (103a) above.

(107) **Leftward Floating-H Docking** ($H + d\grave{i}$, $H + w\hat{o}$, $H + w\text{-}\acute{e}y$, $H + g\grave{o}$.)

If a morpheme is associated with a preceding floating H

- a) an immediately preceding floating H (if any) is canceled
- b) the floating H docks at the right edge of the preceding word

Consider now a combination involving a noun that, after word-level morphophonology, ends in a <HL>-toned syllable, such as PossSg *sàfâr-ó* in \acute{a}^r *sàfâr-ó* ‘his/her medicine’ from unpossessed *sàfâr-ò + H* ‘medicine’. If \acute{a}^r *sàfâr-ó* is followed by $H + g\grave{o}$: ‘be’, the floating H has no audible effect on the noun. This is because the final <HL>-tone will become H-toned anyway as the L-tone element delinks and is either lost or merges with the L-tone of *g\grave{o}*: (108a). If we replace L-toned $H + g\grave{o}$: by <HL>-toned demonstrative $H + w\hat{o}$, the latter is downstepped in (108b), again as it would be without the floating H-tone. If the transcriptions are correct, nouns with final <HL>-toned as well as final H-toned syllables show not effect of the floating H.

- (108) a. $[\acute{a}^r \quad s\grave{a}f\grave{a}r\text{-}\acute{o}] \quad g\grave{o}$: $\acute{\uparrow}b\grave{a}m\grave{a}k\grave{o}$
 $/[\grave{a} \quad s\grave{a}f\grave{a}r\text{-}\acute{o}] \quad H + g\grave{o}$: $b\grave{a}m\grave{a}k\grave{o}/$
 [3SgP medicine-PossSg] be Bamako
 ‘His/her medicine is in Bamako.’
- b. $\acute{a}^r \quad s\grave{a}f\grave{a}r\text{-}\acute{o} \quad \acute{w}\hat{o}$
 $/\grave{a} \quad s\grave{a}f\grave{a}r\text{-}\acute{o} \quad H + w\hat{o}/$
 [3SgP medicine-PossSg Dem]
 ‘that medicine of his/hers.’

It is very possible that the alternations I have ascribed to a preceding floating H have been morphologized. If so, instead of a floating H-tone we should consider a tonomorphological analysis by which the morphemes in (100) directly induce tone changes in the adjacent word.

3.9.6.2 L.L.<HL> → L.H.L (final/definite forms of trisyllabic nouns)

Trisyllabic nouns, including a few archaic verbal nouns, that have L..L<HL> tones in the nonfinal form avoid Final <HL> Flattening (to L.L.L) in the final/definite forms (§3.9.5.5) by shifting the H-tone element to the penult. In (109), we see L.L.<HL> in the left column but L.H.L in the middle column.

(109) L.L.<HL> nouns

Nonfinal	Fin/Def Sg	gloss
a. verbal nouns		
<i>z\grave{u}mb\grave{u}-r\acute{i} ~ z\grave{u}mb\grave{u}r-\acute{u}</i>	<i>z\grave{u}mb\acute{u}-r-\acute{o} + H</i>	‘going down’

<i>fà:bà-rî</i>	<i>fà:bá-r-ò + H</i>	‘assistance’
b. other		
<i>zàràbî</i>	<i>zàráb-ò + H</i>	‘fatigue’
<i>dàbàrî</i>	<i>dàbár-ò + H</i>	‘stratagem’
<i>hùmbàrû</i>	<i>hùmbár-ò + H</i>	‘waterskin’
<i>kògòtû</i>	<i>kògót-ò + H</i>	‘cough’

The tone alternations are captured in (110).

(110) L.L.<HL> → L.H.L

The global {LHL} melody realized as L.L.<HL> in a trisyllabic nonfinal form is shifted to L.H.L in the suffixed final/definite forms.

The effect is that the stem-wide {LHL} melody is audible throughout the paradigm, though the H-tone appears in different positions. Trisyllabics therefore faithfully preserve the full lexical {LHL} melody, while also satisfying the constraint against contoured <HL> in the suffixal syllable of a final/definite form. {LHL}-toned bisyllabics, by contrast, must choose between faithfulness and the final-syllable constraint, and in fact sacrifice the H-tone, showing that the final-syllable constraint is stronger (§3.9.5.6).

3.9.6.3 <LH> → H Flattening

HS has no underlying or surface <LH>-toned syllables. However, there are several situations where such a rising tone accidentally develops on a syllable in the middle stages of a derivation. This happens when the initial consonant (perhaps the only segment) of one morpheme syllabifies with the final vowel of a preceding word or morpheme. These pre-surface rising tones are then realized as H-toned; that is, <LH> is flattened and raised to H.

Some consonantal morphemes, and CC-initial morphemes, that can provide consonantal codas when encliticized to a preceding word, are in (111).

(111)	form	gloss
a.	<i>ŋ</i>	Transitive (bidirectional case-marker, §7.2.6)
	<i>m̂ ~ ŋ</i>	Subjunctive (§7.2.1.4)
b.	<i>ŵ + H</i>	Imperfective plus floating H from left (§7.2.1.5)
c.	<i>ńdù + H</i>	‘with, and’ (§5.11)

A <HL>-tone on a monosyllabic morpheme, lexical in (111a) and due to Rightward Floating-H Docking from an element on the left in (111b), is normally realized as

H-tone plus floating L-tone in morphemes like these that are always phrased with other words on the right. For present purposes we can treat these morphemes as H-toned. When the morphemes in (111) cliticize to a preceding word (such as a subject pronominal), if the latter ends in a L- or <HL>-toned syllable, the result (if not repaired) would be a disallowed <LH> or <HLH>-toned syllable. The way out is to flatten and raise the tone of the entire syllable to H. In transcriptions, this raising is indexed by the arrow placed at the right edge of the relevant word or morpheme.

In (112), the bolded interlinear gloss tags the affected morpheme, whose basic form is shown in parentheses.

- (112) a. $\acute{a}\hat{\uparrow} = \acute{\eta}$ *h́áns-ó* *wí:*
 /à $\hat{\eta}$ háns-ó + H wí:/
3SgS Tr dog-Fin/DefSg kill
 ‘He/She killed the dog.’ (3SgS à)
- b. \grave{a} \grave{w} *h́ín* [$kú\hat{\uparrow} = \acute{\eta}$ *‘dúmbú]*
 /à $\grave{w} + H$ h́ín [kù + H $\hat{\eta}$ dúmbú]/
 3SgS Impf be.able [**Inf**=3SgO cut]
 ‘He/She is able to cut it.’ (infinitive $kù + H$)
- c. $yó\hat{\uparrow} = \acute{m}$ *gòrò*
 /yò + H \acute{m} gòrò/
1PIS Subju sit
 ‘Let’s sit!’ (1PIS $yò + H$)
- d. $h\grave{a}:r-\acute{o}\hat{\uparrow} = \acute{m}$ *‘kóy*
 /h\grave{a}:r-ò + H \acute{m} kóy/
man-Fin/DefSg Subju go
 ‘May the man go!’ ($h\grave{a}:r-\acute{o} + H$)

The relevant imperfective cases are those where the morpheme preceding the imperfective allomorph $\grave{w} + H$ is L-toned but has an associated following floating H that effectively pushes out the L-tone on \grave{w} . For example, 1P1 $yò + H$ combines with imperfective $\grave{w} + H$ as shown in (113).

- (113) ‘we do/will sit’ (markup: 1PIS Impf sit)

derivation	phonological process
/yò + H $\grave{w} + H$ gòrò/	
/yò $\hat{\uparrow}\grave{w}$ $\hat{\uparrow}gòrò$ /	Rightward Floating-H docking
/yò = $\hat{\uparrow}\grave{w}$ $\hat{\uparrow}gòrò$ /	Cliticization
/yó = $\hat{\uparrow}\acute{w} + L$ $\hat{\uparrow}gòrò$ /	<LH> → H Flattening and L-Delinking
yó = $\hat{\uparrow}\acute{w}$ $\acute{\uparrow}gòrò$	Downstep (surface form)

Imperfective allomorph $\hat{w}+H$ is segmentally zeroed after a consonant, but its presence can be indexed by $\langle LH \rangle \rightarrow H$ Flattening if the preceding word (i.e. the subject NP or pronoun) would otherwise end in a L- or $\langle HL \rangle$ -toned syllable. For example, perfective $b\hat{o}r-\hat{e}y \hat{\uparrow}d\hat{i}r\hat{a}$ ‘(the) people traveled’ differs only tonally from $b\hat{o}r-\hat{e}y \hat{\uparrow} \emptyset \hat{\uparrow}d\hat{i}r\hat{a}$ ‘(the) people do/will travel’. The latter is derived from $/b\hat{o}r-\hat{e}y + H \hat{w} + H d\hat{i}r\hat{a}/$.

$\acute{n}\hat{d}\hat{u} + H$ is a versatile morpheme with basically comitative or instrumental function. When it cliticizes to a preceding word or stem ending in a L-toned syllable, the \acute{n} of $\acute{n}\hat{d}\hat{u} + H$ becomes the coda of that syllable, creating another disallowed $\langle LH \rangle$ that must be flattened to H. Cliticization is obligatory when $\acute{n}\hat{d}\hat{u} + H$ functions as a derivational morpheme, converting intransitive verbs to (VO) transitive verbs (§6.2.5). Note the tones in the relevant syllables in (114). The arrow after a verb stem indicates that the tone has been raised to H.

(114)	simple gloss	simple stem	derived stem	gloss
	‘go’	<i>kóy</i>	<i>kóy = \acute{n}\hat{d}\hat{u}</i>	‘go with, convey’
	‘walk’	<i>d\hat{i}r\hat{a}</i>	<i>d\hat{i}r\hat{a} \hat{\uparrow} = \acute{n}\hat{d}\hat{u}</i>	‘walk with’

As an instrumental or comitative preposition, $\acute{n}\hat{d}\hat{u} + H$ ‘with’ need not be phrased with any preceding material, so phonological cliticization is not automatic. However, when it functions as an ‘and’ conjunction, if the two conjuncts are phrased together, with $\acute{n}\hat{d}\hat{u} + H$ in between, the effect is to cliticize $\acute{n}\hat{d}\hat{u} + H$ to the left conjunct. If the latter ends in a L-toned syllable, we need to flatten the $\langle LH \rangle$ to H. This happens in (115).

(115)	<i>h\hat{a}:r-\hat{e}y \hat{\uparrow} = \acute{n}\hat{d}\hat{u}</i>		$\hat{\uparrow}w\acute{o}y-\hat{e}y$
	$/h\hat{a}:r-\hat{e}y + H$	$\acute{n}\hat{d}\hat{u} + H$	$w\acute{o}y-\hat{e}y + H/$
	man-DefPl	with	woman-DefPl
	‘men and women’ ($h\hat{a}:r-\hat{e}y + H$)		

The rule is (116).

(116) $\langle LH \rangle \rightarrow H$ Flattening

A rising tone $\langle LH \rangle$ within a syllable is flattened to H

When a $\langle HLH \rangle$ syllable is created in a derivation, due to cliticization, $\langle LH \rangle \rightarrow H$ Flattening applies, and the resulting $\langle HH \rangle$ is automatically simplified to H. For example, in (117) the $\langle HL \rangle$ -toned 1Sg pronoun $\hat{?}\hat{a}y$ is syllabified with the H-toned \acute{n} of $\acute{n}\hat{d}\hat{u} + H$. This produces $\langle HLH \rangle$, which is realized as H.

(117)	$\hat{?}\hat{a}y \hat{\uparrow} = \acute{n}\hat{d}\hat{u}$	<i>n\hat{i}</i>
	1Sg=with	2Sg
	‘I and you-Sg’	

<HLH> is also flattened to H in combinations involving a subject (NP or pronoun) ending in a <HL> tone plus transitive $\hat{\eta}$ or subjunctive $\hat{m} \sim \hat{\eta}$, whose own <HL> tone simplifies to H after Final-L Delinking.

Indeed, since the sequence of transitive and 3Sg object clitics can also follow (and syllabify with) a preceding subject (NP or pronoun) ending in a <HL>-toned syllable, like 3FullSg $\text{?á}\hat{\eta}\hat{g}\hat{a}$, we can actually get a theoretical <HLHLH> syllable in the course of a derivation, which flattens to H. That is, <LH> \rightarrow H Flattening and the automatic simplification of <HH> to H can apply twice within the same syllable (118).

(118) derivation	phonological process	clitic-final syllable is...
‘they (3FullPl) will hit him’		
$\text{/}\hat{\eta}\hat{j}\hat{e}y \hat{\eta} \hat{\eta} \text{ ká}\hat{r}\hat{u}/$		(n.a.)
$\text{/}\hat{\eta}\hat{j}\hat{e}y = \hat{\eta} = \hat{\eta} \text{ ká}\hat{r}\hat{u}/$	Cliticization	<HLHLHL>
$\text{/}\hat{\eta}\hat{j}\hat{e}y = \hat{\eta} = \hat{\eta} + L \text{ ká}\hat{r}\hat{u}/$	Final-L Delinking	<HLHLH>
$\text{/}\hat{\eta}\hat{j}\hat{e}y = \hat{\eta} = \hat{\eta} \text{ 'ká}\hat{r}\hat{u}/$	Downstep	"
$\hat{\eta}\hat{j}\hat{e}y = \hat{\eta} = \hat{\eta} \text{ 'ká}\hat{r}\hat{u}$	<LH> \rightarrow H Flattening	H

3.9.7 Tones in nominal compounds

As explained in detail and exemplified in §4.8.1, tight compounds are those whose initial has an invariant, uninflectable form, while loose compounds involve NP-like initials that freely include final/definite marking (singular or plural). Loose compounds are generally treated morphologically and tonally as alienably possessed nouns. In tight compounds, often the tonal output is predictable from the lexical tones of the initial and final, but there are some tonally quirky cases.

3.10 Historical phonological notes

Aside from historical tonology, not considered here, the historical phonology of basic vowels and consonants of HS is not very difficult. Assuming that Proto-Songhay had five (not seven) vowel qualities, as in most mainstream Songhay languages, there are no systematic vowel shifts.

3.10.1 Long vowel versus diphthong

TSK diverges from the other eastern (and western) Songhay languages in showing diphthongs with w after short vowel in a number of stems where the other languages have a long vowel. Thus TSK $\text{z}\hat{e}w\hat{r}\hat{e}$ ‘garment, rag’ corresponding to HS $\text{z}\hat{a}:\hat{r}:\hat{o}$, KS $\text{z}\hat{a}:\hat{r}\hat{i}$, and other cognates with long a ; and TSK $\text{f}\hat{o}w\hat{n}\hat{o}$ ‘monkey’ versus HS $\text{f}\hat{o}:\hat{n}:\hat{o}$, Zarma $\text{f}\hat{o}:\hat{n}\hat{o}$, etc. Souag (2012:196) has shown that the TSK w in these stems reflects a proto-Songhay $*\gamma$ in most cases.

3.10.2 Reflex η for $*\eta^w$

Consider (119).

(119)	gloss	HS	TSK	Zarma	other
a.	‘eat’	$\eta\grave{a}$:	$w^n\grave{a}$:	$\eta^w\grave{a}$	KCh=KS $\eta\grave{a}$: Kaado $\eta\grave{a}$
	‘beg’	$\eta\acute{a}:\acute{r}\acute{e}y$	$w^n\acute{a}:\acute{n}\acute{e}y$	$\eta^w\acute{a}:\acute{r}\acute{a}y$	KCh=KS $\eta\acute{a}:\acute{r}\acute{e}y$
b.	‘know’	$\eta\acute{a}:n$	$w^n\acute{a}:n$	$w\acute{a}:n\acute{i}$	KS <i>wan</i> KCh <i>waani</i>
	Poss	$\eta\acute{o}n\acute{e}$	$w^n\acute{o}n\acute{e}$	$w\acute{a}n\acute{e}$	KS <i>wane, wone</i> KCh <i>wane</i>
	‘sb else’	$\eta\acute{o}n\acute{i}$	$w^n\acute{a}:n\acute{i}$	$w\grave{a}:n\acute{i}$	KCh <i>waani</i>
c.	‘sun’	$\eta\grave{o}yn-\grave{o} + H$ $\sim w\grave{o}yn-\grave{o} + H$ $\sim w\grave{e}yn-\grave{o} + H$	$w^n\acute{o}yn\acute{e}$	$w\acute{a}yn\grave{o}$	Kaado <i>w\acute{e}yn\grave{o}w</i> KS <i>woynow</i> KCh <i>woyne</i>
	‘wife’	$\eta\grave{a}n\grave{d}\acute{e}$ $\sim w\grave{a}n\grave{d}\acute{e}$	$w^n\grave{a}n\grave{d}\acute{e}$	$w\grave{a}n\grave{d}\acute{e}$	KCh=KS <i>wande</i>

Since the stems in (119a) do not include a medial nasal (except in TSK ‘beg’, which is probably secondary), I take them as diagnostic of a HS correspondence η for TSK w^n and Zarma η^w (also urban Dendi dialectal η^w and ηm , not shown), reflecting $*\eta^w$.

In the remaining sets, TSK w^n corresponds to w in Zarma, KCh, KS, etc., in stems that have a medial nasal. HS has η (119b), or $\eta \sim w$ (119c). One possibility is that HS and TSK reflect $*w^n$ secondarily nasalized from $*w$ under the influence of the medial nasal. The other possibility is that the other languages reflect denasalization of $*\eta^w$ to $*w$ under dissimilation to the subsequent nasal. (Similar issues arise in comparisons among Dogon languages.)

3.10.3 Deletion of intervocalic $*g$

As in some other Songhay languages, there are a few cases where intervocalic $*g$ has been zeroed between back vowels $\{a\ o\ u\}$.

A verb ‘break [tr]’ (perhaps $*b\acute{a}g\acute{u}$) appears as HS *b\acute{o}w*. Cognates include KS *bagu*, Zarma *b\acute{a}g\acute{u}*, Kaado *b\acute{a}g\acute{a}*, and KCh and DjCh *ba*:. HS verb *d\acute{o}w* ‘uproot’ ($*d\acute{o}g\acute{o}$ or $*d\acute{o}g\acute{u}$) has these cognates: KS *dogu*, KCh *dogo*, DjCh *d\acute{o}*:, Zarma *d\acute{a}g\acute{u}*, Kaado *d\acute{o}:\acute{g}\acute{o}*, TSK *d\acute{o}w*. Another HS verb, *z\acute{o}w* ‘look back (over shoulder)’, from $*z\acute{o}g\acute{u}$, corresponds to Zarma *z\acute{a}g\acute{u}*, KS *zogu*, TSK *z\acute{o}w*, and KCh *jo*:.

As in all mainstream Songhay languages except DjCh (which has *tuguri*), the word for ‘tree’ ($*t\grave{u}g\acute{u}r\acute{i}$) has lost its $*g$ in HS $t\grave{u}:r-\grave{o} + H$ (nonfinal $t\grave{u}:r\acute{i}$).

However, many cases of intervocalic $*g$ are not zeroed or lenited even in similar vocalic environments: HS *s\acute{o}g\acute{o}* ‘lock [tr]’, *l\acute{o}:\acute{g}\acute{u}* ‘lick’, etc.

3.10.4 Reflexes of *Cv:n verbs

As in other eastern Songhay languages, *Cv:n verbs with a long high vowel normally lose the nasal (compare western Songhay *Cvn*). The clear case is *bú:n ‘die’ which becomes HS *bú:*, compare the etymologically related (though synchronically dissociated) HS adjective *bù:n-ò + H* ‘inactive, lethargic’. A more complex case is the set *dī:n ‘be lit’ and *dì:n ‘catch’, which appear in HS both with and without the nasal, hence *dīn ~ dīŋ ~ dī* ‘be lit’ and *dīn ~ dīŋ ~ dī* ‘catch’. Another verb, *tó:n ‘become full’, appears as HS *tó:*, but it may have been influenced by *tó:* ‘arrive, attain’ (*tó:). Mid vowels do not otherwise trigger deletion of final *n, as we see in HS *zé:n* ‘become old’ and *dò:n* ‘be weak, easy’.

3.10.5 Reflexes of *rC clusters

The inherited clusters *rt, *rd, and *rn are generally realized as geminated *tt*, *dd*, and *nn*, respectively, though in some cases a variant with the *r (phonetically a tap *r) preserved is attested as an archaic variant. Among the usual diagnostic items I can cite *kòttô* ‘tear, rip’ (Zarma *körtù*, TSK *kòtúrù*), *yèddà* or rarely *yèrdà* ‘consent’ (KS *yedda* with dialectal variant *yerda*, cf. Hausa *yarda* and Arabic *y-arḏaa*), and *kònn-ò + H* ‘hot’ or rarely *kòrn-ò* (KS *konn-a* with dialectal variant *korn-o*, Zarma *kònnó*).

4 Nouns, pronouns, and nominal derivation

4.1 Morphology of unpossessed nouns

4.1.1 Basic morphological categories

The original Songhay system, preserved in KS and TSK among others, had a simple nominal inflectional morphology based on the intersection of [\pm definite] and [\pm plural]. The most common suffix allomorphs were those in (120).

(120)	indefinite	definite
	singular (unmarked)	*- \ddot{o} :
	plural *-yoŋ (or similar)	*- $\ddot{e}y$

The definite suffixes were added at the end of a core NP consisting maximally of noun-adjective-numeral, but preceding late-NP elements such as strong definite *dî*, demonstratives, and the universal quantifier *kûl* ‘all’. Indefinite plural was not added to numerals (with exceptions for ‘one’ under specific conditions), so it could only be added to a noun or a noun-adjective combination. As a result, the definite suffixes had two functions, indicating definiteness and also marking the right edge of the core NP (noun-adjective-numeral).

In HS, for many nouns the old definite singular has generalized as an edge marker, extending to indefinite as well as definite contexts. The upshot is that for these nouns the old [+definite] distinction has been neutralized in the singular. For such nouns, there is now a right-edge marking form which I call **final-singular**, which often differs in form from a **nonfinal** (i.e. linking) form that is used before an adjective or a numeral.

Other nouns have kept their old unsuffixed form in NP-final indefinite function, and may even extend it partially into definite function. However, most of these nouns still require the old definite singular suffix before a strong definite particle or a demonstrative. I therefore often refer to the reflex of definite singular *- \ddot{o} : as **final/definite singular** (abbreviation Fin/Def Sg), especially in morphological contexts, recognizing its variable function with different nouns.

Defective nouns that do not allow final/definite marking are discussed in §4.2.3.

In the plural, the old [+definite] distinction is maintained.

For the treatment of a head noun in a relative clause, before relative *gâ ~ kâ*, see §8.3.

4.1.1.1 Final/definite singular of nouns (-*o* + *H*, -*a*: + *H*)

The suffixed **final/definite singular** form ends in *a*: + *H* if the stem otherwise ends in *a*, otherwise it ends in *o* + *H*. The *H* is a floating tone that is heard, if at all, on a following L-toned syllable (for example, of a verb). Disregarding the floating tone,

my transcription treats the vowels as suffixal, i.e. hyphenating them as *-o* and *-a:*. This implies a VV-Contraction rule, e.g. /u-o/ or /i-o/ → *-o* and, perhaps, /a-o/ → *-a:* if we want to unify the underlying representation of the suffix. The “suffixes” could alternatively be regarded as mutations performed on stem-final short vowels, typically /u/ or /i/ → *o* and /a/ → *a:*.

The tone of the “suffix” is carried over from the underlying stem-final vowel, or if needed from a preceding syllable. However, the suffix can appear only in H- or L-tone: *-ó* or *-ò*, *-á:* (rare) or *-à:*. Where we might expect a <HL>-toned definite suffix, the H-tone segment is retracted to the penult in some trisyllabics (§3.9.6.2), otherwise the expected <HL> is flattened to a L-tone (§3.9.5.5). Some nouns have irregular tonal shifts from nonfinal to final/definite forms, see §4.1.2.2-3.

Some nouns make little or no use of a final/definite suffix, using the bare stem instead (§4.2.3).

For inalienable nouns, the morphological “final/definite” suffix including the floating H functions as a **3Sg possessor** form (as in ‘his/her father’ rather than ‘the father’), see §4.2.2.5. A related but distinct suffix, with the same segments but different tones determined by the Tonal Rhythm rule (§3.9.4.1) and without the floating H, is used as a more general third person possessor with alienable nouns, see §4.2.1-4.

4.1.1.2 Definite plural (*-ey + H*) and indefinite plural (*-noŋ + H*)

The **definite plural** (DefPl) suffix is *-ey + H* with a floating H-tone like that for the final/definite singular suffix. The suffix, disregarding the H, appears as *-éy* or *-èy*, the tone being determined in the same way as with singular *-o* and *-a:*, i.e. not allowing a falling <HL> tone. After stem-final *a:*, suffix *-ey* often fails to contract and an epenthetic *-w-* is inserted between the two vowels.

Definite plural *-ey + H* occurs on the final word of a core NP (maximally noun-adjective-numeral) that denotes a nonsingular entity that has been introduced in the discourse or is otherwise definite. Generic sets (‘dogs’ as opposed to ‘some dogs’) are normally expressed with the definite plural (*háns-éy + H* ‘dogs’ as in ‘I don’t like dogs’). In this respect HS treats generic plurals in the style of Romance languages (*los perros*, *les chiens*) rather than English. After nonsingular numerals, “singular” *-o + H* ~ *-a: + H* rather than plural *-ey + H* marks definiteness, as in *?i-híŋk-ó + H* ‘the two’ (§4.7.1). When definite plural *-ey + H* combines with a numeral, it generally denotes subsets with the indicated cardinality of a contextually definite set, especially ‘1’ which can occur in parallel constructions (‘some [of them]..., some [others]...’), see §4.7.1.

The phonological parallelism of final/definite singular *-o + H* and definite plural *-ey + H* is illustrated in (121). Both suffixes are atonal. Their tones for any given stem are generally consistent with those of the corresponding nonfinal form. Any irregularities are shared by the final/definite singular and the definite plural.

(121) Final/definite singular and definite plural

gloss	Nonfinal	Fin/Def Sg	DefPl
‘dog’	<i>hánsî</i>	<i>háns-ó + H</i>	<i>háns-éy + H</i>
‘person’	<i>bôr</i>	<i>bôr-ò + H</i>	<i>bôr-èy + H</i>
‘house’	<i>hû</i>	<i>húw-ó + H</i>	<i>húw-éy + H</i>
‘man’	<i>hàr</i>	<i>hà:r-ò + H</i>	<i>hà:r-èy + H</i>
‘marabout’	<i>?álfâ</i>	<i>?álf-à: + H</i>	<i>?álf-èy + H</i>

Because the *e* of *-ey + H* is a front vowel, an underlying velar $\{k\ g\ \eta\}$ optionally palatalizes to $\{c\ j\ \eta\}$ respectively, before it (§3.1.1, §3.6.4). Thus *?àlmàlé:k-ò + H* ‘angel’, definite plural *?àlmàlé:k-èy + H* or palatalized *?àlmàlé:c-èy + H*.

The **indefinite plural** (IndefPl) suffix is *-noŋ + H*. Leaving aside its floating *H*, the suffix is realised tonally as *-jóŋ* or *-nòŋ* with the final tone of the stem carried over into the suffix. Unlike the final/definite suffixes, the indefinite plural suffix is added to the nonfinal form of the stem, which often ends in *-u* (i.e. either *-ú*, *-ù*, or *-û* depending on the lexical tones of the noun). A few examples are in (122).

(122) Indefinite plural

gloss	Nonfinal	IndefPl
‘work’	<i>góy</i>	<i>góy-jóŋ + H</i>
‘woman’	<i>wòy</i>	<i>wòy-nòŋ + H</i>
‘dog’	<i>hánsî</i>	<i>hánsî-nòŋ + H</i>

The indefinite plural category is used chiefly when a nonsingular but nongeneric referent is introduced into the discourse. It is added after a noun or after a noun-adjective combination. It is not normally added to nonsingular numerals, but can be added to ‘1’ to denote a newly introduced subset, as in *?à-fó:-jóŋ + H* ~ *?i-fó:-jóŋ + H* ‘some, a few’ (§4.7.1). For its use in associative plurals (*X-ŋoŋ + H* ‘X and company’), see §5.4.11.

The indefinite plural suffix is identical in form, including tonal behavior, to the productive **verbal noun** suffix *-noŋ + H* added to verb stems (§4.5.1). This is also true of cognates like TSK *-yów* and KS *-yaŋ*. In both functions, the reference is abstract, in one case to a set (not overtly bounded) of entities, in the other to an abstract type of eventuality. However, the indefinite plural is a true plural, and is later referred to by a plural pronoun, while the verbal noun is syntactically singular.

A few nouns, particularly monosyllabics of shape *Ca:* and long-V-final loanwords like *bîrô:* ‘office’, do not allow final/definite singular *-o + H* (extending the bare stem from nonfinal to final position), but do allow definite plural *-ey + H* (§4.2.1.4). A few defective nouns, including *bè:* ‘borassus palm’ and *kû:* ‘yam’, allow neither final/definite singular *-o + H* nor definite plural *-ey + H*, making their plural instead with indefinite plural suffix *-noŋ + H* (*kû:-nòŋ + H*, *bè:-nòŋ + H*) (§4.2.3.2).

4.1.1.3 Examples of the basic nominal categories.

Although there are many lexical irregularities, the most common nominal paradigm in HS is (123). The nonfinal (NF) form reflects, in theory, the original unsuffixed form of the noun stem, which could end in a consonant or in any vowel. However, many HS nouns have generalized a final *u*-vowel, which is now arguably segmentable as a **nonfinal** suffix contrasting with the final/definite singular suffix. The indefinite plural suffix is added to this form.

(123)	Nonfinal	-ú ~ -ù ~ -û
	IndefPl	-ú-ɲóŋ + H ~ -ù-ɲòŋ + H ~ -û-ɲòŋ + H
	Fin/Def Sg	-ó + H ~ -ò + H ~ -à: + H
	DefPl	-éy + H ~ -èy + H

An example is the noun *bùg-ò + H* ‘hut’ (124). With nouns of this type, i.e. where the final/definite singular form is used in both definite and indefinite contexts, the final/definite singular is the citation form.

(124) Sample HS noun paradigm (‘hut’)

	category	form	gloss
a.	Nonfinal	[<i>bùg-ù ...</i>]	‘... hut(s)’ (with Adj or Num)
	IndefPl	<i>bùg-ù-ɲòŋ + H</i>	‘(some) huts’
b.	FinSg	<i>bùg-ò + H</i>	‘(a/the) hut’
	DefPl	<i>bùg-èy + H</i>	‘the huts’

This noun reflects Proto-Eastern Songhay **bùgú* ‘hut’, to judge by cognates like TSK *bũ:* and dialectal Dendi *bùgú*. In this case the final *u*-vowel in the nonfinal form is etymologically correct. As usual, HS has merged original {LH}-toned stems with {L}-toned stems.

The floating H-tone is audible when a noun ending in a final/definite singular or definite plural suffix is followed by a lexically {L}-toned verb. Note the falling <HL> tone on the verb in (125). Definite plural *bùg-èy* ‘(the) huts’ can be substituted for singular *bùg-ò* here.

(125)	underlying:	/î	ɲ̂	bùg-ò + H	zèy/
	surface:	í↑	=ɲ̂	<i>bùg-ò</i>	↑zèy
	mark-up	1SgS	Tr	hut-Fin/DefSg	steal
	translation	‘I stole a/the hut.’			

4.1.2 Nonmonosyllabic noun stems not ending in *a*

Noun stems ending in *a* are treated separately in §4.1.3 below. Monosyllabic noun stems are treated in §4.1.4.

4.1.2.1 Tones of nonfinal and final/definite forms of nonmonosyllabic nouns

Nominal suffixes in HS have no intrinsic tones (aside from the following floating H-tone). Instead, the final tone of the noun stem spreads into the suffix. (126) illustrates the tonal consistency between nonfinal and final/definite singular forms of the same noun. Monosyllabics are omitted since they have some special features.

(126)	Nonfinal	Fin/Def Sg	melody	gloss
	a. {L}-toned stem			
	<i>bisyllabic</i>			
	<i>bùg-ù</i>	<i>bùg-ò + H</i>	{L}	‘hut’
	<i>trisyllabic</i>			
	<i>sàfàr-ù</i>	<i>sàfàr-ò + H</i>	{L}	‘medication’
	b. {H}-toned stem			
	<i>bisyllabic (regular pattern)</i>			
	<i>dór-ú</i>	<i>dór-ó + H</i>	{H}	‘millet beer’
	<i>trisyllabic (regular pattern)</i>			
	<i>dádáb-ú</i>	<i>dádáb-ó + H</i>	{L}	‘(Muslim) New Year’
	<i>irregular {H}/{L} pattern</i>			
	<i>sénn-ú</i>	<i>sénn-ò + H</i>	{H}/{L}	‘language’ (§4.1.2.3)
	c. {HL}-toned stem			
	<i>bisyllabic H.<HL> (three subtypes)</i>			
	<i>kós-ù</i>	<i>kós-ò + H</i>	{HL}	‘chewstick’
	<i>tónd-ù</i>	<i>tónd-ó + H</i>	{HL}/{H}	‘stone’ (§4.1.2.2)
	<i>bôr</i>	<i>bôr-ò + H</i>	{HL}/{L}	‘person’ (§4.1.2.3)
	<i>trisyllabic H.H.<HL></i>			
	<i>sérémb-ù</i>	<i>sérémb-ò + H</i>	{HL}	‘fonio (grain)’
	d. {LHL}-toned stem			
	<i>trisyllabic L.L.<HL> or L.H.L</i>			
	<i>zàràbî</i>	<i>zàràb-ò + H</i>	{LHL}	‘fatigue’
	<i>dàggád-ù</i>	<i>dàggád-ò + H</i>	{LHL}	‘fetishist’

In all cases, the definite plural shows the same tones as the corresponding final/definite singular, e.g. *bùg-èy + H* ‘huts’, *tónd-éy + H* ‘stones’.

The lexically {L}-toned stems in (126a) are unproblematic. So are most lexically {H}-toned stems in (126b); see §3.9.1.1 for these regular types. However, there is a

small set of nouns that drops from {H} in the nonfinal form to {L} in the definite forms, illustrated by ‘language’ in (126b); see §4.1.2.3 below for the inventory.

{HL}- and {LHL}-toned stems (126c-d) normally end in a <HL>-toned syllable in the nonfinal form. The final/definite singular and definite plural suffixes, however, do not accept a contoured tone. The regular tonal treatment of these forms is that the expected <HL>-toned definite suffix is realized with L-tone. See §3.9.5.5 for the phonology and more examples. The preceding syllables do not change, except that a {LHL}-toned trisyllabic realized in the nonfinal form as L.L.<HL> shifts the H-tone to the penult in the definite form (§3.9.6.2), as with ‘fatigue’ in (126d).

There are two phonologically irregular patterns. One, exemplified by ‘stone’ in (126c), is that the {HL} stem unexpectedly becomes all {H}-toned in the definite form. See §4.1.2.2 below for the inventory of such nouns in HS.

The second irregular pattern for {HL} stems, found only with ‘person’ (126c), is that {HL} drops to all {L}-toned in the definite forms, as with ‘language’ in (126b); see §4.1.2.3.

4.1.2.2 {HL}/{H} noun stems and two {H}/{HL} numerals (‘1’, ‘10’)

Some bisyllabic and *CvC* noun stems have a {HL} melody in the nonfinal form, which I take to indicate the lexical melody, and an all {H}-toned melody in the final/definite forms.

This **{HL}/{H} tone class** was probably productive in Proto-Eastern Songhay; in any case, it is the productive pattern to this day in TSK. In the proto-language, the rule was simple as in TSK: the final tone element in a tonally nonuniform noun stem, i.e. with a lexical melody like {HL} or {LH}, was deleted when a definite suffix is added. This merges {HL} with {H} and {LH} with {L} in definite forms. The HS cases are vestiges of the merger of {HL} with {H}. There are no synchronic cases in HS of lexical {LH} merging with {L} in the final/definite, since there are no lexical {LH} stems left.

The cases of {HL}/{H} stems in HS are listed in (127). A significant percentage of *CvC* and *Cv* noun stems are of this type, but otherwise it is clearly vestigial. Definite plural forms (not shown), e.g. *kóy-éy + H* ‘owners’, follow the tone patterns of the final/definite singular forms. For inalienables, the final/definite singular form functions as the 3Sg possessor form (‘his/her’), and the form in the nonfinal column is the unpossessed form.

(127) {HL}/{H} tonal class of nouns (all known examples)

gloss	Fin/Def Sg {H}-toned	Nonfinal {HL}-toned
a. <i>Cv</i> in nonfinal		
‘mouth’	<i>míyⁿ-ó + H</i> (‘his/her’)	<i>mê</i> (unpossessed)
‘house’	<i>húw-ó + H</i>	<i>hû</i>
‘mother’	<i>ɲó: + H</i> (‘his/her’)	<i>ɲâ</i>

b. CvCv in Fin/Def Sg, CvC(v) in nonfinal

CvC in nonfinal with final sonorant

‘meat’	<i>hám-ó + H</i>	<i>hâm</i>
‘termitary’	<i>kóm-ó + H</i>	<i>kôm</i>
		(alternatively: <i>kóm-û</i>)
‘cow’	<i>hâw-ó + H</i>	<i>hâw</i>
‘place’	<i>dúw-ó + H</i>	<i>dêy ~ dôy</i>
‘owner’	<i>kóy-ó + H</i>	<i>kôy</i>

CvC(v) in nonfinal with final/medial sonorant

‘year’	<i>jír-ó + H</i>	<i>jîr (~ jírî)</i>
‘part, portion’	<i>jér-ó + H</i>	<i>jêr (~ jérê)</i>
‘djinn’	<i>zín-ó + H</i>	<i>zîn (~ zín-û ~ zínî)</i>

CvCv in nonfinal with medial obstruent

‘uncle (MoBr)’	<i>hás-ó + H</i> ‘his/her’	<i>hásê</i> (unpossessed)
‘tree sp.’	<i>hás-ó + H</i>	<i>hás-û</i>
‘liver’	<i>tás-ó + H</i> ‘his/her’	<i>tásâ ~ tásê ~ tás-û</i> (unpossessed)

c. CvCCv

CvNCv

‘snake’	<i>gónd-ó + H</i>	<i>gónd-û</i>
‘stone’	<i>tónd-ó + H</i>	<i>tóndî ~ tónd-û</i>
‘neighborhood’	<i>fónt-ó + H</i>	<i>fónt-û</i>
‘knife’	<i>sémb-ó + H</i>	<i>sémb-û</i>
‘charcoal’	<i>déng-ó + H</i>	<i>déng-û ~ déngî</i>
‘dog’	<i>hâns-ó + H</i>	<i>hâns-û ~ hânsî</i>

CvCCv with geminated stop

‘stomach’	<i>fútt-ó + H</i>	<i>fútt-û</i>
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d. Cv:Cv

‘time’	<i>wá:t-ó + H</i>	<i>wá:tî</i> (< Arabic)
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e. CvCvC in nonfinal with final diphthong

‘courtyard’	<i>tár-ó + H</i>	<i>târôw ~ tár-û ~ târ</i>
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f. like (b) but with extra initial syllable

‘night’	<i>cígín-ó + H</i>	<i>cígîn</i>
‘windpipe’	<i>kólmól-ó + H</i>	<i>kólmôl</i>
‘goat’	<i>?álmán-ó + H</i>	<i>?álmân ~ ?álmán-û</i>
‘day(-time)’	<i>zá:níy-ó + H</i>	<i>zá:nî</i>

The shapes *CvC(v)* with medial sonorant, and *CvNCv* with medial nasal-obstruent cluster, are well-represented in (127). It is therefore worth asking whether the {HL}/{H} tone class might be considered regular for those shapes.

For *CvC(v)* with medial sonorant, there is a fairly even split between {HL}/{H} and consistent {H} classes. The latter are illustrated in (128a-b). Nonfinal *Ci:* is included since it arguably reflects /Ciy/.

(128) {H}-toned CvC(v) nouns with medial sonorant

gloss	Fin/Def Sg {H}-toned	Nonfinal {HL}-toned
a. <i>Cíy-ó + H</i> , nonfinal <i>Cí:</i> 'oil'	<i>jíy-ó + H</i>	<i>jí:</i>
b. other		
'work'	<i>góy-ó + H</i>	<i>góy</i>
'middle'	<i>gám-ó + H</i>	<i>gám(-ú)</i>
'day'	<i>hán-ó + H</i>	<i>hán</i>
'metal'	<i>gúr-ó + H</i>	<i>gúr(-ú)</i>

On the other hand, there are also a fair number of {HL} stems of this shape, although several are borrowings.

(129) {HL}-toned CvC(v) nouns with medial sonorant

gloss	Final Singular {HL}-toned	Nonfinal {HL}-toned
a. nonfinal CvCv		
<i>nonfinal -û</i>		
'scab'	<i>díl-ò + H</i>	<i>díl-û</i>
'wild cat sp.'	<i>tál-ò + H</i>	—
'amulet'	<i>tíl-ò + H</i>	<i>tíl-û</i>
<i>nonfinal often with final {e o a}</i>		
'profit'	<i>tín-ò + H</i>	<i>tín-û ~ tínô</i>
'sieve'	<i>tém-ò + H</i>	<i>témê</i>
'accomplishment'	<i>wún-ò + H</i>	<i>wúnê</i>
'piece, portion'	<i>fér-ò + H</i>	<i>fêrê</i>
'builder'	<i>bár-ò + H</i>	<i>bárê</i>
'roof beam'	<i>pál-ò + H</i>	<i>pálê</i>
'tomtom'	<i>gúl-ò + H</i>	<i>gúl-û ~ gúlâ</i>
b. nonfinal CvC		
'aromatic sedge'	<i>gów-ò + H</i>	<i>gôw</i>
'bridge'	<i>póm-ò + H</i>	<i>pôm</i>

The upshot is that the {HL}/{H} class in (127) above is not really dominant in this prosodic category. The same is true of the other syllabic shape where {HL}/{H} is well-represented, namely CvNCv. Stable {H}-toned stems of this shape are in (130). This pattern is particularly common with medial *ŋg*.

(130) {H}-toned noun stems of CvNCv shape

gloss	Final Singular {H}-toned	Nonfinal {H}-toned
a. with <i>ŋg</i>		
‘stone oven’	<i>gáŋg-ó + H</i>	<i>gáŋg-ú</i>
‘forked stick’	<i>gáŋg-ó + H</i>	<i>gáŋg-ú ~ gáŋgí</i>
‘mound’	<i>gúŋg-ó + H</i>	<i>gúŋg-ú</i>
‘basket’	<i>síŋg-ó + H</i>	<i>síŋg-ú ~ síŋgí</i>
‘sweat’	<i>súŋg-ó + H</i>	<i>súŋg-ú</i>
‘wrap (garment)’	<i>túŋg-ó + H</i>	<i>túŋg-ú</i>
b. other		
‘tinder’	<i>dámb-ó + H</i>	<i>dámb-ú</i>
‘bell’	<i>dónd-ó + H</i>	<i>dónd-ú</i>
‘dune’	<i>hónd-ó + H</i>	<i>hónd-ú</i>
‘swelling’	<i>fúns-ó + H</i>	<i>fúns-ú</i>

Stable {HL}-toned noun stems of this type are in (131).

(131) {HL}-toned noun stems of CvNCv shape

gloss	Final-singular {HL}-toned	Nonfinal {HL}-toned
a. with <i>ŋg</i> [none]		
b. other		
<i>kúmb-û</i>	<i>kúmb-ò + H</i>	‘Dogon (person)’
<i>bánd-û</i>	<i>bánd-ò + H</i>	‘tape’ (French <i>bande</i>)
<i>múnd-û</i>	<i>múnd-ò + H</i>	‘tears (weeping)’
<i>fěnt-û</i>	<i>fěnt-ò + H</i>	‘stem fibers’
<i>pónt-û ~ póntî</i>	<i>pónt-ò + H</i>	‘nail, spike’ (French <i>pointe</i>)

In view of these data, the hybrid {HL}/{H} type in (127) appears to be archaic and no longer productive. It includes several high-frequency noun stems, especially monosyllabics. However, among bisyllabics, it is limited to certain stem shapes, and it has no monopoly on these shapes. It includes very few trisyllabic stems. The stable {H} and stable {HL} types are more in tune with trends in the language. They include stems of a much wider range of shapes.

The {HL}/{H} type has a mirror image type {H}/{HL} consisting of two numerals whose definite forms are unexpectedly {HL}-toned. One of them is *fó*: ‘1’, definite *fíy-à: + H ~ fúw-à: + H*. The other is *wóy* ‘10’, definite *wóy-ò + H*, see

§4.7.1. This should not be confused with *wòy* ‘woman’, final/definite singular *wòy-ò + H*.

4.1.2.3 {H}/{L} and {HL}/{L} noun stems

A small set of noun stems have {H} or in one case {HL} tone in the nonfinal form, but **drop to all {L}-tone** in final/definite forms. The known cases of this type are listed in (132). The definite plural forms have the same tones, e.g. *sènn-èy + H* ‘languages’ and *bòr-èy + H* ‘people’.

(132) {H}/{L} and {HL}/{L} noun stems

Nonfinal	Fin/Def Sg	gloss
a. {H}/{L}		
<i>sènn-í</i> (~ <i>sénn-ú</i>)	<i>sènn-ò + H</i>	‘language’
<i>fàrká</i>	<i>fàrk-ò + H</i>	‘donkey’
<i>ká:n-í</i>	<i>kà:n-ò + H</i>	‘sweetness’
<i>hé:n-í</i>	<i>hè:n-ò + H</i>	‘weeping’
b. {HL}/{L}		
<i>bòr</i>	<i>bòr-ò + H</i>	‘person’
	[cf. impersonal <i>bòr + H</i> ‘someone’, §10.3.1]	

See also ‘mosquito’ in §4.1.3.3 and §4.9.3.

Most of the possessed forms are based (tonally and otherwise) on the final/definite singular forms. 1Sg possessed forms include *sènn-ê* ‘my language (words)’, *fàrk-ê* ‘my donkey’, and *bòr-ê* ‘my person’, whose initial syllables show that the possessed forms are based on {L}-toned stems as in the final/definite singular. However, I did record *ká:n-è* ‘my sweetness’, which is based on *ká:n-í*, and further study may show more variation than I have picked up to date.

The tone alternations in (132a) are much more common in TSK. The HS cases are probably vestiges of a once more productive pattern.

4.1.2.4 Idiosyncratic vowel-lengthening before V-initial suffixes (*hà:r-*, *fà:r-*)

Two high-frequency nouns of shape *Càr*, namely *hàr* ‘man’ and *fàr* ‘field’, **lengthen the stem vowel** before final/definite suffixes and other V-initial suffixes. This is a lexical quirk of these two stems; see Idiosyncratic Noun-Stem V-Lengthening (§3.7.5.2). Final/definite forms are shown in (133).i

(133)	‘gloss’	Nonfinal	Fin/Def Sg	DefPl
	‘man’	<i>hàr</i>	<i>hà:r-ò + H</i>	<i>hà:r-èy + H</i>
	‘field’	<i>fâr</i>	<i>fâ:r-ò + H</i>	<i>fâ:r-èy + H</i>

This lengthening is also found in possessed forms, which are morphologically based on the final/definite forms shown. An example is *fâ:r-ê* ‘my field’. Uncompounded diminutives are also lengthened: *hà:r-íy-òw* ‘a little man’ and its definite *hà:r-íy-à: + H* ‘the little man’, *fâ:r-íy-òw* ‘a little field’.

Contrast final/definite singular *sâr-ò + H* ‘whip’ (minimal vowel-length pair with *sà:r-ò + H* ‘tomb’), *wâr-ò + H* ‘board game’, *hár-ó + H* ‘water’, *gár-ó + H* ‘credit (loan)’, and *tár-ó + H* ‘courtyard’. These nouns do not lengthen their stem-vowels.

When ‘man’ or ‘field’ is a compound final, lengthening does not always occur. When ‘man’ as compound final functions semantically as an adjective ‘male’, it does lengthen, but diminutive *-hâr-íyà* as compound final does not lengthen. See §4.8.6 for examples. ‘Field’ fails to lengthen as compound final in *kûrgù-[fâr-ó + H]* ‘small field’.

I know of no comparative evidence that either ‘man’ or ‘field’ had a long stem-vowel historically.

4.1.2.5 Final short *u* deleted before final/definite suffixes

There is some variation in the phonological treatment of various stem-final vowels and diphthongs before final/definite suffixes, which begin with a vowel. There are three phonological treatments. First, a stem-final short vowel or diphthong may be deleted before the suffixal vowel, see Prevocalic V-Deletion (§3.7.1.8). Second, an epenthetic semivowel may be inserted between the stem-final and suffixal vowels, see Intervocalic *y/w*-Insertion (§3.7.1.9). Third, a stem-final high vowel may develop a homorganic semivowel *y* or *w*, either as an extension to a short high vowel or by desyllabification of the second mora of a long high vowel, see Homorganic-Semivowel Insertion (§3.7.1.5). The boundary between the latter two processes is blurry, except that if the inserted semivowel is not homorganic to the preceding vowel it is clearly attributable to Intervocalic *y/w*-Insertion.

Stem-final /a/ is covered separately in §4.1.3 below.

The issue of stem-final vowels and diphthongs is complicated by the fact that many nouns no longer have an unsuffixed stem in NP-final position, as the original definite singular has generalized in this position (§4.1.1). For nouns that have completed this generalization, the only position in which an unsuffixed stem can occur is nonfinal position (before an adjective, a numeral, or indefinite plural *-noŋ + H*). However, there has been a partial generalization of stem-final *u* in nonfinal position, raising the possibility that this *u* is now interpreted as a segmentable nonfinal (or “linker”) suffix *-u*. Nonetheless, some nouns do preserve an original stem-final vowel other than *u*, or a diphthong, in nonfinal position, at least as an option. There are also some nouns that limit the occurrence of the final/definite

singular suffix to syntactically marked contexts (§4.2.3.4), notably before strong definite particle *H + di*.

I begin with stem-final short *u* (whether or not segmentable as nonfinal suffix). In the great majority of cases, the *u* is absent when an overt final/definite suffix is added. An example is final/definite singular *bùg-ò + H* ‘hut’, definite plural *bùg-èy + H*, nonfinal form *bùg-ù*. If we segment *bùg-ù*, we might argue that nonfinal suffix *-ù* is **replaced by** the relevant final/definite suffix, in which case there is no derivational stage /bùgùo + H/ or plural /bùgùey + H/ and therefore no phonological deletion of the second /ù/ occurs. Alternatively, one could argue in favor of such a derivational stage, in which case the “nonfinal” suffix is really just the stem-final vowel. This latter analysis would increase the difference between underlying and surface forms, but would have the advantage of accounting directly for the transfer of the stem-final tone to the underlyingly atonal final/definite suffix.

There are a handful of nouns whose stem-final *u* plus suffix *-o + H* is expressed as uncontracted *uw-o + H*, see §4.1.2.7 below.

4.1.2.6 Final short *i* deleted before final/definite suffixes

In nonmonosyllabic nouns, stem-final *i* is usually deleted before final/definite singular *-o + H*. Some examples are in (134). For the definite plural, replace *-o* by *-ey* while keeping the same tones. Unlike cases with a final *u* that is arguably a nonfinal suffix as discussed in the preceding section, the examples in (134) clearly involve a lexical stem-final /i/ that is deleted before a final/definite suffix. The final/definite forms therefore have clearly undergone Prevocalic V-Deletion (§3.7.1.8).

(134) Final short *i* deleted before nominal suffixes

Nonfinal	Fin/Def Sg	gloss
a. simple nouns originally ending in *i		
<i>fè:gì ~ fè:g-ù</i>	<i>fè:g-ò + H</i>	‘sheep’
<i>hànsî</i>	<i>hàns-ó + H</i>	‘dog’
<i>hárí</i>	<i>hár-ó + H</i>	‘water’
<i>hàmni ~ hámni-ù</i>	<i>hámni-ò + H</i>	‘flour, powder’
<i>hámni ~ hámni-ù</i>	<i>hámni-ó + H</i>	‘fly’
<i>sì:nì ~ sì:n-ù</i>	<i>sì:n-ò + H</i>	‘razor’
<i>sì:nì ~ sì:n-ù</i>	<i>sì:n-ò + H</i>	‘indigo bush’
<i>sírî</i>	<i>sír-ò + H</i>	‘secret’ (< Arabic)
<i>jírí ~ jír</i>	<i>jír-ó + H</i>	‘year’
<i>dúnjúrí ~ dúnjúri-ù</i>	<i>dúnjúri-ó + H</i>	‘cow-pea (bean)’
<i>gársî ~ gárs-ù</i>	<i>gárs-ò + H</i>	‘crushed millet’
<i>déngî ~ déng-ù</i>	<i>déng-ó + H</i>	‘charcoal’
<i>bisì ~ bis-ù</i>	<i>bis-ò + H</i>	‘acacia sp. (<i>A. tortilis</i>)’

b. derived nominals with suffix *-i* (§4.5.3)

dór-í ~ *dór-ú* *dór-ó + H* ‘sickness’ (*dórú* ‘be sick’)

c. nouns zero-derived from (or related to) verbs ending in *i* (§4.5.4)

gùrì ~ *gùr-ù* *gùr-ò + H* ‘knot’ (*gùrì* ‘tie a knot’)
má:-gísí ~ *-gís-ú* *má:-gís-ó + H* ‘name-giving’ (*jìsì* ‘put down’)
fìrsì ~ *fìrs-ù* *fìrs-ò + H* ‘spitting cobra’ (*fìrsì* ‘spit in jet’)
tólí ~ *tól-ú* *tól-ó + H* ‘drop’ (verb *tólí* ‘drip’)
tòlmì ~ *tòlm-ù* *tòlm-ò + H* ‘collateral’ (verb *tòlmì* ‘mortgage’)

Some of these nouns have a variant nonfinal form with *-u*. This is increasingly typical among younger speakers, consistent with the developing reorganization of nominal morphology described above. Some other stems not shown formerly ended in **i* but have now gone over entirely (in my data) to the type with nonfinal *-u*. An example is final/definite singular *gónd-ó + H* and nonfinal *gónd-ù* ‘snake’ (**góndì*).

Verbal nouns in final/definite singular form *-r-o + H* are conflated historically from distinct **-ri* and **-rey* prototypes (§4.5.2). An example of the former is final/definite singular *bów-r-ó + H* ‘(the) breaking’ with nonfinal *bów-r-ú* ~ *bów-rí*.

Some abstractive nominals with suffix *-i* (§4.5.3) avoid final/definite suffixes, except when coerced to take *-o + H* in definite singular function (§4.2.3.4) by a following strong definite particle *H + ðì*. These include *bà:n-ì* ‘peace, well-being’ with uncommon definite singular *bà:n-ò + H*, and *hà:w-ì* ‘shame, embarrassment’ with uncommon definite singular *hà:w-ò + H*. As indicated in (134b), this does not apply to ‘sickness’, which is readily pluralized and in general less abstractive than ‘peace’ and ‘shame’.

4.1.2.7 Final short high vowel {*i u*} and presuffixal {*iy- uw-*}

A small number of noun stems do not allow Prevocalic V-Deletion to remove a stem-final short high vowel before a V-initial suffix in the manner illustrated in §4.1.2.5-6 above. Instead, *i* becomes *iy-* and *u* becomes *uw-* before the suffixes, which form their own surface syllables. I assign these alternations to Homorganic Semivowel Insertion (§3.7.1.5). For short-voweled **monosyllabic** *Ci-* and *Cu-* the alternation is obligatory, though only two nouns of this subminimal shape are known (there are also a handful of verbs with this shape). For **nonmonosyllabic** nouns the alternation is uncommon and lexicalized.

Since the stem-final vowel is short, these alternations suggest that a homorganic semivocalic extension is added before the suffixal vowel, a kind of epenthesis to protect the vowels from contraction. This makes it difficult to distinguish these alternations from Intervocalic *y/w*-Insertion §3.7.1.9.

All known examples are in (135). There is one relevant numeral (‘six’) in addition to true nouns.

(135) Final alternations {*i u*} with {*iy- uw-*} in noun stems (all known cases)

Nonfinal	Fin/Def Sg	gloss
a. with short <i>i</i> (becoming <i>iy-</i>)		
<i>monosyllabic with lexical i</i>		
[none attested]		
<i>monosyllabic with lexical e shifted to i</i> (§3.7.1.5)		
<i>mê</i>	<i>míyⁿ-ó + H</i>	‘mouth’ (§4.2.2.7)
<i>longer</i>		
<i>kábî</i>	<i>kábíy-ò + H</i>	‘totem’ (variant <i>kábíyà</i>)
<i>síbî</i>	<i>síbíy-ò + H</i>	‘pants’
<i>zifî</i>	<i>zifíy-ò + H</i>	‘pocket’ (< Arabic)
b. with short <i>u</i> (becoming <i>uw-</i>)		
<i>monosyllabic</i>		
<i>hû</i>	<i>húw-ó + H</i>	‘house’
<i>longer</i>		
<i>lá:lû</i>	<i>lá:lúw-ò + H</i>	‘meanness’
<i>?íddû</i>	<i>?íddúw-ò + H</i>	‘six’ (§4.7.1)

For the few monosyllabic stems, this phonological alternation is functionally motivated, since to delete the stem-final vowel would reduce the stem to its initial consonant. For the nonmonosyllabics, where the alternation is restricted to a small set of nouns and where the negative consequences of deleting the stem-final vowel are less drastic, the alternation has no compelling motivation. After all, most bisyllabic nouns do sacrifice the stem-final vowel before a V-initial suffix. One possibility would be to argue for underlying forms like /zifîy/ and /lá:lûw/ with final semivowel for the nonmonosyllabics. This would account for the suffixed forms. However, it would require a suspicious rule deleting the final semivowel when word-final, without lengthening the homorganic short vowel. So no clean phonological solution is available.

Most of the examples in (135) involve stem-final falling <HL>-toned syllables. It is unclear whether this is phonologically significant.

4.1.2.8 Final long high vowel {*i: u:*} and presuffixal {*iy- uw-*}

A final long high vowel {*i: u:*} is realized as {*iy- uw-*}, respectively, before a V-initial suffix such as final/definite singular or definite plural. This applies both to monosyllabic and longer stems. Considered within nominal morphology, this looks like a simple desyllabification of the second mora of the long high vowel. However, as indicated in the preceding section, there are some cases where a final short {*i u*} has a similar alternation. The phonology is not transparent, see discussion of Homorganic Semivowel Insertion (§3.7.1.5).

Examples are in (136). Definite plural forms, as usual, have the same tonal and segmental phonology as the final/definite singular, e.g. *bìy-èy + H* ‘wounds’.

(136) Final long high vowel before nominal suffix

Nonfinal	Fin/Def Sg	gloss
a. with <i>i</i> :		
<i>monosyllabic with i</i> :		
<i>bì:</i>	<i>bìy-ò + H</i>	‘wound’
<i>bì:</i>	<i>bìy-ò + H</i>	‘shadow, shade’
<i>hì:</i>	<i>hìy-ò + H</i>	‘boat’
<i>hì:</i>	<i>hìy-ò + H</i>	‘rheumatism’
<i>zì:</i>	<i>zìy-ò + H</i>	‘field near village’
<i>jí:</i>	<i>jíy-ó + H</i>	‘(cooking) oil’
<i>monosyllabic with e: shifting to iy (§3.7.1.5)</i>		
<i>cè:</i>	<i>cìy-ò + H</i> (‘his/her’)	‘foot’ (§4.2.2.1)
<i>hè:ⁿ</i>	<i>hìyⁿ-ò + H</i> (“)	‘tooth’ (§4.2.2.1)
	<i>~ hìy-ò + H</i>	
<i>longer (Arabic borrowings, suffixed form is definite)</i>		
<i>tàsìbî:</i>	<i>tàsìbìy-ò + H</i>	‘prayer beads’ (< Arabic)
<i>(?àl)wàlî:</i>	<i>(?àl)wàlìy-ò + H</i>	‘Muslim saint’ (< Arabic)
b. with <i>u</i> :		
<i>monosyllabic</i>		
<i>dù:</i>	<i>dùw-ò + H</i>	‘chaff’
<i>hù:</i>	<i>hùw-ò + H</i>	‘blister beetle’
<i>kù:</i>	<i>kùw-ò + H</i>	‘baobab’
<i>tù:</i>	<i>tùw-ò + H</i>	‘wooden bowl’
<i>yù:</i>	<i>yùw-ò + H</i>	‘honey’
<i>gú:</i>	<i>gúw-ó + H</i>	‘five’ (§4.7.1)
<i>gú:</i>	<i>gúw-ó + H</i>	‘stallion’
<i>zú:</i>	<i>zúw-ó + H</i>	‘strip (of cloth)’
<i>longer</i>		
<i>sú:-sû:</i>	<i>sú:-súw-ò + H</i>	‘light rain’
<i>tú:-tû:</i>	<i>tú:-túw-ò + H</i>	‘shrub sp. (<i>Ricinus</i>)’
<i>lú:-lû:</i>	<i>lú:-lúw-ò + H</i>	‘glass (material)’

The monosyllabic examples are {H} or {L} toned. The nonmonosyllabics have a final <HL>-tone, as in the parallel alternations with stem-final short vowel (preceding section). The nonmonosyllabics are mostly either frozen reduplications (*Cú:-Cû:*), or trisyllabics that are treated phonologically as compounds (*CÿCÿ-Cÿ:*, *CÿCÿ-Cû:*). Given these segmentations, the long vowel in the nonfinal form is likely due to the monosyllabicity of the final element.

While *kù:* ‘baobab’ (136b) is included here, *kû:* ‘yam (*Dioscorea*)’ is not, see Intervocalic *y/w*-Insertion (§3.7.1.9).

In nonfinal *dêy* ~ *dôy* ‘place’, with final/definite singular *dúw-ó+H*, the alternation *y/w* and the vocalic shift are irregular and isolated (§4.1.4.1).

4.1.2.9 Final short {e o} deleted before final/definite suffixes

The focus on this section is the treatment of stem-final {e o} in **nonmonosyllabic** noun stems before final/definite suffixes. For monosyllabic *Ce*, *Ce:*, *Co*, and *Co:* stems with prevocalic *Ciy-* and *Cuw-*, see §4.1.2.7-8 above, especially the data tables. For pre-suffixal forms of *bê:* ‘borassus palm’, see Intervocalic *y/w*-Insertion (§3.7.1.9).

A number of nonmonosyllabic noun stems formerly ending in short *e or *o still preserve nonfinal forms with these vowels, at least as variants. If we take these as lexically basic, the synchronic stem-final {e o} is deleted by Prevocalic V-Deletion (§3.7.1.8). Representative data are in (137). For the inalienables (‘belly’, ‘uncle’, ‘grandchild’, ‘navel’), the form in *-o+H* marks third person possessor. Monosyllabic stems are considered in §4.1.4.

(137) Final {e o} in noun stems

Nonfinal	Fin/Def Sg	gloss
a. with e		
<i>inalienables (kin, body parts); more exx. in §4.2.2.1</i>		
<i>hùmè</i>	<i>hùm-ò+H</i> (‘his/her’)	‘navel’
<i>gùndê</i>	<i>gùnd-o+H</i> (‘his/her’)	‘belly’
	(gùnd-ù- as initial in some compounds)	
<i>bà:bè</i>	<i>bà:b-ò+H</i> (‘his/her’)	‘father’
<i>hásê</i>	<i>hás-ò+H</i> (‘his/her’)	‘uncle’
<i>há:mê</i>	<i>há:m-ò+H</i> (‘his/her’)	‘grandchild’
<i>?izê</i>	<i>?iz-ó:+H</i> (‘his/her’)	‘child’ (§4.1.3.5)
<i>alienables</i>		
<i>fêrê</i> ~ <i>fêr-û</i>	<i>fêr-ò+H</i>	‘brick’
<i>sérémbê</i>	<i>sérémb-ò+H</i>	‘fonio (grain)’
	(~ <i>sérémb-û</i>)	
b. with o		
<i>gó:rô</i>	<i>gó:r-ò+H</i>	‘kola nut’
<i>wótórô</i>	<i>wótór-ò+H</i>	‘push-cart’

Participles (§4.5.6) with nonfinal *-ântè* and final/definite singular *-ânt-ò+H* can be added to this list.

Nonfinal *fèrr-ù*, final/definite singular *fèrr-ò+H* ‘cailcédrat tree (*Khaya*)’ is one of many noun stems that have now shifted to nonfinal *-u*, leaving no trace of the original stem-final *e.

Stems preserving final *e* in the nonfinal form are more common than those with final *o*. This is partly because *e* is still a favorite stem-final vowel for unsuffixed forms of kin terms, and to some extent body-part terms, see especially §4.2.2.5. It is also partly because stem-final **o* would have been readily reanalysed as definite singular (later often final-singular) *-*ò*-, resulting in the analogical creation of a nonfinal form with *-*u*-. For example, the term for ‘succulent bush sp. (*Desmidorchis*)’ is nonfinal *bòl-ù* and final/definite singular *bòl-ò + H*. The etymon was **bòllò* with final **o* to judge by KS *bollo* and KCh *abollo*. Another example is ‘millet beer’, nonfinal *dór-ú* and final/definite singular *dór-ó + H*, from **dóló* or **dóró*.

4.1.2.10 Final diphthongs {*ey ay ow*} in nonmonosyllabic noun stems

Monosyllabic {*Cvy Cvw*} stems do not contract with final/definite suffixes. Examples are in (138).

(138) Final diphthongs in monosyllabic noun stems

Nonfinal	Fin/Def Sg	gloss
a. <i>Cay, Cey</i>		
<i>háy</i>	<i>háy-ó + H</i>	‘price’
<i>zèy</i>	<i>zèy-ò + H</i>	‘thief’
b. <i>Caw, Cow</i>		
<i>háv</i>	<i>háv-ó + H</i>	‘cow’
<i>gôw</i>	<i>gôw-ò + H</i>	‘aromatic sedge tuber’
c. <i>Coy</i>		
<i>góy</i>	<i>góy-ó + H</i>	‘work [noun]’
d. <i>Cew</i>		
<i>hèw</i>	<i>hèw-ò + H</i>	‘wind [noun]’

However, in **nonmonosyllabics**, a final harmonic diphthong with mid-height nucleus usually does disappear before the final/definite suffixes, being treated like final short nonlow vowels {*i e o u*}. See Prevocalic Diphthong-Deletion §3.7.2.1 for the phonology. The contracting examples involve {*ey ow*}, i.e. with a harmonic combination of mid-height vowel and high semivowel. In many cases the diphthong in the nonfinal form is a derivational suffix *-ey* or *-ow*, or part of one (*-rey*, *-kow*). I know of no nonmonosyllabic stems that regularly end in *-aw*. *bálâw* ~ *bálâ:w* ‘scourge’, a loanword, has variable vowel length and only *bálâ:w-ò + H* is recorded for the final/definite singular. So it seems likely that final diphthongs in nonmonosyllabic nouns must have mid-height nuclei and that only the harmonic ones are subject to Prevocalic Diphthong-Deletion.

If the diphthong has falling <HL> tone in isolation, it is flattened to either H or L tone when it contracts with a final/definite suffix, since these suffixes do not allow surface contoured tones. The regular outcome is L-tone, see §3.9.5.5. The unexpected H.H pattern in *tár-ó + H* from *tárôw* (139b) indicates that this stem belongs to the small set of bisyllabic {HL} stems that irregularly become all {H}-toned in the final/definite (§4.1.2.2).

(139) Final {ey ow} in nonmonosyllabic noun stems

Nonfinal	Fin/Def Sg	gloss
a. final ey		
<i>L.<HL> in nonfinal becoming L.L</i>		
<i>hèrêy ~ hère-ù</i>	<i>hère-ò + H</i>	‘hunger’
<i>X-tàrêy</i>	<i>X-tàr-ò + H</i>	‘X-hood’ (§4.8.7)
<i>fixed {H} or {L} melody</i>		
<i>béy-réy ~ béy-r-ú</i>	<i>béy-r-ó + H</i>	‘knowledge’
<i>hàwr-èy ~ hàwr-ù</i>	<i>hàwr-ò + H</i>	‘supper’
<i>cìrgòs-èy</i>	<i>cìrgòs-ò + H</i>	‘lunch’
b. final ow		
<i>H.<HL> in nonfinal becoming H.H</i>		
<i>tárôw ~ tár-ù ~ tár</i>	<i>tár-ó + H</i>	‘courtyard’ (§4.1.2.2)
<i>fixed {H} or {L} melody</i>		
<i>dìyòw</i>	<i>dìy-à: + H</i>	‘emissary’

In a number of these cases, the final-diphthong form can also in final position within a core NP, in which case the morphological “final/definite singular” functions specifically as a marked definite singular. This is particularly the case with abstractives (which do not lend themselves easily to an indefinite/definite distinction), and terms for meals. This helps explain the persistence of the final diphthongs in these stems.

4.1.3 Noun stems with final *a*4.1.3.1 Short final *a* deleted before final/definite suffixes

Some nouns whose nonfinal form (at least) ends in short *a* behave like the nouns described above (§4.1.2.5-6, §4.1.2.9) that end in nonlow short vowels. That is, stem-final short *a* is deleted by Prevocalic V-Deletion (§3.7.1.8) before final/definite singular *-o + H* and definite plural *-ey + H*. This is also the pattern for numerals ending in *a*. Examples are in (140). The definite plural forms (in common use for nouns but not numerals) have the same tones as the final/definite singular form shown, e.g. *bát-èy + H* ‘boxes’.

(140) Stem-final *a* deleted before final/definite suffixes

Nonfinal	Fin/Def Sg	gloss
a. simple nouns		
<i>Arabic loans</i>		
<i>ʔàlfíntâ</i>	<i>ʔàlfínt-ò + H</i>	‘(rice) cake (< Arabic)’
<i>ʔàlbárkâ</i>	<i>ʔàlbárk-ò + H</i>	‘benefit’ (< Arabic)’
<i>ʔàlkámâ ~ ʔàlkâm</i>	<i>ʔàlkám-ò + H</i>	‘wheat’ (< Arabic)’
<i>other</i>		
<i>bítâ ~ bít-ù</i>	<i>bít-ò + H</i>	‘porridge’
<i>bátâ ~ bát-ù</i>	<i>bát-ò + H</i>	‘box’
<i>tásâ ~ tásê ~ tás-ù</i>	<i>tás-ò + H</i>	‘liver’ (*tásà)
<i>màkâ ~ màk-ù</i>	<i>màk-ò + H</i>	‘thigh’
<i>wòynâ</i>	<i>wòyn-ò + H</i>	‘sun’
[variants <i>wèynâ, ñòynâ</i>]		
<i>ʔáŋ-kákâ ~ ʔáŋ-kák-ù</i>	<i>ʔáŋ-kák-ò + H</i>	‘stone hearth’
<i>zìmmâ ~ zìmm-ù</i>	<i>zìmm-ò + H</i>	‘cult leader’ (< Zarma ?)’
<i>zùrbù-zárbâ</i>	<i>zùrbù-zárb-ó + H</i>	‘rags’
b. numerals		
<i>hínká</i>	<i>hínk-ó + H</i>	‘two’
<i>hínzâ</i>	<i>hínz-ò + H</i>	‘three’
<i>yággâ</i>	<i>yágg-ò + H</i>	‘nine’
<i>yá:hâ</i>	<i>yá:h-ò + H</i>	‘eight’

Several of the non-Arabic nouns have variants with *-u*, reflecting the reorganization of nominal morphology described earlier. Other nouns that originally had final **a* have gone over entirely. An example of this is **tílà* ‘amulet’, in HS final/definite singular *tíl-ò + H* ‘amulet’ and nonfinal *tíl-ù*.

4.1.3.2 Nouns with final/definite singular *-a: + H*

The majority of nouns ending in an *a*-vowel in the nonfinal form have a final/definite singular suffix *-a: + H* with long vowel. The overwhelmingly dominant type is with short <HL>-toned vowel (after a H-tone on the preceding syllable) in the nonfinal. For these stems, the final/definite singular regularly has a L-toned suffixal syllable, by Final <HL> Flattening (§3.9.5.5), see (141c) below. There are a few nouns with final long *á:* in the nonfinal form (141a); informants had some difficulties with their morphology (especially possessed forms). The only example with final short L-toned *à* in the nonfinal form is a somewhat opaque compound (141b).

(141) final (or definite) singular -a: +H

Nonfinal	Fin/Def Sg	gloss
a. Final long <i>a:</i> in nonfinal form		
<i>{H}</i> -toned		
<i>búra:</i>	<i>búra: +H</i>	‘giraffe’
<i>céra:</i>	<i>à céra: : +H</i> [‘his/her’]	‘flank’
<i>ʔáŋkóra:</i>	<i>à ʔáŋkóra: : +H</i> ["]	‘hip’
<i>{LH}</i> -toned		
<i>ʔàddúhá:</i>	<i>ʔàddúhá: +H</i>	‘mid-morning’ (< Arabic)
<i>{HL}</i> -toned		
<i>cé:rà:</i>	<i>cé:r-à: +H</i>	‘small hatchet’
<i>hírà:</i>	<i>hírà: +H</i>	‘buffalo, beast’
b. L-toned short vowel		
<i>hínán-dùwà</i>	<i>hínán-dùw-à: +H</i>	‘blood kinship’
	[cf. <i>hínéŋ</i> ‘suckle’]	
c. <HL>-toned short vowel		
<i>nasalized vowel</i>		
<i>sáhâⁿ</i>	<i>sáh-â:ⁿ +H</i>	‘strength, power’
<i>simple nouns</i>		
<i>ʔàdá:zâ</i>	<i>ʔàdá:z-à: +H</i>	‘bundle of branches’
<i>ʔálgúrá</i>	<i>ʔálgúr-à: +H</i>	‘joint slaughter’
<i>ʔàngúwâ</i>	<i>ʔàngúw-à: +H</i>	‘unripe water lily fruit’
<i>ʔá:râ</i>	<i>ʔá:r-à: +H</i>	‘stick game’
<i>bállâ</i>	<i>báll-à: +H</i>	‘roller (bird)’
<i>délbâ</i>	<i>délb-à: +H</i>	‘fishhook’
<i>dúmâ</i>	<i>dúm-à: +H</i>	‘kidney’
<i>fáddâ</i>	<i>fádd-à: +H</i>	‘heavy basket’
<i>fándâ (~ fónâ)</i>	<i>fánd-à: +H</i>	‘road’
<i>fúrsâ</i>	<i>fúrs-à: +H</i>	‘bereavement period’
<i>gáfâ</i>	<i>gáf-à: +H</i>	‘horse bag’
<i>gánâ</i>	<i>gán-à: +H</i>	‘udder’
<i>gárâ</i>	<i>gár-à: +H</i>	‘dye, indigo’
<i>gándâ</i>	<i>gánd-à: +H</i>	‘land, country’
<i>gátâ</i>	<i>gát-à: +H</i>	‘hobbles (rope)’
<i>géynâ</i>	<i>géyn-à: +H</i>	‘ratel (mammal)’
<i>ŋgúfâ</i>	<i>ŋgúf-à: +H</i>	‘unshaven head’
<i>ʔísâ</i>	<i>ʔís-à: +H</i>	‘river’
<i>kándâ</i>	<i>kánd-à: +H</i>	‘slender mongoose’
<i>kárâ</i>	<i>kár-à: +H</i>	‘wooden bed’
<i>kásárâ</i>	<i>kásár-à: +H</i>	‘agama lizard’
<i>cé:bâ</i>	<i>cé:b-à: +H</i>	‘inserted stone’
<i>kó:mâ</i>	<i>kó:m-à: +H</i>	‘sickle’

<i>kórâ</i>	<i>kór-à: + H</i>	‘shield’
<i>ló:gâ</i>	<i>ló:g-à: + H</i>	‘saltlick’
<i>ló:mâ</i>	<i>ló:m-à: + H</i>	‘handful’
<i>sàkúwâ</i>	<i>sàkúw-à: + H</i>	‘furry waterskin’
<i>sá:râ</i>	<i>sá:r-à: + H</i>	‘bunch (unit of sale)’
<i>zágálâ</i>	<i>zágál-à: + H</i>	‘child’s tomtom’
<i>zúŋgâ</i>	<i>zúŋg-à: + H</i>	‘hump’
<i>reduplicative or iterated</i>		
<i>kú-kúbâ</i>	<i>kú-kúb-à: + H</i>	‘fuzz (flowers) on millet’
<i>fî-fî:tâ</i>	<i>fî-fî:t-à: + H</i>	‘a fever’
<i>gâ:-gánâ</i>	<i>gâ:-gán-à: + H</i>	‘hooded vulture’
<i>fúnâ:-fúnâ</i>	<i>fúnâ:-fún-à: + H</i>	‘bush sp. (<i>Pergularia</i>)’
<i>búlâ:-búlâ</i>	<i>búlâ:-búl-à: + H</i>	‘mature water lily fruit’
<i>compounds or compound-like heavy stems</i>		
<i>jîrbî-kúŋgâ</i>	<i>jîrbî-kúŋg-à: + H</i>	‘insomnia’
<i>kòròwángâ</i>	<i>kòròwáng-à: + H</i>	‘colon (intestine)’
<i>pù:sùlâ:gâ</i>	<i>pù:sùlâ:g-à: + H</i>	‘large tomato can’
<i>sóy-lâ:lâ</i>	<i>sóy-lâ:l-à: + H</i>	‘grass sp. (<i>Dactyloctenium</i>)’
<i>regional words or possible Fulfulde/Bambara loans</i>		
<i>báttâ</i>	<i>bátt-à: + H</i>	‘lackey’ (regional)
<i>dírgâ</i>	<i>dírg-à: + H</i>	‘cows’ sleeping area’
<i>círâ</i>	<i>cír-à: + H</i>	‘curiosity’
<i>féddâ</i>	<i>fédd-à: + H</i>	‘club, association’ (< Ful.)
<i>fínâ</i>	<i>fín-à: + H</i>	‘kohl (mascara)’
<i>fórbâ</i>	<i>fórb-à: + H</i>	‘community property’ (regional)
<i>mánâ</i>	<i>mán-à: + H</i>	‘plastic (bag)’ (regional)
<i>sàtállâ</i>	<i>sàtáll-à: + H</i>	‘plastic kettle’
<i>sírâ</i>	<i>sír-à: + H</i>	‘snuff’ (regional)
<i>súnâ</i>	<i>sún-à: + H</i>	‘painful regret’
<i>tá:sâ</i>	<i>tá:s-à: + H</i>	‘bowl’ (regional)
<i>téyfâ</i>	<i>téyf-à: + H</i>	‘transaction fee’ (regional)
<i>English and French loans</i>		
<i>dórbâ</i>	<i>dórb-à: + H</i>	‘driver’ (variant)
<i>kónbâ</i>	<i>kónt-à: + H</i>	‘responsibility, account’
<i>lám̄bâ</i>	<i>lám̄b-à: + H</i>	‘mark’ (< <i>number</i>)
<i>lám̄pâ</i>	<i>lám̄p-à: + H</i>	‘lamp’
<i>Tamashek loans</i>		
<i>?áddâ</i>	<i>?ádd-à: + H</i>	‘machete blade’
<i>?ájâ</i>	<i>?áj-à: + H</i>	‘well apparatus’
<i>wúrâ</i>	<i>wúr-à: + H</i>	‘gold’
<i>Arabic loans</i>		
<i>?àlám̄bí:nâ</i>	<i>?àlám̄bí:n-à: + H</i>	‘(an) outrage’
<i>?àlà:rúbâ</i>	<i>?àlà:rúb-à: + H</i>	‘Wednesday’
<i>?àlbánnâ</i>	<i>?àlbánn-à: + H</i>	‘builder, mason’
<i>?álfâ</i>	<i>?álf-à: + H</i>	‘Muslim marabout’
<i>?álféydâ</i>	<i>?álféyd-à: + H</i>	‘advantage’

<i>?àlgúrá:nâ</i>	<i>?àlgúrá:n-à: + H</i>	‘Koran’
<i>?àlkàmí:sâ</i>	<i>?àlkàmí:s-à: + H</i>	‘Thursday’
<i>?àlú:lâ</i>	<i>?àlú:l-à: + H</i>	‘2 PM prayer’
<i>?àlwà:líyâ</i>	<i>?àlwà:líy-à: + H</i>	‘Abdim’s stork’
<i>?àlwálâ</i>	<i>?àlwál-à: + H</i>	‘ablutions’
<i>?àlzúmâ</i>	<i>?àlzúm-à: + H</i>	‘Friday’
<i>?àná:nâ</i>	<i>?àná:n-à: + H</i>	‘mint’
<i>?àmá:nâ</i>	<i>?àmá:n-à: + H</i>	‘(sacred) agreement’
<i>?àndúǰǰâ</i>	<i>?àndúǰǰ-à: + H</i>	‘world (of the living)’
<i>?ànníyâ</i>	<i>?ànníy-à: + H</i>	‘intention, plan’
<i>?ànnú:râ</i>	<i>?ànnú:r-à: + H</i>	‘brightness’
<i>?àrcíllâ</i>	<i>?àrcíll-à: + H</i>	‘mosquito net’
<i>?àtàlá:tâ</i>	<i>?àtàlá:t-à: + H</i>	‘Tuesday’
<i>dá:bbâ</i>	<i>dá:bb-à: + H</i>	‘animal’
<i>dáwâ</i>	<i>dáw-à: + H</i>	‘soluble ink’
<i>dáwlâ</i>	<i>dáwl-à: + H</i>	‘prestige’
<i>jàhánámâ</i>	<i>jàhánám-à: + H</i>	‘hell’
<i>jámâ</i>	<i>jám-à: + H</i>	‘crowd’
<i>jífâ</i>	<i>jíf-à: + H</i>	‘carriage’
<i>hí:sâ</i>	<i>hí:s-à: + H</i>	‘total, sum’
<i>má:ndâ</i>	<i>má:nd-à: + H</i>	‘meaning’
<i>màsí:bâ</i>	<i>màsí:b-à: + H</i>	‘quarrel, trouble’
<i>(m)béddâ</i>	<i>(m)bédd-à: + H</i>	‘highway’
<i>sárâ</i>	<i>sár-à: + H</i>	‘charity, alms’
<i>sàríyâ</i>	<i>sàríy-à: + H</i>	‘Islamic law’
<i>sífâ</i>	<i>síf-à: + H</i>	‘description’
<i>sùgúllâ</i>	<i>sùgúll-à: + H</i>	‘anxiety’
<i>súnnâ</i>	<i>súnn-à: + H</i>	‘Islamic principles’
<i>wálhâ</i>	<i>wálh-à: + H</i>	‘wooden tablet’
<i>wá:zâ</i>	<i>wá:z-à: + H</i>	‘counsel’

bá:y-à: + H ‘nothing, (not) anything’ belongs to this type, except that no nonfinal form occurs.

There are two nouns whose nonfinal form has *ê* rather than *â* corresponding to final/definite singular *-à: + H* (142).

(142)	Nonfinal	Fin/Def Sg	gloss
	<i>yáránde</i>	<i>yáránd-à: + H</i>	‘50 XF worth of tea and sugar’
	<i>tókórê</i>	<i>tókór-à: + H</i>	‘namesake, person with the same name’

For definite singular *fíy-à: + H* ~ *fúw-à: + H* ‘one’ from numeral *fó: ‘1’*, see §4.7.1.

4.1.3.3 Nonfinal and final/definite singular of diminutive *-iya*

The diminutive suffix *-iya* ~ *-ya* is covered in more detail in §4.9. Here I focus on the relationship between nonfinal and final/definite singular forms. This is tricky since final/definite and nonfinal forms are not always clearly distinguished for diminutive nouns. In the following discussion I omit the final floating H on final/definite forms.

The primary type, with H-tone on the suffixal *í* and word-level {LHL} melody (§4.9.1), typically has nonfinal (and sometimes NP-final) forms *-íy-òw* or *-íyâ* ~ *-íyâ*, and final/definite singular *-íy-à: +H* competing with the same *-íyâ* ~ *-íyâ*. The combination *-iy-à: +H* is phonologically regular provided if we assume that it is based on *-íyâ* ~ *-íyâ* rather than on *-íy-òw*. The syncopated diminutives covered in §4.9.2 have similar final/definite suffixation.

The less common {L}-toned type with *-iyâ* (§4.9.3) tends to be invariant. That is, nonfinal *-iy-òw* and final/definite singular *-iy-à: +H* are not in common use even in morphosyntactic contexts that favor them. Before strong definite *H + dî* and demonstratives, the environments that elsewhere require *-iy-à: +H*, these nouns simply raise the tones of *-iyâ*. Example: *kòf-iyâ* ‘grasshopper’, strong definite *kòf-íyá↑ dî* ‘that (same) grasshopper’, and demonstrative *kòf-íyá↑ wô* ‘this/that grasshopper’. Forms like *kòf-íyá↑ dî* might be traces of an older {LHL} melody (**kòf-iyâ*).

{H}-toned adjectival diminutives like *kát-íyá* ‘small’ and *dúngúr-íyá* ‘short’ (§4.6.2.8) and {H}-toned adjectival compound finals like *-kír-(í)yá* ‘red’ in [*cèŋ-ù*]/[*kír-(í)yá*] ‘gerbil’ (§4.9.4), likewise add strong definite *H + dî* with no overt change in the noun/adjective: *kát-íyá dî*, *dúngúr-íyá dî*, [*cèŋ-ù*]/[*kír-(í)yá*] *dî*. For the unusual segmental and tonal alternations in diminutive adjectives like ‘small’ and ‘short’, e.g. nonfinal *kát(t)-íy-òw* versus final/definite *kát(t)-íyá + H* ‘small’, see §4.6.2.8.

No special tone-raising applies to {L}-toned noun-adjective compounds of the type *bòŋ-[kír-(í)yâ]* ‘(male) agama lizard’ (§4.9.5). The strong definite *bòŋ-[kír-(í)yá]↑ dî* shows only the phonologically regular raising of the final suffixal syllable *H + dî*, due to the latter’s floating H.

The noun *zà-zàb-iyâ* ‘mosquito’ is unusual in having a variant nonfinal form (perhaps archaic, and in any case not widely used) *zà-zàbî* alongside the fuller form. A similar truncated nonfinal form has not (yet?) been recorded for the other noun with a similar reduplicated shape, namely *dà-dàb-iyâ* ‘(insectivorous) bat’.

4.1.3.4 *kòyrà + H*, *cìŋnà + H*, *céydíyá + H* and others with no *-à: + H* suffix

The *a*-final nouns in (143) do not take the *-à: + H* final/definite singular suffix. In the case of ‘rain’, younger speakers have started to add final/definite singular *-ò + H*.

(143)	noun	gloss
	<i>kòyrà + H</i>	‘village, town’
	<i>céydíyá + H</i>	‘rainy season’

<i>cìjɲà + H</i>	‘rain’ (Fin/Def Sg <i>cìjɲ-ò + H</i> for some speakers)
<i>bìjɲà + H</i>	‘warthog’
<i>jì:bà + H</i>	‘omasum (third stomach of ruminants)’

The floating H that is elsewhere associated with final/definite suffixes does occur with these nouns, so they might be analysed as covertly “definite.” (144a-c) show the floating H raising the tone of a following L-toned syllable. Although only a few nouns are involved, the tonal treatment shows that the final floating H is no longer confined to nouns with a segmentally audible final/definite singular suffix.

- (144) a. *kòyrà* \uparrow *dírà*
 /*kòyrà + H* *dírà/*
 village walk
 ‘The (while) village has traveled.’
- b. *céydíyá* \uparrow *mán* *‘húrâ*
 /*céydíyá + H* *mán + H* *húrâ/*
 rainy.season PerfNeg enter
 ‘The rainy season hasn’t come in (=begun).’
- c. *cìjɲà* \uparrow *kâ* (older speakers)
 cìjɲ-ò \uparrow *kâ* (younger speakers)
 rain(-Fin/DefSg) come
 ‘It (has) rained.’ (< /kâ)

These nouns occur in both indefinite or definite contexts. They may combine, without further suffixation, with strong definite *H + di* or with a demonstrative, as in *kòyrá \uparrow di* ‘the (same) village’ and *kòyrá \uparrow wô ~ kòyr-ò*: ‘this/that village’.

kòyrà + H can be treated as inalienable or alienable in possessive contexts: inalienable *kòyr-èy + H* ‘my village’ (i.e. where I grew up or now live), *kòyr-ê* ‘my village’ (i.e. that I own).

4.1.3.5 Irregular nouns *ʔizê* and *kô ~ kò-tí ~ kò-t-íy-à: + H* ‘child’

ʔizê ‘(someone’s) child, offspring, offshoot’ is usually either possessed (as a kin term) or preceded by a compound initial in a range of senses. *ʔizê* is irregular, both tonally and in final-syllable vowel length (final/definite singular *-ʔiz-ò + H* in compounds). As a possessed kin term with long vowel, it takes alienable-type forms for 1st/2nd person possessors (*ʔíz-è*: ‘my child’), but usually inalienable-type forms for 3rd person possessors (*ʔíz-ó: + H* ‘his/her child’).

kò-t-íy-à: + H means ‘child’ in the non-kinship sense (young human being). The diminutive ending *-íy-à: + H* is clearly audible with its long vowel. The very common plural is *kò-t-íy-èy: + H* ‘(the) children’.

A reduced variant *kô* is found in some compounds and before numerals and adjectives. Examples are *kó ↓fó*: ‘one child’, *kó bè:rì* ‘(a) big child’, phrasal

compound fauna term *kó-dám-gànjì* (lit. “child-put-outback”) ‘finch-lark sp. (*Eremopterix*)’, *kò-sò:g-ò + H* ‘young man’, *kò-tàréy* ‘childhood’, *kó tà:n-ò + H* ‘baby’.

An intermediate form is *kò-tí* in [*kò-tí*]-[*wòy-ò + H*] ‘girl’ and its antonym [*kò-tí*]-[*hà:r-ò + H*] ‘boy’. These end with the nouns meaning ‘woman’ and ‘man’, respectively.

4.1.4 Monosyllabic noun stems

4.1.4.1 CvC and Cv:C

There are several CvC noun stems, and a few Cv:C. The final consonant is a sonorant. Especially in the case of final *r*, there may be a variant nonfinal form *Cvrv*. The phonology of final/definite forms (for inalienables, the 3Sg possessed forms) is relatively straightforward. However, many CvC stems with {H}-toned final/definite singular *CvC-ó + H* (and definite plural *CvC-éy + H*) have {HL} *CvC* in the nonfinal form, apparently allowing the sonority difference between nucleus and coda to be reflected in tones. On the other hand, ‘person’ is {HL} in the nonfinal form and {L} in the final/definite forms, see the end of (145a).

(145) CvC and Cv:C stems

	Nonfinal	Fin/Def Sg	DefPl
a. CvC			
<i>no final/definite singular form</i>			
‘namesake’	<i>môy</i>	—	— (§4.2.3.1)
<i>{L}-toned</i>			
‘thief’	<i>zèy</i>	<i>zèy-ò + H</i>	<i>zèy-èy + H</i>
‘well’	<i>dây</i>	<i>dây-ò + H</i>	<i>dây-èy + H</i>
‘gallbladder’	<i>tây</i>	<i>tây-ò + H</i>	<i>tây-èy + H</i>
‘fingernail’	<i>bòy</i>	<i>bòy-ò + H</i>	<i>bòy-èy + H</i>
‘woman’	<i>wòy</i>	<i>wòy-ò + H</i>	<i>wòy-èy + H</i>
‘tree snake’	<i>sòy</i>	<i>sòy-ò + H</i>	<i>sòy-èy + H</i>
‘head’	<i>bòŋ</i>	<i>bùwⁿ-ò + H</i> (‘his/her’)	<i>bùwⁿ-èy + H</i>
‘guest’	<i>yòw</i>	<i>yòw -ò + H</i>	<i>yòw-èy + H</i>
‘wind’	<i>hèw</i>	<i>hèw -ò + H</i>	<i>hèw-èy + H</i>
‘goldsmith’	<i>zèm(-ù)</i>	<i>hèw -ò + H</i>	<i>hèw-èy + H</i>
<i>{H}-toned</i>			
‘iron, metal’	<i>gúr(-ú)</i>	<i>gúr-ó + H</i>	<i>gúr-éy + H</i>
‘middle’	<i>gám(-ú)</i>	<i>gám-ó + H</i>	<i>gám-éy + H</i>
‘work’	<i>góy</i>	<i>góy-ó + H</i>	<i>góy-éy + H</i>
‘day’	<i>hán</i>	<i>hán-ó + H</i>	<i>hán-éy + H</i>
<i>{HL}/{H}-toned</i>			
‘year’	<i>jîr ~ jíri</i>	<i>jír-ó + H</i>	<i>jír-éy + H</i>
‘gazelle’	<i>jêr ~ jérî</i>	<i>jér-ó + H</i>	<i>jér-éy + H</i>

‘cow’	<i>hâw</i>	<i>hâw-ó + H</i>	<i>hâw-éy + H</i>
‘meat’	<i>hâm</i>	<i>hâm-ó + H</i>	—
‘owner’	<i>kôy</i>	<i>kôy-ó + H</i>	<i>kôy-éy + H</i>
‘place’	<i>dêy ~ dôy</i>	<i>dúw-ó + H</i>	<i>dúw-éy + H</i>
<i>{HL}/{L}-toned [only example]</i>			
‘person’	<i>bôr</i>	<i>bôr-ò + H</i>	<i>bôr-èy + H</i>

b. *Cv:C**{HL}-toned*

‘boubou’	<i>kâ:y</i>	<i>kâ:y-ò + H</i>	<i>kâ:y-èy + H</i>
‘fever’	<i>sâ:y ~ sây</i>	<i>sâ:y-ò + H</i>	<i>sâ:y-èy + H</i>
‘bus’	<i>kâ:r</i>	<i>kâ:r-ò + H</i>	<i>kâ:r-èy + H</i>
<i>{L}-toned</i>			
‘butcher’	<i>wà:y</i>	<i>wà:y-ò + H</i>	<i>wà:y-èy + H</i>

For *Ca:C* see also adjectives *tâ:y-ò + H* ‘wet’, *ka:n-ò + H* ‘sweet’, etc.

For two stems (‘man’ and ‘field’) that lengthen nonfinal *Câr* to final/definite singular *Câ:r-ò + H* and definite plural *Câ:r-èy + H*, see §3.7.5.2 and §4.1.2.4.

4.1.4.2 *Cv* and *Cv:*

Some nouns of this shape are inalienable and treated more fully in §4.2.2, below. Nouns that have nonfinal forms *Cv* or *Cv:* are in (146). There are only a handful of *Cv* nouns with short vowel in the nonfinal form (‘house’, ‘mother’, ‘mouth’), cf. also the variant *kô* ‘child’ in §4.1.3.5.

(146) Final/definite forms of *Cv* and *Cv:* stems

	Nonfinal	Fin/Def Sg	DefPl
a. <i>Cv</i> and <i>Cv:</i> with high vowel, prevocalic <i>Cvw-</i> or <i>Cvy-</i> <i>inalienable or alienable</i>			
‘house’	<i>hû</i>	<i>hûw-ó + H</i>	<i>hûw-éy + H</i>
‘shadow’	<i>bì:</i>	<i>bìy-ò + H</i>	<i>bìy-èy + H</i>
<i>alienable</i>			
‘chaff’	<i>dù:</i>	<i>dùw-ò + H</i>	—
‘skin disease’	<i>dù:</i>	<i>dùw-ò + H</i>	—
‘wound’	<i>bì:</i>	<i>bìy-ò + H</i>	<i>bìy-èy + H</i>
‘boat’	<i>hì:</i>	<i>hìy-ò + H</i>	<i>hìy-èy + H</i>
‘rheumatism’	<i>hì:</i>	<i>hìy-ò + H</i>	<i>hìy-èy + H</i>
‘oil, butter’	<i>jí:</i>	<i>jíy-ó + H</i>	<i>jíy-éy + H</i>
‘blister beetle’	<i>hù:</i>	<i>hùw-ò + H</i>	<i>hùw-èy + H</i>
‘baobab tree’	<i>kù:</i>	<i>kùw-ò + H</i>	<i>kùw-èy + H</i>
‘wooden bowl’	<i>tù:</i>	<i>tùw-ò + H</i>	<i>tùw-èy + H</i>
‘ribbon’	<i>zú:</i>	<i>zúw-ó + H</i>	<i>zúw-éy + H</i>

<i>alienable (defective)</i>			
‘yesterday’	<i>bì:</i>	—	—
‘yam’	<i>kû:</i>	—	—
‘height, length’	<i>kú:</i>	—	—
b. <i>Ca</i> and <i>Ca:</i>			
<i>inalienable</i>			
‘mother’	<i>nâ</i>	<i>nó: +H</i> (‘his/her’)	<i>náw-éy +H</i> ~ <i>nów-éy +H</i>
<i>mixed (3Sg possessor has “alienable” form)</i>			
‘share’	<i>bâ:</i>	<i>à[†] bâ:</i> (‘his/her’)	<i>bá:†-yèy +H</i>
‘name’	<i>mâ:</i>	<i>à mâ:</i> (‘his/her’)	<i>má:-y-èy +H</i>
‘body’	<i>gá:</i>	<i>à gá:</i> (‘his/her’)	<i>gá:-y-èy +H</i>
<i>alienable</i>			
‘milk’	<i>wâ:</i>	—	<i>wá:†-yèy +H</i>
‘okra’	<i>lá:</i>	<i>lá:-y-ò +H</i>	—
‘campground’	<i>gâ: ~ gá:</i>	—	<i>gá:-w-èy +H</i> ~ <i>gá:-y-èy +H</i>
<i>alienable (defective)</i>			
‘respect’	<i>bâ:</i>	—	—
c. <i>Cv</i> and <i>Cv:</i> with mid-height vowel			
<i>inalienable (medial variants yⁿ ~ j ~ η omitted)</i>			
‘tooth’	<i>hè:ⁿ</i>	<i>hìyⁿ-ò +H</i> (‘his/her’)	—
‘mouth’	<i>mê</i>	<i>míyⁿ-ó +H</i>	—
‘foot’	<i>cè:</i>	<i>cìy-ò +H</i>	—
‘eye’	<i>mò:</i>	<i>mùwⁿ-ò +H</i>	—
<i>alienable</i>			
‘rice’	<i>mò:</i>	<i>mùwⁿ-ò +H</i>	—
<i>alienable (defective, §4.2.1.4)</i>			
‘borassus palm’	<i>bè:</i>	—	—

The suffixed forms of the *Cu(:)* and *Ci:* nouns in (146a) treat them like underlying /Ciy/and /Cuw/. Their forms can be compared directly to those of *CvC* stems, see the preceding section.

The *Ca(:)* stems in (146b) are phonologically problematic for HS speakers. ‘Mother’, the only short-voweled stem in this group, is irregular. The long-voweled *Ca:* inalienables dodge the problem of how to add 3Sg inalienable possessor *-o +H* by pressing the corresponding alienable form into service, resulting in mixed paradigms, e.g. *mâ:-y* ‘my name’ (inalienable morphology) but *à mâ:* ‘his/her name’ (alienable morphology). However, they do have definite plural forms in *-ey +H*. All of the definite plural forms in (146b) are *Cv’:-y-èy +H* (or *Cv’:-w-èy +H* with a different epenthetic semivowel), i.e. with {HL} melody, regardless of the melody of the nonfinal form. I posit a rule of **Presuffixal Cv: Tone-Raising** (§3.9.3) to account for this, and for possessed forms described later.

Most of the *Ce(:)* and *Co(:)* nouns in (146c) are treated as *Ciy-* and *Cuw-*, respectively, in suffixed forms (§3.7.1.5). This is not true of ‘borassus palm’ (§4.2.3.2).

4.2 Morphology of possessed nouns

A unique feature of HS among Songhay languages is its innovation of both alienable and inalienable pronominal possessor paradigms. For the history, see Heath (2011).

Most **kin terms and paronyms** are morphologically inalienable, as are a few other words like *bà:* ‘share’ and *mâ:* ‘name’. *kòyrà + H* ‘village’ and *hû* ‘house’ can be either alienable or inalienable.

Alienable and inalienable morphologies are distinct for all 1st/2nd person possessors and for 3Sg possessor. They are **merged for other third person possessors** (3Pl, 3FullSg, 3FullPl). Postpositions have paradigms related to the inalienable type for 1st/2nd persons, and to the alienable type for 3Sg (other third person categories are indeterminate), see §5.9. *Ca:* inalienable nouns such as *mâ:* ‘name’ have an “alienable” 3Sg form (§4.2.2.4).

Representative paradigms for ‘dog’ and ‘uncle’ are in (147), allowing an initial comparison of regular alienable and inalienable paradigms. Only forms for singular possessed noun are shown here. The lexically basic nonfinal forms are *hánsî* ‘dog’ and *hásê* ‘uncle’.

(147)	possessor	‘dog’ (alienable)’	‘maternal uncle’ (inalienable)
a.	1Sg	<i>háns-è</i>	<i>hás-èy + H</i>
	1Pl	<i>háns-èy-ndíy-à:</i>	<i>hás-éy-ndì + H</i>
b.	2Sg	<i>háns-ò-nôŋ</i>	<i>hás-àŋ + H</i>
	2Pl	<i>háns-ò-ndôŋ</i>	<i>hás-án-dòŋ + H</i>
c.	3Sg	<i>à háns-ò</i>	<i>hás-ó + H</i>
d.	3Pl	<i>ɲòŋ háns-ò</i>	<i>ɲòŋ hás-ò</i>
	3FullSg	<i>ʔáŋgá ‘háns-ò</i>	<i>ʔáŋgá ‘hás-ò</i>
	3FullPl	<i>ɲjéy ‘háns-ò</i>	<i>ɲjéy ‘hás-ò</i>

In the alienable paradigm, a nonpronominal possessor requires the same form of the possessed noun as with third person pronominal possessor (*ʔá:màdù háns-ò* ‘Amadou’s dog’). In the inalienable paradigm, a nonpronominal possessor requires the same form that occurs with 3Pl, 3FullSg, and 3FullPl (but not regular 3Sg) pronominal possessors (*ʔá:màdù háns-ò* ‘Amadou’s uncle’). However, when a nonpronominal NP possessor often ends in a floating H-tone, an initial L-toned syllable in a following possessed noun is raised to H-tone. In the case of bisyllabics, what would otherwise appear as L.<HL> is realized as H.L. Thus *sùb-ò* ‘grass (possessed)’ and *hà:r-ò + H* ‘man’ combine as *hà:r-ò ↑sùb-ò* ‘the man’s grass’.

One key initial observation is that the 1Pl is built on the 1Sg, and the 2Pl is built on the 2Sg. Another is that an *-o ~ -a:* suffix occurs in third person inalienable forms, and in both second and third person alienable forms. This suffix is arguably also present in first person alienable forms, but if so it is always deleted by phonological rule before the *e* of the pronominal suffix. We will see later that *-o ~ -a:* is used for singular possessed noun, and is replaced in most combinations by *-ey* for plural possessed noun.

My greatest difficulty in HS fieldwork, though not the only one, was my failure to realize early on that there are actually three functionally distinct singular *-o ~ -a:* suffixes and three plural *-ey* suffixes. Two of the functions are phonologically indistinguishable; they are a) **unpossessed alienable final/definite singular** and b) **3Sg inalienable possessor**. Suffixes of types (a) and (b) are atonal, acquiring a surface H- or L-tone (but not <HL>-tone) by spreading from the stem. These suffixes are followed by a floating H-tone. Morphophonologically, (a) and (b) are identical, differing only in function, one function for alienable nouns and another for inalienables. The third type is c) **general third person possessor** for inalienables with any third person possessor except regular 3Sg, and for alienables with any third person possessor (including regular 3Sg). Suffix type (c) is, for almost all nouns, segmentally identical to suffix types (a) and (b), but it differs tonally (final <HL> tones are welcome). It is not followed by a floating H, i.e., it has no tonal effect on the following word. To repeat, all three types (a-c) are segmentally identical. In fact, they are also etymologically cognate, reflecting old definite suffixes. They have diverged functionally, and (c) has also diverged tonally, probably by borrowing rhythmic patterns from 1st/2nd person alienable possessor forms. If this three-way isn't complicated enough for you, the three singular suffixes of the shape *-o ~ -a:* are also cognate to the suffix *-u* in third person possessor forms of a few singular kin terms (*nòŋ ʔbá:b-ù* 'their father'), see (171c) in §4.2.2.5. So we have no fewer than four reflexes of a single original definite singular morpheme, none of which functions primarily as a definiteness marker.

4.2.1 Alienable possession

For alienables, there is one basic form for a singular possessed noun with a third person possessor. This form is also the morphological basis for the 2Sg possessor combination, and arguably (if we recognize a phonological contraction of two vowels) also for the 1Sg possessor combination. I therefore call this basic possessed form **PossSg**, omitting any reference to the person of the possessor. (By contrast, a "3PossSg" form in inalienable possessor morphology is confined to third person possessor.) A further layer of morphology converts 1Sg to 1Pl possessor, and 2Sg to 2Pl. The entire paradigm for singular possessed noun is parallel to another full paradigm for plural possessed nouns.

Rather than presenting a multi-page array of the complete paradigms for different types of noun, I prefer to show how the more complex forms are built up from simpler forms. I begin with detailed consideration of 1Sg, 2Sg, and 3Sg possessor forms for various singular alienable noun types (§4.2.1.1-4). Then the remaining third

person possessors (§4.2.1.5) and the 1Pl and 2Pl possessor forms (§4.2.1.6) are covered, again for singular possessed nouns. Finally, the equivalents of all of the above for plural possessed nouns are described (§4.2.1.7-8).

First, a brief overview. The form of a singular alienably possessed noun, i.e. the PossSg form, is **derived from the unpossessed final/definite singular** $-o + H$ or $-a: + H$. Except as noted below, the segments are unchanged from (unpossessed) final/definite singular to the PossSg form. There is no further pronominal affix within the noun for third person possessor categories. Instead, these possessor categories are expressed by third-person pronominals proclitic to the possessed noun. The 2Sg and (arguably) 1Sg possessor forms are built on the PossSg form of the noun by adding one additional pronominal suffix each.

That alienably possessed forms are based on the final/definite singular form, not on the nonfinal form, of the (unpossessed) noun is clearest in cases where the tones of the nonfinal and final/definite singular forms are irregularly related. For example, \hat{a}' $s\grave{e}nn-\hat{o}$ 'his/her language' has a PossSg form $s\grave{e}nn-\hat{o}$ that is clearly related to final/definite singular $s\grave{e}nn-\hat{o} + H$ 'talk, language'. If it had been based on nonfinal $s\acute{e}nn-\acute{i}$, the output would have been $\# \hat{a} s\acute{e}nn\grave{i}$ or at best the tonally incorrect $\# \hat{a} s\acute{e}nn-\hat{o}$. For stems ending in long $a:$ that do not have an overt suffix in the final/definite singular, the alienably possessed forms are based on a fictive suffixed final/definite singular form, with an epenthetic semivowel between the long $a:$ and the suffixal $-o$.

While the segmental form is derived from that of the final/definite singular, the tones are different. All alienably possessed nouns **drop the final floating H-tone** of the final/definite singular. In addition, the final two syllables are subject to the **Tonal Rhythm** rule, and therefore surface as either L.<HL> (when the penult is L-toned) or as H.L (when the penult is H-toned). Tones of earlier syllables (e.g. antepenult) are not affected.

When the **possessed noun is plural**, the morphology is parallel to that just outlined for singular possessed nouns. The PossSg $-o \sim -a:$ suffix is replaced in most combinations by **PossPl** $-ey$. Just as PossSg $-o \sim -a:$ is identical segmentally but not tonally to the final/definite singular $-o + H \sim -a: + H$, PossPl $-ey$ is identical segmentally but not tonally to the definite plural. Since the (unpossessed) final/definite singular and definite plural forms are tonally parallel to each other, the possessed singular and possessed definite forms are also parallel to each other.

Bisyllabic stems are the most straightforward, so I begin with them.

4.2.1.1 Regular bisyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg)

Consider the partial alienable paradigms in (148). The inputs are the final/definite singular forms, which can have {H}, {HL}, or {L} melodies. There are no nouns with {LH} melody. Bisyllabic nouns with L.<HL> tones in the nonfinal form are flattened to L.L in the suffixed final/definite forms, so these can be treated as having {L} melody for purposes of calculating possessive tonology.

(148)	possessor	{H} 'dog'	{HL} 'bird'	{L} 'grass'
	Fin/Def Sg	<i>háns-ó + H</i>	<i>cír-ò + H</i>	<i>sùb-ò + H</i>
	a. 1Sg	<i>háns-è</i>	<i>cír-è</i>	<i>sùb-ê</i>
	b. 2Sg	<i>háns-ò-nôŋ</i>	<i>cír-ò-nôŋ</i>	<i>sùb-ó-nòŋ</i>
	c. 3Sg	<i>à háns-ò</i>	<i>à cír-ò</i>	<i>à' sùb-ò</i>

The tones of the possessor suffixes are determined by the tone of the last nonsuffixal syllable. Therefore {H}-toned 'dog' and {HL}-toned 'bird' are merged into a single tonal type in the possessed forms. By Tonal Rhythm (§3.9.4.1), the first suffixal syllable for 'dog' and 'bird' is L-toned. The 2Sg form has a second suffixal syllable which, again by Tonal Rhythm, is <HL>-toned. 'Grass', on the other hand, has a L-toned nonsuffixal syllable, so by Tonal Rhythm the suffix or suffix complex is {HL}-toned, whether monosyllabic (1Sg, 3Sg) or bisyllabic (2Sg).

The PossSg form seen mostly clearly in the 3Sg possessor form is segmentally identical to the unpossessed final/definite singular form, but the two are distinct tonally. A partial exception is the {HL}-type 'bird', but even for such nouns the absence of the floating H after the possessed noun distinguishes it from the unpossessed form. Importantly, alienably possessed nouns are never tonally flat, i.e. they cannot have word-level {H} or {L} melody, rather they must be contoured {HL} or {LHL}.

The 2Sg form is transparently based on the 3Sg form, with an additional syllable *-noŋ*. This suggests the possibility that the 1Sg form might also be based on the 3Sg form, which could then be reanalysed as an all-purpose alienable PossSg form that combines with zero affixation for third person and with nonzero suffixes for 1Sg and 2Sg possessor. Let us therefore look more closely at the 1Sg forms.

We observe that the *-o* suffix in the 2Sg and 3Sg is replaced by *-e* in the 1Sg. One could therefore imagine an underlying 1Sg form of the type /X-o-e/, contracting to *X-e* by Prevocalic V-Deletion (§3.7.1.8). We will see below that 3Sg *-a:* likewise becomes 1Sg *-e:* for most *a*-final stems (§4.2.1.3), and this too could be handled by a version of the deletion rule that preserves the first vowel's length. This analysis is attractive insofar as 1Sg /X-o-e/ would be structurally parallel to 2Sg *X-o-noŋ*. It is also undoubtedly correct historically, since 1Sg *-e* is derived from a cliticized version of 1Sg independent pronoun *?ây* (Heath 2011).

However, synchronically this analysis is not a slam dunk. A first objection is the absence of independent evidence for a phonological contraction /oe/ to *e*. Inconveniently, the adposition *dô* 'chez, at the place of' combines with 1Sg *-ey* as *dúw-êy* (§5.9.6), though this could be finessed by basing the suffixed forms of the postposition on the final/definite singular *dúw-ó + H* 'place'. Second, while a contraction /a:e/ to *e:* would work for the majority of *a*-final nouns, the small subset of such stems with invariable final long *a:* have 1Sg possessor forms of the type *a:-y-e*, with epenthetic *-y-*, rather than the expected *#-e:* (§4.2.1.3). Third, when the

possessed noun is plural we do not get an output derived from underlying 1Sg #/ey-e/ parallel to 2Sg /ey-noŋ/. Instead, we find a completely different 1Sg possessor sequence *-e-pòŋ + H* with the indefinite plural suffix added to the singular counterpart: *háns-è* ‘my dog’, *háns-è-pòŋ + H* ‘my dogs’ (§4.2.1.8).

These considerations suggest that the 1Sg possessor form has evolved into a morphologically quirky state. I am inclined to favor a synchronic derivation of the 1Sg form from the 3Sg form by **mutation** (to vowel quality *e*), i.e. a kind of **suffixal ablaut**.

Because alienably possessed forms are based on the final/definite singular rather than on the nonfinal form, nouns with monosyllabic nonfinal forms but bisyllabic final/definite singular forms are treated as bisyllabic, and are handled by the same rules just described. For example, ‘house’ (nonfinal *hû*, final/definite singular *húw-ó + H*), has alienably possessed forms like 1Sg *húw-è* ‘my house’, exactly parallel to *háns-è* ‘my dog’. (‘House’ also can take inalienable possessors in a slightly different sense.)

4.2.1.2 Trisyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg)

Trisyllabic nouns can be {H}, {HL}, {LHL}, or {L} (but not {LH}). Stems exemplifying these types and their forms with singular possessors are in (149). The full glosses for the first and last are ‘small stones (inserted among larger stones in walls)’ and ‘mortar (for pounding grain with a pestle)’. ‘Strategem’ has nonfinal form *dàbàrî* with L.L.<HL> pattern, but becomes L.H.L *dàbár-ò + H* by the L.L.<HL> → L.H.L rule for final/definite forms (§3.9.6.2). This L.H.L pattern is the basis for the possessed forms.

(149)	{H}	{HL}	{LHL}	{L}
	‘stones’	‘cart’	‘stratagem’	‘mortar’
Fin/DefSg	<i>bó-bór-ó + H</i>	<i>wótór-ò + H</i>	<i>dàbár-ò + H</i>	<i>hùmbùr-ò + H</i>
possessors				
1Sg	<i>bó-bór-è</i>	<i>wótór-è</i>	<i>dàbár-è</i>	<i>hùmbùr-è</i>
2Sg	<i>bó-bór-ò-nòŋ</i>	<i>wótór-ò-nòŋ</i>	<i>dàbár-ò-nòŋ</i>	<i>hùmbùr-ó-nòŋ</i>
3Sg	<i>à bó-bór-ò</i>	<i>à wótór-ò</i>	<i>à⁺ dàbár-ò</i>	<i>à⁺ hùmbùr-ò</i>

The tone melody of the first two syllables of the final/definite form (excluding suffixes) is respected in the possessed forms. By Tonal Rhythm (§3.9.4.1), the first suffixal syllable is L-toned after a H-toned syllable (‘stones’, ‘cart’, ‘strategem’), then for 2Sg possessor the second suffixal syllable is <HL>-toned. For {L}-toned ‘mortar’, the suffix complex has a {HL} melody, whether expressed on one or two syllables. The suffixal tones are therefore consistent with what we saw in the preceding section for bisyllabics.

4.2.1.3 *a*-final alienably possessed nouns (1Sg, 2Sg, and 3Sg)

A substantial minority of bisyllabic noun stems have a final *a*-vowel. The productive subtype ends in ...H.<HL> in the nonfinal form, and in ...H.L with final **long vowel** in the final/definite singular form, e.g. nonfinal *ʔálfâ* with final/definite singular *ʔálf-à: +H* ‘marabout’ (§4.1.3.2). As with other nouns, only the **penult and ultimate syllables** of the final/definite singular are relevant input to the Tonal Rhythm rule that determines the tones of the alienably possessed form (most transparently, for third person possessor). Therefore the suffixal tones of possessed forms corresponding to unpossessed trisyllabic or longer ...L.H.<HL> or ...H.H.<HL> will follow the pattern of those for the {HL} stem ‘marabout’ in (150) below, while the lexical tone of the antepenult and any earlier syllables will be unaffected.

There are a handful of nonmonosyllabic nouns with a final long *a*: that occurs in both final/definite and nonfinal forms, e.g. *búrá:* ‘giraffe’ and *cé:rà:* ‘small hatchet’ (§4.1.3.2). In these stems the *a*: happens to be either H- or L-toned rather than contoured <HL>, so there is no tonal difference between the nonfinal form and the final/definite singular (except for the floating H in the latter). Excluding a couple of inalienables like *ʔáŋkórá:* ‘hip’, these nouns are rarely possessed, and informants struggle to produce alienably possessed forms. It was possible, however, to elicit possessed forms for *ʔàddúhá:* ‘mid-morning’ (Arabic loan). The outputs indicate that the final long vowel does not contract with the suffixal vowel. Instead, an epenthetic semivowel is inserted, see Intervocalic *y/w*-Insertion (§3.7.1.9). By contrast, inalienables ending in a long *a*: avoid adding the usual third person possessor suffixes, such as 3Sg *-o +H* (§4.2.2.1, §4.2.2.4).

(150)	possessor	NF ... <i>a</i> (short) ‘marabout’	NF ... <i>a</i> : (long) ‘mid-morning’
	nonfinal Fin/Def Sg	<i>ʔálfâ</i> <i>ʔálf-à: +H</i>	<i>ʔàddúhá:</i> <i>ʔàddúhá: +H</i>
	a. 1Sg	<i>ʔálf-è:</i>	<i>ʔàddúhá:-y-è</i>
	b. 2Sg	<i>ʔálf-à:-nôŋ</i>	<i>ʔàddúhá:-y-ò-nôŋ</i> ~ <i>ʔàddúhá:-w-ò-nôŋ</i>
	c. 3Sg	<i>à ʔálf-à:</i>	<i>àʔ ʔàddúhá:-y-ò</i> ~ <i>àʔ ʔàddúhá:-w-ò</i>

1Sg possessor *ʔálf-è:* is derived from 3Sg possessor *ʔálf-à: +H* by, in effect, **mutating** the vowel quality of the 3Sg suffix. This would also work for *ʔàddúhá:-y-è*. Alternatively, we could postulate a contraction rule converting /a:e/ into *e:*, preserving the length of the first vowel but the quality of the second vowel. This would account for *ʔálf-è:* from *ʔálf-à: +H*, but it would incorrectly predict 1Sg *#ʔàddúh-é:* (or *#ʔàddúh-è:* by Tonal Rhythm) instead of the correct *ʔàddúhá:-y-è*.

The dominant lexically final-short-*a* type represented by ‘marabout’ reinforces the view that the PossSg form of the noun, as seen especially in the 3Sg and 2Sg possessor forms, is derived from the corresponding final/definite singular form by a tonal change. This issue, however, is moot for the small set of stems like ‘mid-morning’ whose nonfinal and final/definite singular forms are identical.

4.2.1.4 Monosyllabic alienably possessed nouns (1Sg, 2Sg, and 3Sg)

Since alienably possessed forms are based on the final/definite singular form of the noun, those with monosyllabic nonfinal forms (*CvC*, *Ci*;, *Cu*;, etc.) but bisyllabic final/definite forms (*CvC-o + H*) can be disregarded here. I therefore focus on *Cv* and *Cv*: stems with nonhigh vowels that do not have bisyllabic *CvC-o + H* final/definite singulars. The known alienable stems of this type (§4.1.4.2) are presented in (151).

(151) Alienable *Cv*: stems (unpossessed)

	Nonfinal	Fin/Def Sg	DefPl
a. <i>Ca</i> : stems			
‘milk’	wà:	wà: + H	wá:↑-y-èy + H
‘okra’	lá:	lá:-y-ò + H	—
‘campground’	gà: ~ gá:	gà: + H ~ gá: + H	gá:-w-èy + H ~ gá:-y-èy + H
‘respect’	bà:	bà: + H	—
b. <i>Ce</i> : stem			
‘borassus palm’	bè:	—	—

‘Borassus palm’ has no final/definite forms (§4.2.3.2). Though the data are spotty, we can identify two phonological characteristics for the alienable *Ca*: stems in (151a). First, an epenthetic semivowel is inserted before the V-initial suffix, so there is no contraction of two vowels; see Intervocalic *y/w*-Insertion (§3.7.1.9). Second, the lexical tones of the various stems are merged as H, resulting in a uniform H.L tone sequence in the overtly suffixed forms. For the L-toned stems (‘milk’, ‘respect’) this requires Presuffixal *Cv*: Tone-Raising (§3.9.3).

These phonological features are also usually observed in the corresponding possessed forms. Indeed, informants produce possessed forms that are “based on” unelicitable final/definite singular forms. Even ‘borassus palm’ has elicitable possessed forms.

(152)	possessor	‘milk’	‘okra’	‘borassus’
a.	1Sg	wá:↑-y-è	lá:-y-è	bé:-y-è

b. 2Sg	<i>wá:ʔ-y-ò-nôŋ</i> ~ <i>wá:ʔ-nôŋ</i>	<i>lá:-y-ò-nôŋ</i>	<i>bé:-y-ò-nôŋ</i>
c. 3Sg	<i>à wá:ʔ-y-ò</i> ~ <i>àʔ wà:</i>	<i>à lá:-y-ò</i>	<i>à bé:-y-ò</i> ~ <i>àʔ bè:</i>

For ‘milk’ and ‘borassus palm’, the 3Sg possessor form can also be unsuffixed, with no inserted semivowel, hence the variants *àʔ wà:* and *àʔ bè:*. For ‘milk’ there is also a parallel 2Sg variant *wá:ʔ-nôŋ*. Since the alienable nouns ‘milk’, ‘okra’, and ‘borassus palm’ are not frequently possessed, I suspect that their short 3Sg and 2Sg possessor variants reflect the analogical influence of inalienable *bà:* ‘share, portion’ and *mâ:* ‘name’ (3Sg *àʔ bà:* ‘his/her share’ and *à mâ:* ‘his/her name’, §4.1.4.2). However, this influence does not seem to have affected the 1Sg possessor forms (contrast alienable *wá:ʔ-y-è* ‘my milk’ with *bà:-y + H* ‘my share’).

4.2.1.5 Other third person alienable possessors (3Pl, 3FullSg, 3FullPl)

The third person pronominal possessor morphemes, all proclitic, are added to the same tonal PossSg form illustrated in preceding sections with 3Sg proclitic *à*. (153) illustrates one noun with {H}-toned final/definite singular (‘dog’), and another with {L}-toned final/definite singular (‘grass’). The unpossessed final/definite singular forms provide the segmental shape of the PossSg, but the latter undergo tonal changes.

(153) Third person alienable possessor proclitics

category	proclitic	‘dog’	‘grass’
Fin/Def Sg	—	<i>háns-ó + H</i>	<i>sùb-ò + H</i>
3Sg	<i>à</i>	<i>à háns-ò</i>	<i>àʔ sùb-ò</i>
3Pl	<i>ɲòŋ + H</i>	<i>ɲòŋ háns-ò</i>	<i>ɲòŋ ʔsùb-ò</i>
3FullSg	<i>ʔáŋgá</i>	<i>ʔáŋgá ʔháns-ò</i>	<i>ʔáŋgá sùb-ò</i>
3FullPl	<i>ɲjéy</i>	<i>ɲjéy ʔháns-ò</i>	<i>ɲjéy sùb-ò</i>

Final/definite singular *háns-ó + H* and *sùb-ò + H* are converted into the PossSg forms *háns-ò* and *sùb-ò* by allowing Tonal Rhythm (§3.9.4.1) to apply and by deleting the floating H. The 3Sg combination with *à* is the most transparent phonologically. The proclitic is optionally upstepped (*àʔ*) before a L-toned syllable.

The **3Pl** proclitic is associated with a floating H-tone that is realized on a following L-toned syllable. In the case of a {L}-toned trisyllabic, the 3Pl possessor form ends up with H.L.<HL> tones, as in *hùmbùr-ò + H* ‘mortar’, PossSg *hùmbùr-ò*, 3Pl possessor *ɲòŋ ʔhùmbùr-ò*. The trisyllabic L.H.L noun *dàbár-ò + H* ‘stratagem’ has PossSg *dàbár-ò* and 3Pl possessor *ɲòŋ ʔdàbár-ò*. In ‘their grass’ from *ɲòŋ + H sùb-*

ô/, the theoretically correct output is #*pòŋ* $\hat{s}ú^+b\text{-}ô$ with a downstepped <HL> on the ultimate syllable, but this is not easily distinguished from *pòŋ* $\hat{s}ú\text{-}b\text{-}ô$.

3FullSg *ʔáŋgá* and **3FullPl** *ñjéy* end in <HL>-toned syllables. As proclitics, they are generally pronounced with final H-tone, since their final L-toned element readily delinks, to be realized as downstep on a following H-tone. In combinations that include audible downstep, e.g. *ʔáŋgá* *háns-ò* ‘his/her (own) dog’, the pitch drop is rather abrupt, making the distinction between the H and L tones on *háns-ò* ‘difficult to hear. However, in this case careful listening does reveal a tonal difference, especially when phrased with another following morpheme or word.

Although the 3Pl, 3FullSg, and 3FullPl proclitics induce tonal changes on the possessed noun, these changes are phonologically regular and do not point to any tonomorphological processes. All of these combinations use the same PossSg form seen more clearly in the 3Sg possessor combination.

4.2.1.6 First/second person plural possessors of singular alienable nouns

The 1Sg possessor form has been described in detail above. The **1Pl possessor form** is based on the 1Sg form. The data in (154) show surface tone sequences under the transcriptions, revealing the up-and-down rhythm due to the Tonal Rhythm rule, much more obvious in the 1Pl than in the 1Sg form

(154) First person singular and plural alienable possessor

1Sg possessor	1Pl possessor	gloss
a. <i>sùb-é</i> L.<HL>	<i>sùb-éy-ndiy-à:</i> L.H.L.<HL>	‘grass’
b. <i>háns-è</i> H.L	<i>háns-èy-ndiy-à:</i> H.L.H.L	‘dog’
c. <i>ʔálf-è:</i> H.L	<i>ʔálf-èy-ndiy-à:</i> H.L.H.L	‘marabout’

First, the 1Sg *-e* (or *-è:*) is extended as *-ey-*, while preserving the input tones. Since the noun is not plural, there is no reason to interpret this *-ey-* as the definite plural nominal suffix of the same segmental form. Rather, *-ey-* here must be taken as an allomorph of the 1Sg suffix, as in inalienably possessed nouns like *bà:b-èy + H* ‘my father’. This is followed by a further suffix complex *-ndiy-a:*, which contains a 1Pl suffix *-ndi* (as in inalienably possessed *bà:b-èy-ndi + H* ‘our father’), plus a functionally obscure ending that resembles final/definite suffix allomorph *-à: + H*. Tonal Rhythm takes care of the tones, and we are done with the derivation. Since ‘grass’ has a L-toned presuffixal syllable while ‘dog’ and ‘marabout’ have H-toned presuffixal syllables, all of the suffixal tones for ‘grass’ differ from those on the same suffixes in the other two.

The **2Pl possessor** form is likewise built on the 2Sg (155).

(155) Second person singular and plural alienable possessor

2Sg possessor	2Pl possessor	gloss
a. <i>sùb-ó-nòŋ</i> L.H.L	<i>sùb-ó-ndòŋ</i> L.H.L	‘grass’
b. <i>háns-ò-nôŋ</i> H.L.<HL>	<i>háns-ò-ndôŋ</i> H.L.<HL>	‘dog’
c. <i>ʔálf-à:-nôŋ</i> H.L.<HL>	<i>ʔálf-à:-ndôŋ</i> H.L.<HL>	‘marabout’

If we compare the 2Sg and 2Pl forms, it appears synchronically that the 2Pl inserts a *d* between the *n* and *o* of the *-nôŋ* suffix. In general, 1Pl *-ndíy-à:* and 2Pl *-ndôŋ* are obscure synchronically. Etymologically, they are rather chewed-up contractions of sequences including proto-forms for the current independent pronouns 1Pl *yérî* and 2Pl *wàràŋ*, respectively (with **r* becoming *d*).

4.2.1.7 Alienably possessed plural nouns (2nd/3rd person possessor)

The data in preceding sections have all involved singular possessed nouns and therefore the PossSg form of the noun with suffix *-o ~ -à:*. I have shown that the PossSg in alienable possession is a tonal variant of the corresponding unpossessed final/definite singular stem, with suffix *-o + H ~ -à: + H*.

In unpossessed nouns, singular *-o + H ~ -à: + H* is paired with definite plural *-ey + H*. The two suffixes are closely related, occurring after the same form of any given noun stem. Just as the PossSg is a tonal variant of the (unpossessed) final/definite singular, the **PossPl** with suffix *-ey* is a tonal variant of the (unpossessed) definite plural *-ey + H*. However, first person possessor combinations are not based on the PossPl noun. For these combinations, e.g. ‘my dogs’, see the following section (§4.2.1.8).

For third person possessor, representative forms are in (156). The possessed forms of singular ‘dog’ and ‘grass’ are repeated from preceding sections to bring out the parallels with possessed forms of plural ‘dogs’ and ‘grasses’.

(156) Third person alienable possessor of singular and plural nouns

	‘dog’	‘dogs’	‘grass’	‘grasses’
Fin/Def	<i>háns-ó + H</i>	<i>háns-éy + H</i>	<i>sùb-ò + H</i>	<i>sùb-èy + H</i>
possessor				
3Sg	<i>à háns-ò</i>	<i>à háns-èy</i>	<i>à' sùb-ò</i>	<i>à' sùb-èy</i>
3Pl	<i>nòŋ háns-ò</i>	<i>nòŋ háns-èy</i>	<i>nòŋ ʔsù'b-ò</i>	<i>nòŋ ʔsù'b-èy</i>
3FullSg	<i>ʔáŋgá 'háns-ò</i>	<i>ʔáŋgá 'háns-èy</i>	<i>ʔáŋgá sùb-ò</i>	<i>ʔáŋgá sùb-èy</i>
3FullPl	<i>̀njéy 'háns-ò</i>	<i>̀njéy 'háns-èy</i>	<i>̀njéy sùb-ò</i>	<i>̀njéy sùb-èy</i>

The singular and plural possessed forms of the nouns have exactly the same tones, reflecting Tonal Rhythm.

For second person possessor, PossSg *-o-* is again replaced by PossPl *-ey-* (157). The second person possessor suffixes, 2Sg *-noŋ* and 2Pl *-ndòŋ*, have the same forms as with singular possessed nouns. The tones are also the same as for singular nouns, with the up-and-down rhythm due to Tonal Rhythm.

(157) Second person alienable possessor of singular and plural nouns

	‘dog’	‘dogs’	‘grass’	‘grasses’
FinDef	<i>háns-ó + H</i> H.H	<i>háns-éy + H</i> H.H	<i>sùb-ò + H</i> L.L	<i>sùb-èy + H</i> L.L
possessor				
2Sg	<i>háns-ò-nòŋ</i> H.L.<HL>	<i>háns-èy-nòŋ</i> H.L.<HL>	<i>sùb-ò-nòŋ</i> L.H.L	<i>sùb-èy-nòŋ</i> L.H.L
2Pl	<i>háns-ò-ndòŋ</i> H.L.<HL>	<i>háns-èy-ndòŋ</i> H.L.<HL>	<i>sùb-ò-ndòŋ</i> L.H.L	<i>sùb-èy-ndòŋ</i> L.H.L

4.2.1.8 Alienably possessed plural nouns (first person possessor)

The simple substitution of *-ey-* for *-o-* in the slot following the noun stem would not work smoothly for first person possessors of plural nouns. Recall that the basic 1Sg possessor morpheme is *-e*, and that it has an allomorph *-ey-* in (alienable) 1Pl possessor *-ey-ndiy-a:* and in inalienably possessed nouns like *bà:b-èy + H* ‘my father’. This *-ey-* is homophonous with the nominal plural ending *-ey(-)* used in second and third person possessor forms of plural nouns. Therefore to base the alienably possessed form for plural nouns with first person possessor (e.g. ‘my dogs’) on a noun stem plus an inner suffix *-ey-* would be asking for trouble. To avoid this, HS has opportunistically appropriated another morphological devices to distinguish singular from plural possessed nouns for 1Sg possessor.

This combination ('my dogs') is in fact based on its singular counterpart ('my dog'), plus what is elsewhere the indefinite plural morpheme *-jòŋ + H*. That is, instead of 'dog-Pl-my' we get 'dog-my-Pl'. Since the 1Sg possessor ending is *-e* rather than *-ey* in this context, there is no danger of confusion with definite plural *-ey*. Indefinite plural *-jòŋ + H* is excluded from the domain of Tonal Rhythm. For example, *háns-è-jòŋ + H* 'my dogs' consists of *háns-è* 'my dog' (which is subject to the rhythmic rule) plus atonal *-jòŋ + H*, which (here as elsewhere) gets its tone by spreading from the preceding syllable rather than from a tonal dissimilation to that syllable.

We have seen that the combination of 1Pl possessor for singular noun has the form NOUN-1Sg-1Pl, as in *háns-èy-ndíy-à:* 'our dog'. To make the noun plural, the final *-a:* is changed to its plural counterpart *-ey*, hence *háns-èy-ndíy-èy* 'our dogs'. This mimics, and is presumably modeled on, the opposition of final/definite singular *-à: + H* and definite plural *-èy + H* for *a*-final unpossessed noun stems (§4.1.3.2). Tonal Rhythm applies to *-èy-ndíy-èy* as to *-èy-ndíy-à:*. Examples with both singular and plural nouns, possessed by 1Sg and 1Pl, are in (158).

(158) First person alienable possessor of singular and plural nouns

poss.	'dog'	'dogs'	'grass'	'grasses'
	final/definite forms			
	<i>háns-ó + H</i>	<i>háns-éy + H</i>	<i>sùb-ò + H</i>	<i>sùb-èy + H</i>
	H.H	H.H	L.L	L.L
1Sg	<i>háns-è</i>	<i>háns-è-jòŋ + H</i>	<i>sùb-ê</i>	<i>sùb-é-jòŋ + H</i>
	H.L	H.L.L	L.<HL>	L.H.L
1Pl	<i>háns-èy-ndíy-à:</i>		<i>sùb-éy-ndíy-â:</i>	
		<i>háns-èy-ndíy-èy</i>		<i>sùb-éy-ndíy-èy</i>
	H.L.H.L	H.L.H.L	L.H.L.<HL>	L.H.L.<HL>

4.2.2 Inalienable possession

Most paronyms (body-part terms) and kin terms have inalienable morphology, as do a few other relational nouns. Inalienable nouns are usually possessed, but (in spite of the label) they also have **unpossessed forms**, used in contexts like in 'I don't have a {nephew/foot}'. The form with suffix *-o + H* or *-a: + H*, which for alienable nouns functions as final/definite singular, functions primarily as the **3Sg possessor form** for inalienables. For example, forms that should mean 'the father' and 'the nose' actually mean 'his/her father' and 'his/her nose'. Other third person possessors (3Pl, 3FullSg, 3FullPl, nonpronominal NP) require a tonally distinct version of the same suffix, without the floating H. The 1st/2nd person possessor suffixes resemble, but in most cases are not identical to, those used for alienable possession.

Inalienably possessed nouns are not systematically subject to Tonal Rhythm. Most of the forms therefore lack the rhythmic up-and-down of alienables, and they do not prohibit fully {H}-toned or {L}-toned words. However, combinations involving plural inalienably possessed noun and 1Pl, 2Sg, or 2Pl possessor have “alienable” form and do obey Tonal Rhythm.

In §4.2.2.1 the inventory of inalienables is given. The presentation and analysis of the paradigms begins with §4.2.2.2.

4.2.2.1 Inventory of inalienable nouns

Uncompounded inalienable paronyms denoting physical **body parts** are in (159). The frequency of final *e* in the unpossessed form of bisyllabics is notable; one could consider segmenting it as a morpheme. Also interesting is the preponderance of {L}-toned stems, except among stems with final long *a*:

(159) Inalienable paronyms

gloss	unpossessed	3Sg possessor	cognate
a. bisyllabic with final <i>e</i>			
<i>{LHL}</i> toned in unpossessed form			
‘ear’	<i>hàpê</i>	<i>hàp-ò + H</i>	TSK <i>hàyⁿê</i>
‘belly’	<i>gùndê</i>	<i>gùnd-ò + H</i>	TSK <i>gùndê</i>
<i>{L}</i> toned in unpossessed form			
‘hand’	<i>kàmbè</i>	<i>kàmb-ò + H</i>	TSK <i>kàmbè</i>
‘back’	<i>bàndè</i>	<i>bànd-ò + H</i>	TSK <i>bàndè</i>
‘neck’	<i>jìndè</i>	<i>jìnd-ò + H</i>	TSK <i>gìndè</i>
‘shoulder’	<i>jèsè</i>	<i>jès-ò + H</i>	TSK <i>gèsè</i>
‘heart’	<i>bìnè</i>	<i>bìn-ò + H</i>	TSK <i>bìnè</i>
‘knee’	<i>kàṅjè</i>	<i>kàṅg-ò + H</i>	TSK <i>kàṅgè</i>
‘nose’	<i>nì:nè</i>	<i>nì:n-ò + H</i>	TSK <i>nì:nè</i>
b. bi- or trisyllabic with other vowel			
<i>final short vowel, {H}-toned unpossessed form</i>			
‘hair’	<i>hámbúrí ~ hámbúr-ú</i>	<i>hámbúr-ó + H</i>	TSK <i>hámbírí</i>
<i>final short vowel, {HL}-toned unpossessed form</i>			
‘liver’	<i>tásâ ~ tásê</i>	<i>tás-ó + H</i>	Zarma <i>tásà</i>
<i>final short vowel, {L}-toned unpossessed form</i>			
‘thigh’	<i>màkâ ~ màk-ù</i>	<i>màk-ò + H</i>	TSK <i>mákà</i>
‘bone’	<i>bìrì</i>	<i>bìr-ò + H</i>	TSK <i>bírí</i>
<i>final long á; see (165d) in §4.2.2.2, {H}-toned unpossessed form</i>			
‘hip’	<i>ʔáṅkórá:</i>	<i>à ʔáṅkórá:</i>	TSK <i>háṅkórú</i>
‘flank’	<i>cérá:</i>	<i>à cérá:</i>	TSK <i>kéré</i>
c. bi- or trisyllabic with nonfinal <i>-u</i> , occasional Fin/Def Sg <i>-o + H</i>			
<i>bisyllabic, {L}-toned unpossessed form</i>			

‘horn’	<i>hìl-ù, -ò + H</i>	<i>hìl-ò + H</i>	TSK <i>hìlí</i>
‘lung’	<i>kùmb-ù, -ò + H</i>	<i>kùmb-ò + H</i>	TSK <i>kùmpú</i>
‘penis’	<i>bènd-ù, -ò + H</i>	<i>bènd-ò + H</i>	TSK <i>béndè</i>
‘testicles’	<i>mà:m-ù, -ò + H</i>	<i>mà:m-ò + H</i>	TSK <i>mà:mè</i>
‘vagina’	<i>bùt-ù, -ò + H</i>	<i>bùt-ò + H</i>	TSK <i>bùtè</i>
‘skin’	<i>kùr-ù ~ kùr, -ò + H</i>	<i>kùr-ò + H</i>	TSK <i>kùrù</i>
<i>trisyllabic, {H}-toned unpossessed form</i>			
‘nape’	<i>kóŋ-kónd-ú, -ò + H</i>	<i>kóŋ-kónd-ó + H</i>	TSK <i>kǒŋŋè</i>
<i>trisyllabic, {LHL}-toned unpossessed form</i>			
‘jaw’	<i>gà-gáb-ù, -ò + H</i>	<i>gà-gáb-ò + H</i>	
<i>trisyllabic, {L}-toned unpossessed form</i>			
‘tail’	<i>?ànzùf-ù, -ò + H</i>	<i>?ànzùf-ò + H</i>	
d. C-final			
<i>{L}-toned unpossessed form</i>			
‘head’	<i>bòŋ</i>	<i>bùwⁿ-ò + H</i> <i>~ bùŋ-ò + H</i>	TSK <i>bòŋ</i>
<i>{LHL}-toned unpossessed form</i>			
‘buttock’	<i>zèkêr</i>	<i>zèkér-ò + H</i>	
e. Cv			
<i>{HL}-toned unpossessed form</i>			
‘mouth’	<i>mê</i>	<i>míyⁿ-ó + H ~ míŋ-ó + H</i>	TSK <i>míyⁿè</i>
f. Cv: with mid-height vowel (for the alternations see §3.7.1.5)			
<i>{L}-toned unpossessed form</i>			
‘foot’	<i>cè:</i>	<i>cìy-ò + H</i>	TSK <i>kè:</i>
‘tooth’	<i>hè:ⁿ</i>	<i>hìyⁿ-ò + H ~ hìŋ-ò + H</i>	TSK <i>hìyⁿè</i>
‘eye’	<i>mò:</i>	<i>mùwⁿ-ò + H ~ mùŋ-ò + H</i>	TSK <i>mò:</i>
g. final long á:, {H}-toned unpossessed form			
‘body’	<i>gá:</i>	<i>à gá: (§4.2.2.4)</i>	TSK <i>gá:</i>

Some of these nouns can shift between alienable and inalienable, with full paradigms of each type (including distinct 1st/2nd person possessor forms), depending on nuances of meaning (think of the senses of ‘my horn’). Other nouns, notably those with final *a:*, have defective inalienable paradigms, whereby 1st/2nd person possessors are expressed with inalienable morphology, while third person possessors are expressed by morphologically alienable forms. This suggests that HS speakers have had difficulty adding *-o + H* to such stems, probably because the long final *a:* already looks like a 3Sg possessor suffix.

bòy-ò + H ‘(finger-/toe-)nail’ is recorded only with alienable morphology: *bòy-ê* ‘my nail’.

Inalienable **kin/relationship terms** are in (160). Even more than with paronyms, the frequency of final *e* in unpossessed bisyllabic stems is striking. There are, however, no strong preferences for particular tone melodies, except that stem-wide {H} is not represented.

(160) Inalienable kin and relationship terms

gloss		unpossessed	3Sg possessor	cognate
a. bisyllabic with final <i>e</i>				
<i>three kin terms that have 3PossSg -u (bà:b-ù, bà:s-ù, kà:g-ù)</i>				
‘father’	<i>bà:bè</i>	<i>bà:b-ò + H</i>	TSK	<i>bèbè</i>
‘(cross-)cousin’	<i>bà:sè</i>	<i>bà:s-ò + H</i>	TSK	<i>bà:sèy</i>
‘grandparent’	<i>kà:jè</i>	<i>kà:g-ò + H</i>	TSK	<i>kà:</i>
<i>senior/junior sibling terms, cf. bè:rì ‘big’, cèynà ‘a little while’</i>				
‘elder sibling’	<i>bé:rê</i>	<i>bé:r-ó + H</i>	TSK	<i>bé:rê</i>
‘junior sibling’	<i>céynê</i>	<i>céyn-ó + H</i>	TSK	<i>káynê</i>
<i>sibling terms with ‘man’/‘woman’ plus -mè</i>				
‘woman’s brother’	<i>hàr-mè</i>	<i>hàr-m-ò + H</i>	TSK	<i>hàrmè</i>
‘man’s sister’	<i>wòy-mè</i>	<i>wòy-m-ò + H</i>	TSK	<i>wòymè</i>
{HL}/{L} tone class (§4.1.2.3)				
‘friend’	<i>cèrê</i>	<i>cèr-ò + H</i>	TSK	<i>kèré</i>
<i>other</i>				
‘maternal uncle’	<i>hásê</i>	<i>hás-ó + H</i>	TSK	<i>hásêy</i>
‘paternal aunt’	<i>hàwê</i>	<i>hàw-ò + H</i>	TSK	<i>hàwî</i>
‘husband’	<i>kúrjê</i>	<i>kúrj-ó + H</i>	TSK	<i>kúrjê</i>
‘wife’	<i>jàndè</i>	<i>jànd-ò + H</i>	TSK	<i>wàndé</i>
	~ <i>wàndè</i>	~ <i>wànd-ò + H</i>		
b. trisyllabic with final <i>e</i>				
‘affine’	<i>?ánzúré</i>	<i>?ánzúr-ó + H</i>	TSK	<i>hàŋgírêy</i>
c. Cv				
‘mother’	<i>jâ</i>	<i>jó: + H ~ jów-ó + H</i>		
	[different forms as cpd final, §4.8.5]		TSK	<i>y^aâ:</i>

For the defective noun *môy* ‘namesake, person with the same name’, see §4.2.3.1.

?izê ‘child’ (kin and non-kin senses, irregular tones and vowel-length), *túbê* ‘nephew, niece’, and *há:mê* ‘grandchild’ are recorded only with alienable possessors, except that *?izê* is usually treated as inalienable with third person possessor (*?íz-ó: + H* ‘his/her child’). Interestingly, these three kin categories are all in descending generations. 1Sg possessor forms are *?íz-è:* ‘my child’, *túb-è* ‘my nephew/niece’, and *há:m-è* ‘my grandchild’.

Among non-kin relationship terms, only *cèrê* ‘friend’ is inalienable (160a). A near-synonym *bà:-k-ò + H* ‘friend’ is alienable (*bà:-k-ê* ‘my friend’). So is the antonym *?íbé-rê* ‘enemy’ (*?íbé-r-è* ‘my’). So are the various compounds ending in *-sìnè*

(*-kasine) denoting various relationships: *hàr-sìnè* ‘(man’s) rival in love’ (*hàr-sìn-ê* ‘my’), *wòy-sìnè* ‘(woman’s) co-wife’, *hàn-sìnè* ‘comrade, colleague’ (< *hàngà* ‘follow, hang out with’). The nonfinal form of *-sìnè* is *-sîn*.

A few other nouns are, or can be, inalienable (161).

(161) Other inalienables

gloss	unpossessed	3Sg possessor	cognate
a. nonphysical “paronyms”			
<i>long a:</i>			
‘name’	<i>mâ:</i>	<i>à mâ:</i>	TSK <i>mâ:</i>
‘share, portion’	<i>bâ:</i>	<i>à bâ: +H</i>	TSK <i>bâ:</i>
<i>other</i>			
‘shadow, shade’	<i>bì:</i>	<i>bìy-ò +H</i>	TSK <i>bì:</i>
‘soul’	<i>hùndê</i>	<i>hùnd-ò +H</i>	TSK <i>hùndî</i>
‘mind’	<i>lákkaál</i>	<i>lákkaál-ò +H</i>	(< Arabic)
b. places and constructions			
‘(one’s) home’	<i>hû</i>	<i>à hû</i>	TSK <i>hû:</i>
‘(one’s) village’	<i>kòyrà +H</i>	<i>à kòyrâ</i>	TSK <i>kóyré</i>

‘Shadow, shade’ can be alienable or inalienable, as the double gloss suggests. ‘Home’ is a special inalienable use of the otherwise alienable noun *húw-ó +H* ‘house’. *kòyrà +H* ‘village’ can likewise be alienable (suggesting ownership) or inalienable (implying residence).

An instructive case is the alienable noun ‘place’ with nonfinal *dêy* ~ *dôy*, final/definite singular *dúw-ó +H* ‘place’. The corresponding inalienable form is *dô*, which often functions as a postposition ‘in the presence of, chez’ (§5.9.6). Postpositional paradigms are of the inalienable type for 1st/2nd persons (see the following section). Compare alienable *dúw-è* ‘my place’ with postposition *dúw-êy* ‘in my presence, chez moi’.

4.2.2.2 First and second person inalienable possessor

1st/2nd person inalienable possessor suffixes are morphologically identical to endings found with pronominally inflected **postpositions** (§5.9). Underlying L-tones can be posited for several of the pronominal morphemes, though they are subject to modification by regular tonal rules. The forms in (162) that are preceded by the symbol Ω (not an exotic click!) are **identical to corresponding alienable** possessor forms, and get their tones by Tonal Rhythm. Plural *-noŋ +H* is atonal but always follows a L-tone in possessed forms and therefore appears as *-noŋ +H* in these paradigms.

(162) First/second person inalienable possessors

possessor	suffix (Sg noun)	suffix (Pl noun)
a. First person		
1Sg	-èy + H	-èy-nòŋ + H
1Pl	-èy-ndì + H	Ω -ey-ndiy-ey
b. Second person		
2Sg	-àŋ + H	Ω -ey-noŋ
2Pl	-àn-dòŋ + H	Ω -ey-ndoŋ
	(< /-àŋ-ndòŋ + H/)	

In earlier versions of this grammar, and in Heath (1911), I did not recognize the floating H after the specifically inalienable 1st/2nd person suffixes in (162). 1Sg -èy and 2Sg -àŋ themselves can be realized with H (rarely), L, or <HL> tone reflecting tonal interactions with the preceding stem. I have heard floating-H effects on following words when these suffixes are H- or L-toned but not when they are <HL>-toned. Recently elicited examples follow. Future *nàm + H* has its tone raised due to a preceding floating tone in (163a-b) after L-toned possessor suffix, as does XImpf *bò:* in (163c) after H-toned possessor suffix (rare for 1Sg/2Sg inalienable possessor). However, these morphemes remain L-toned in (163d-e) after a <HL>-toned possessor suffix whose L-tone is delinked. For the unusual tones of *ŋànd-àŋ* ~ *wànd-àŋ* ‘your wife’ (163d) and *gùnd-èy* ‘my belly’ (163e) see §4.2.2.4 below.

- (163) a. *kà:g-àŋ* [↑]*nám* [‘][↑]*nàŋ* *kárú*
 /kà:g-àŋ + H *nàm + H* *nàŋ* *kárú/*
 grandfather-2SgP Fut 2SgO hit
 ‘Your grandparent will hit you-Sg.’
- b. *kà:g-èy* [↑]*nám* [‘][↑]*nàŋ* *kárú*
 /kà:g-èy + H *nàm + H* *nàŋ* *kárú/*
 grandfather-1SgP Fut 2SgO hit
 ‘My grandparent will hit you-Sg.’
- c. *gá:-y* [↑]*bò:* *zápéy*
 /gá:-y + H *bò: + H* *zápéy/*
 body-1SgP XImpf.Infin hurt
 ‘My body hurts.’
- d. *ŋànd-àŋ* *nàm* [↑]*nàŋ* [‘]*kárú*
 /ŋànd-àŋ *nàm + H* *nàŋ* *kárú/*
 wife-1SgP Fut 2SgO hit
 ‘My wife will hit you-Sg.’

e.	<i>gùnd-éy</i>	<i>bò:</i>	<i>záńéy</i>
	/gùnd-éy	bò: + H	záńéy/
	belly-1SgP	XImpf.Infin	hurt
	‘My belly hurts.’		

For further discussion of floating H see §3.9.1.5.

All of the first person forms begin with $-èy + H$, which resembles its etymological source, the 1Sg pronoun $?ây$. The 1Pl adds $-ndì$ to this, as in the alienable paradigm.

When the possessed noun is plural, 1Sg $-èy-$ simply adds indefinite plural $-noŋ + H$, which is structurally parallel to the corresponding alienable form $-e-noŋ + H$. 1Pl $-èy-ndì + H$ adds what looks like the definite plural $-ey + H$ (minus the latter’s floating H) to produce $-ey-ndiy-ey$. The latter is identical to the corresponding alienable form, which however is more clearly delineated structurally by its opposition to $-ey-ndiy-a:$ for singular possessed noun.

The second person forms for singular nouns have a similar structure, with $-àŋ + H$ as the foundational morpheme. For 2Pl, $-dòŋ$ is added. The corresponding forms for plural possessed nouns begin with $-ey-$ (compare definite plural $-ey + H$) directly to the noun, followed by 2Sg and 2Pl endings. These plural forms are shared with the alienable paradigm.

Since all 1st/2nd person inalienable suffixes (and suffix complexes) begin with vowels, Prevocalic V-Deletion applies in the usual case where the stem ends in a vowel. In most cases, the stem-final vowel (even long $a:$) is deleted, so the surface forms begin with $-èy$ or $-àŋ$ following the final consonant of the stem (164b-c). However, monosyllabic $Ca:$ nouns preserve their vowel, so the vowel of $-èy$ or $-àŋ$ is deleted; this is clearest in the case of $-èy$ (164d); see VV-Fusion within words (§3.7.1.6). The only short-voweled Cv stem eligible for contraction is $ɲâ$ ‘mother’. It combines with $-èy$ and $-àŋ$ to form a long $a:$ (164d). There are no other $Cv:$ stems (e.g. no $Ce:$ or $Cu:$ stems) that contract with suffixal vowels, so we cannot flesh out the full set of outputs for vowel-sequence contraction involving these suffixes.

(164) Vocalic contraction patterns with 1Sg and 2Sg inalienable suffixes

gloss	unpossessed	1Sg	2Sg
a. C-final noun, no contraction			
‘mind’	<i>lákkâl</i>	<i>lákkâl-èy + H</i>	<i>lákkâl-àŋ + H</i>
b. nonmonosyllabic, final short V undergoes Prevocalic V-Deletion			
‘father’	<i>bà:bè</i>	<i>bà:b-èy + H</i>	<i>bà:b-àŋ + H</i>
‘bone’	<i>bìrì</i> (nonfinal)	<i>bìr-èy + H</i>	<i>bìr-àŋ + H</i>
c. nonmonosyllabic, final $a:$ undergoes Prevocalic V-Deletion			
‘hip’	<i>?áŋkórá:</i>	<i>?áŋkór-èy</i>	<i>?áŋkór-àŋ</i>
d. $Ca:$, suffixal vowel undergoes Postvocalic V-Deletion			
‘name’	<i>mâ:</i>	<i>mâ:-ỵ</i>	<i>mâ:-ŋ̣</i>

‘body’	<i>gá:</i>	<i>gá:-ý + H</i>	<i>gá:-ŋ + H</i>
‘share’	<i>bà:</i>	<i>bà:-ỳ + H</i>	<i>bà:-ŋ + H</i>

- e. *Ca*, contracts with suffixal vowel as long *a*: by VV-Fusion
- | | | | |
|----------|-----------|--------------|--------------|
| ‘mother’ | <i>ɲâ</i> | <i>ɲá:-ỳ</i> | <i>ɲá:-ŋ</i> |
|----------|-----------|--------------|--------------|

Tonal patterns show that the 1st/2nd person inalienable possessor forms are **derived directly from the unpossessed stem**, rather than from any third person inalienable possessor form. Consider the partial paradigms in (165). “3PossSg” is the form of the singular inalienable noun when the possessor is 3Pl, 3FullSg, 3FullPl, or a nonpronominal NP.

(165) Tones of singular inalienable possessors of singular nouns

gloss	unposs.	3PossSg	3Sg	1Sg	2Sg
a. unpossessed has ...H.<HL>					
‘uncle’	<i>hásê</i>	<i>hás-ò</i>	<i>hás-ó + H</i>	<i>hás-êy</i>	<i>hás-âŋ</i>
‘liver’	<i>tásâ</i>	<i>tás-ò</i>	<i>tás-ó + H</i>	<i>tás-êy</i>	<i>tás-âŋ</i>
	H.<HL>	H.L	H.H	H.<HL>	H.<HL>
b. unpossessed has ...L.<HL>					
‘soul’	<i>hùndê</i>	<i>hùnd-ò</i>	<i>hùnd-ò + H</i>	<i>hùnd-êy</i>	<i>hùnd-âŋ</i>
‘aunt’	<i>hàwê</i>	<i>hàw-ò</i>	<i>hàw-ò + H</i>	<i>hàw-êy</i>	<i>hàw-âŋ</i>
	L.<HL>	L.<HL>	L.L	L.<HL>	L.<HL>
c. unpossessed has ...L.L (for irregular stems see §4.2.2.3 below)					
i. productive pattern					
‘nose’	<i>nì:nè</i>	<i>nì:n-ò</i>	<i>nì:n-ò + H</i>	<i>nì:n-èy + H</i>	<i>nì:n-àŋ + H</i>
	L.L	L.<HL>	L.L	L.L	L.L
ii. 3 kin terms with 3PossSg -u					
‘cousin’	<i>bà:sè</i>	<i>bà:s-ù</i>	<i>bà:s-ò + H</i>	<i>bà:s-èy + H</i>	<i>bà:s-àŋ + H</i>
	L.L	L.L	L.L	L.L	L.L
d. unpossessed (or nonfinal) is {H}-toned (all known examples)					
unpossessed with nonfinal -ú					
‘hair’	<i>hámbúr-ú</i> (NF)	<i>hámbúr-ò</i>	<i>hámbúr-ó + H</i>	<i>hámbúr-êy</i>	<i>hámbúr-âŋ</i>
nonmonosyllabic with final long a:					
‘hip’	<i>ʔáŋkórá:</i>	<i>ʔáŋkórà: à</i>	<i>ʔáŋkórá:</i>	<i>ʔáŋkór-êy</i>	<i>ʔáŋkór-âŋ</i>
‘flank’	<i>cérá:</i>	<i>cérà: à</i>	<i>cérá:</i>	<i>cér-êy</i>	<i>cér-âŋ</i>
	...H.H	...H.L	...H.H	...H.<HL>	...H.<HL>
e. <i>Ca</i> :					
‘body’	<i>gá:</i>	<i>gá:</i>	<i>à gá:</i>	<i>gá:-y + H</i>	<i>gá:-ŋ + H</i>
‘name’	<i>mâ:</i>	<i>mâ:</i>	<i>à mâ:</i>	<i>mâ:-y</i>	<i>mâ:-ŋ</i>
‘share’	<i>bà:</i>	<i>bà:</i>	<i>à* bà:</i>	<i>bà:-y + H</i>	<i>bà:-ŋ + H</i>

There is no systematic correlation between the tones of 1Sg/2Sg and those of 3Sg inalienable possessors. They differ tonally in (165a,b,d), converging only in (165c,e). There is likewise only an imperfect correlation of tones of 1Sg/2Sg with those of the 3PossSg form, which are subject to Tonal Rhythm, except for the *-ù* 3PossSg forms in (165c.ii) and the monosyllabics in (165e). So there is no evidence that 1Sg/2Sg are directly based on any third person possessor form.

The tones of the 1Sg and 2Sg forms can be correctly derived by attributing a **final L-tone** to the suffix, and adding this suffix directly to the unpossessed form (for ‘hair’, to the nonfinal form). The L-tone is erased after monosyllabic H-toned *Cá:* (the only example being *gá:* ‘body’). The suffixal L-tone is audible after an otherwise {H}-toned nonmonosyllabic stem, and in a few former *L.H stems (see the following section). The suffixal L-tone is not audible after stems already ending in a L-tone, i.e. {L}, {HL}, and {LHL}. There are only a handful of nonmonosyllabic {H}-toned inalienable nouns; all are shown in (165d).

We can therefore specify the simple suffixes tonally as 1Sg *-èy + H* and 2Sg *-àŋ + H*. When contracted with a H- or <HL>-toned stem-final vowel, they surface as *-èy* and *-àŋ* (without floating H). The L-tone is dropped after the only monosyllabic H-toned inalienable stem, *gá:* ‘body’ (*gá:-ý + H*, *gá:-ŋ + H*).

1Pl *-ndì + H* and 2Pl *-ndòŋ + H* are also L-toned, but when added to a plural possessed noun their tones are overridden by Tonal Rhythm. Further examples involving 1Pl *-ndì* are in (166). Note especially that the forms for plural nouns (‘our fathers/aunts/uncles/hairs’) show rhythmical tone alternations that are not found with the singular nouns.

- (166) gloss 1Pl inalienable possessor (‘our ...’)
- a. {L}-toned *bà:bè* ‘father’
 ‘our father’ *bà:b-èy-ndì + H* (cf. *bà:b-èy* ‘my father’)
 ‘our fathers’ *bà:b-éy-ndiy-èy*
- b. {LHL}-toned *hàwê* ‘(paternal) aunt’
 ‘our aunt’ *hàw-éy-ndì + H* (cf. *hàw-èy* ‘my aunt’)
 ‘our aunts’ *hàw-éy-ndiy-èy*
- c. {HL}-toned *hásê* ‘(maternal) uncle’
 ‘our uncle’ *hás-éy-ndì + H* (cf. *hás-èy* ‘my uncle’)
 ‘our uncles’ *hás-èy-ndí-y-èy*
- d. {H}-toned *hámbúr-ú* (nonfinal form) ‘hair’
 ‘our hair’ *hámbúr-éy-ndì + H* (cf. *hámbúr-èy* ‘my hair’)
 ‘our hairs’ *hámbúr-èy-ndí-y-èy*

Further examples with 2Pl *-ndòŋ* after singular or plural noun, and with 2Sg *-nòŋ* after plural noun, are in (167). Tonal Rhythm applies to the plural noun forms with either 2Sg or 2Pl possessor.

- (167) gloss 2Pl inalienable possessor ('your-Pl ...')
- a. {L}-toned *bà:bè* 'father'
 'your-Pl father' *bà:b-àn-dòŋ + H* (*bà:b-àŋ* 'your-Sg father')
subject to Tonal Rhythm
 'your-Sg fathers' *bà:b-éy-nòŋ*
 'your-Pl fathers' *bà:b-éy-ndòŋ*
- b. {LHL}-toned *hàwê* '(paternal) aunt'
 'your-Pl aunt' *hàw-án-dòŋ + H* (*hàw-âŋ* 'your-Sg aunt')
subject to Tonal Rhythm
 'your-Sg aunts' *hàw-éy-nòŋ*
 'your-Pl aunts' *hàw-éy-ndòŋ*
- c. {HL}-toned *hásê* '(maternal) uncle'
 'your-Pl uncle' *hás-án-dòŋ + H* (*hás-âŋ* 'your-Sg uncle')
subject to Tonal Rhythm
 'your-Sg uncles' *hás-èy-nôŋ*
 'your-Pl uncles' *hás-èy-ndôŋ*
- d. {H}-toned *hámbúr-ú* (nonfinal form) 'hair'
 'your-Pl hair' *hámbúr-án-dòŋ + H* (*hámbúr-âŋ* 'your-Sg hair')
subject to Tonal Rhythm
 'your-Sg hairs' *hámbúr-èy-nôŋ*
 'your-Pl hairs' *hámbúr-èy-ndôŋ*

Examples showing the effects of the floating H after *-ndì* and *-ndòŋ* are (168a-b). The verb is *fà:bà* 'help'. For the reflexive forms with 'head' see §10.2.1.

- (168) a. *yó = íŋ* *bùŋ-èy-ndì* *↑fá:bà*
 1PIS=Tr head-1SgP-1PIP help
 'We helped ourselves.'
- b. *wó = íŋ* *bùwⁿ-àn-dòŋ* *↑fá:bà*
 1PIS=Tr head-2SgP-2PIP help
 'You helped yourselves.'

4.2.2.3 1st/2nd person inalienable possessor with original *L.H stem

There are four known bisyllabic inalienable nouns whose unpossessed forms have a flat {L} melody, but that differ from ordinary {L}-toned stems in showing an extra H-toned element in the second syllable of the 1Sg and 2Sg possessor forms (and others derived from them), which therefore end in L.<HL> sequence instead of L.L. The stems in question, shown in (169a), are inalienables with reconstructible *L.H tone pattern. The regular {LHL}-toned 'belly' and 'friend' (169b) have the same

tones in possessed forms but not in the unpossessed form. The regular {L}-toned ‘nose’ (169c) has the same tones in the unpossessed form and in the 3Sg possessor form, but not in the 1Sg and 2Sg possessor forms.

(169)	gloss	unpossessed	1Sg	2Sg	3Sg
a.	{L} unpossessed but aberrant L.<HL> possessed forms				
	‘wife’	<i>ɲàndè</i>	<i>ɲànd-éy</i>	<i>ɲànd-âɲ</i>	<i>ɲànd-ò + H</i>
		[also <i>wàndè</i> , etc.]			
	‘horn’	<i>hìl-ò + H</i>	<i>hìl-éy</i>	<i>hìl-âɲ</i>	<i>hìl-ò + H</i>
		[nonfinal <i>hìlà ~ hìlì ~ hìl-ù</i>]			
	‘bone’	<i>bìr-ò + H</i>	<i>bìr-éy</i>	<i>bìr-âɲ</i>	<i>bìr-ò + H</i>
	‘lung’	<i>kùmb-ò + H</i>	<i>kùmb-éy</i>	<i>kùmb-âɲ</i>	<i>kùmb-ò + H</i>
b.	regular {LHL} stem				
	‘belly’	<i>gùndé</i>	<i>gùnd-éy</i>	<i>gùnd-âɲ</i>	<i>gùnd-ò + H</i>
	‘friend’	<i>cèrè</i>	<i>cèr-éy</i>	<i>cèr-âɲ</i>	<i>cèr-ò + H</i>
c.	regular {L} stem				
	‘nose’	<i>nì:nè</i>	<i>nì:n-èy + H</i>	<i>nì:n-àɲ + H</i>	<i>nì:n-ò + H</i>

The four tonally irregular stems in (169a) reflect proto-forms with rising {LH} melody: *ɲ^wàndé ‘wife’ (TSK *w^wàndé*, Zarma *wàndé*), *hìl(l)í ‘horn’ (TSK *hìlì*, Zarma *hìllí*), *bìrì ‘bone’ (TSK *bìrì*), and *kùmbú or *kùmpú ‘lung(s)’ (TSK *kùmpú*, riverine Dendi *kùfù*).

Following these stems, suffix complexes that add a further morpheme to the 1Sg or 2Sg possessor morpheme, and that are not subject to Tonal Rhythm, have tones that are unproblematically derived from those of the 1Sg and 2Sg, including the extra second-syllable H-tone. *ɲànd-éy-ɲòɲ + H* (~ *wànd-éy-ɲòɲ + H*) ‘my wives’, i.e. indefinite plural *-ɲòɲ + H* added to *ɲànd-éy* ‘my wife’, is unproblematic phonologically (and, in a Muslim country, socially). More dubious socially, but marginally elicitable, are *ɲànd-éy-ndì + H* ‘our wife’ and *ɲànd-án-dòɲ* ‘your-Pl wife’. The forms subject to Tonal Rhythm override the preexisting suffixal tones, so as we would expect there is no audible trace of the extra H-tone in ‘wife’, e.g. *ɲànd-éy-nòɲ* ‘your-Sg wives’, with the tones determined by the L-tone of the initial stem syllable.

4.2.2.4 Inalienable stems with unsuffixed 3Sg-possessor forms

Certain inalienable nouns do not have the usual inalienable 3Sg form in *-o + H* or *-a: + H*. These nouns have unmistakably inalienable 1st/2nd person suffixes, e.g. 1Sg *-ey*. However, the 3Sg possessor form is 3Sg *à* plus unsuffixed stem. This resembles the 3Sg alienable possessor type, but there is no *-o + H* suffix.

(170)	gloss	unpossessed	1Sg	3Sg
	a. stem ending in long <i>a</i> :			
	<i>monosyllabic</i>			
	‘name’	<i>mâ:</i>	<i>mâ:-y</i>	<i>à mâ:</i>
	‘body’	<i>gá:</i>	<i>gá:-y + H</i>	<i>à gá: + H</i>
	‘share, portion’	<i>bà:</i>	<i>bà:-y + H</i>	<i>à[†] bà:</i>
	<i>nonmonosyllabic</i>			
	‘rib(s)’	<i>cérá:</i>	<i>cér-èy</i>	<i>à cérá: + H</i>
	‘hip’	<i>ʔáŋkórá:</i>	<i>ʔáŋkór-èy</i>	<i>à ʔáŋkórá: + H</i>
	b. other			
	‘home’	<i>hû</i>	<i>húw-éy</i>	<i>à hû</i>
		[contrast alienable Fin/Def Sg <i>húw-ó + H</i> ‘house’]		
	‘village’	<i>kòyrà + H</i>	<i>kòyr-èy + H</i>	<i>à[†] kòyrâ</i>

This is the only attested treatment for inalienable stems with final long *a*: (170a). By contrast, alienable stems ending in long *a*: have suffixed possessed forms with epenthetic semivowel, e.g. *à wá:ʔ-yò* ‘his/her milk’ from *wà:* (§4.2.1.4), *à[†] ʔàddúhá:-y-ò* ‘his/her mid-morning’ from *ʔàddúhá:* (§4.2.1.3).

dà: ‘character, nature (of sb)’ is found in a few expressions but an informant had difficulty producing overtly possessed forms.

The pattern in (170), whereby 1st/2nd person morphemes are suffixes while third person morphemes (including 3Sg) are proclitics, is exactly the same as with postpositions (§5.9).

4.2.2.5 3PossSg (general third person inalienable possessor), singular noun

It is necessary to distinguish a generalized form for third person inalienable possessor, which I label **3PossSg**, from the specifically 3Sg possessor form. 3PossSg is the form found after 3Pl, 3FullSg, and 3FullPl pronominal possessors, and after nonpronominal NP possessors, subject only to normal phonological sandhi. The more divergent 3Sg possessor form is discussed in the following section; one can argue that it is based on the more general 3PossSg form with some morphophonological twists. 3PossSg and its plural counterpart 3PossPl (§4.2.2.6 below) are specifically inalienable, whereas “PossSg” and “PossPl” are labels used in alienable morphology for forms of the possessed noun that are not limited to third person possessors.

A good sample of 3PossSg forms is given in (171), along with the corresponding unpossessed forms. A key initial observation is that all nonmonosyllabic 3PossSg forms are subject to **Tonal Rhythm** (§3.9.4.1). In particular, the suffixal syllable is L-toned if the preceding syllable is H-toned, and <HL>-toned if the preceding syllable is L-toned. The productive types have an *-o* morpheme (171d-e).

(171) 3PossSg (third person inalienable possessor)

gloss	unpossessed	3PossSg
a. final short <i>â</i> (both known examples)		
<i>kin terms</i>		
‘aunt’	<i>hàwê</i>	<i>hàwâ</i>
‘mother’	<i>ɲâ</i>	<i>ɲâ</i>
b. final long <i>a</i> :		
<i>paronyms</i>		
‘hip’	<i>ʔáŋkórá:</i>	<i>ʔáŋkórà:</i>
‘flank’	<i>cérá:</i>	<i>cérà:</i>
‘body’	<i>gá:</i>	<i>gá:</i>
<i>others</i>		
‘name’	<i>mâ:</i>	<i>mâ:</i>
‘share’	<i>bâ:</i>	<i>bâ:</i>
c. 3PossSg with final <i>-ù</i> (all three known examples)		
<i>kin terms</i>		
‘father’	<i>bà:bè</i>	<i>bà:b-ù</i>
‘cousin’	<i>bà:sè</i>	<i>bà:s-ù</i>
‘grandparent’	<i>kà:jè</i>	<i>kà:g-ù</i>
d. 3PossSg with final <i>-ò</i> after H-tone in stem (partial list)		
<i>kin terms</i>		
‘affine’	<i>ʔánzúrê</i>	<i>ʔánzúr-ò</i>
‘elder sib’	<i>bé:rê</i>	<i>bé:r-ò</i>
‘uncle’	<i>hásê</i>	<i>hás-ò</i>
‘husband’	<i>kúrɲê</i>	<i>kúrɲ-ò</i>
<i>paronyms (nonmonosyllabic)</i>		
‘nape’	<i>kóŋ-kónd-ú</i> (NF)	<i>kóŋ-kónd-ò</i>
‘liver’	<i>tásâ</i>	<i>tás-ò</i>
‘jaw’	<i>gà-gáb-ú</i> (NF)	<i>gà-gáb-ò</i>
‘hair’	<i>hám búr-ú</i> (NF)	<i>hám búr-ò</i>
<i>paronyms (monosyllabic unpossessed form)</i>		
‘mouth’	<i>mê</i>	<i>míyⁿ-ò ~ míɲ-ò</i>
e. 3PossSg with final <i>-ò</i> after L-tone in stem (partial list)		
<i>kin terms</i>		
‘brother’	<i>hàr-mè</i>	<i>hàr-m-ò</i>
‘sister’	<i>wòy-mè</i>	<i>wòy-m-ò</i>
‘wife’	<i>ɲàndè</i>	<i>wànd-ò</i>
	[also <i>wàndè</i> , etc.]	
<i>paronyms (with nonmonosyllabic unpossessed form)</i>		
‘ear’	<i>hàɲê</i>	<i>hàɲ-ò</i>
‘belly’	<i>gùndê</i>	<i>gùnd-ò</i>

‘tongue’	<i>dè:nè</i>	<i>dè:n-ô</i>
‘hand’	<i>kàmbè</i>	<i>kàmb-ô</i>
<i>paronyms (with monosyllabic unpossessed form)</i>		
‘shadow’	<i>bì:</i>	<i>bìy-ô</i>
‘tooth’	<i>hè:ⁿ</i>	<i>hìyⁿ-ô ~ hìŋ-ô</i>
‘foot’	<i>cè:</i>	<i>cìy-ô</i>
‘eye’	<i>mò:</i>	<i>mùwⁿ-ô ~ mùŋ-ô</i>
<i>other</i>		
‘soul’	<i>hùndê</i>	<i>hùnd-ô</i>

For the majority type (171d-e), the 3PossSg is formed by adding *-o* and allowing Tonal Rhythm to determine its tone, which therefore appears as *-ò* after H-tone and *-ô* after L-tone. Nouns with monosyllabic unpossessed (and nonfinal) forms, except *ŋâ* ‘mother’, have their usual prevocalic *CvC-* shapes (‘mouth’, ‘shadow’, ‘tooth’, ‘foot’, ‘eye’) before *-o*. Importantly, there is **no floating H-tone** after the 3PossSg form.

A few inalienable nouns do not show the *-o* morpheme, and have an unsuffixed 3PossSg form. Two kin terms with unpossessed forms ending in short *a* are included in this set (171a). ‘(Paternal) aunt’ also has unpossessed form *hàwê*, reflecting the predominance of stem-final *e* in bisyllabic inalienables, and perhaps the specific influence of the quasi-antonym *hásê* ‘(maternal) uncle’. The 3PossSg form is always *hàwâ*.

Also lacking suffix *-o* are the complete set of nonmonosyllabic inalienables ending in long *a*: (171b). The nonmonosyllabic stems (‘hip’, ‘flank’) in (171b) simply apply Tonal Rhythm directly to the unpossessed stem.

The third set of inalienable stems that avoid suffix *-o* are the three kin terms that instead have a suffix *-u* confined to the 3PossSg, versus final *e* in the unpossessed stem. Comparison with KS (e.g. *X baab-oo* ‘X’s father’) shows that this *-u* is etymologically identical to 3PossSg *-o*, but synchronically there is no clear connection in HS.

4.2.2.6 General third person inalienable possessor, plural noun (3PossPl)

When a plural inalienable noun is possessed by a third person (e.g. ‘his/her ears’, ‘their ears’), it is expressed by adding a **3PossPl** suffix which is segmentally identical to the **definite plural** suffix (*-ey + H*) but tonally distinct. Depending on the tone of the presuffixal syllable, Tonal Rhythm combines with 3PossPl *-ey* to produce *-èy* or *-êy*, and there is no following floating H.

For the three *Ca*: inalienables (‘body’, ‘name’, ‘share’), this suffix is separated from the stem by an epenthetic semivowel attributable to Intervocalic *y/w*-Insertion (§3.7.1.9), as illustrated in (172). The stem tone is raised to H if not already H-toned in the 3PossPl, see Presuffixal *Cv*: Tone-Raising (§3.9.3). Therefore, after Tonal Rhythm, the 3PossPl form always has tone pattern H.L for these stems.

(172)	gloss(X)	stem	‘his/her Xs’	‘their Xs’ (with 3FullPl)
	‘body’	<i>gá:</i>	<i>à gá:-y-éy + H</i>	<i>̀njéy ‘gá:-y-èy</i>
	‘name’	<i>mâ:</i>	<i>à mâ:-y-èy + H</i>	<i>̀njéy ‘mâ:-y-èy</i>
	‘share’	<i>bà:</i>	<i>à bá:↑-y-èy + H</i>	<i>̀njéy ‘bá:↑-y-èy</i>

For all other regular inalienable noun stems, i.e. those whose suffixed forms are at least bisyllabic, the plural of the inalienably possessed noun is expressed by replacing the final *-o*, *-a:*, or (for three kin terms) *-u* in the corresponding possessed singular by *-ey*. Tonal Rhythm applies regularly, and there is no floating H. Some examples are in (173).

(173)	gloss(X)	stem	‘his/her Xs’	‘their Xs’ (with 3FullPl)
	a. stems with 3PossSg <i>-o</i>			
	‘belly’	<i>gùndê</i>	<i>gùnd-èy + H</i>	<i>̀njéy gùnd-èy</i>
	‘hand’	<i>kàmbè</i>	<i>kàmb-èy + H</i>	<i>̀njéy kàmb-èy</i>
	‘mother’	<i>ɲâ</i>	<i>ɲáw-éy + H</i>	<i>̀njéy ‘ɲáw-èy</i>
			<i>~ ɲów-éy + H</i>	<i>~ ̀njéy ‘ɲów-èy</i>
	‘uncle’	<i>hásê</i>	<i>hás-éy + H</i>	<i>̀njéy ‘hás-èy</i>
	‘wife’	<i>̀nàndè</i>	<i>̀nànd-èy + H</i>	<i>̀njéy ̀nànd-èy</i>
	‘head’	<i>bòŋ</i>	<i>bùwⁿ-èy + H</i>	<i>̀njéy bùwⁿ-èy</i>
			<i>~ bùŋ-èy + H</i>	<i>~ ̀njéy bùŋⁿ-èy</i>
	b. final long <i>a:</i>			
	‘hip’	<i>ʔáŋkórâ:</i>	<i>ʔáŋkór-éy + H</i>	<i>̀njéy ‘ʔáŋkór-èy</i>
	c. kin terms with singular 3PossSg <i>-ù</i>			
	‘father’	<i>bâ:bè</i>	<i>bâ:b-èy + H</i>	<i>̀njéy bâ:b-èy</i>
	‘cousin’	<i>bâ:sè</i>	<i>bâ:s-èy + H</i>	<i>̀njéy bâ:s-èy</i>

Sample paradigms with 3Pl, 3FullSg, and nonpronominal possessors are in (174). The 3Full proclitic pronouns are *ʔáŋgâ* (3FullSg) and *̀njéy* (3FullPl), which appear before L-initial words (or downstepped H-initial words) as *ʔáŋgâ...* and *̀njéy...* The 3Pl possessor proclitic is *ɲòŋ + H*. Most unpossessed nonpronominal NPs also end in a floating H, e.g. *hâ:r-ò + H* ‘(a/the) man’. The floating H, when present, docks on the left edge of the possessed noun.

(174)		‘aunt’	‘father’	‘uncle’	‘knee’
		<i>hàwê</i>	<i>bâ:bè</i>	<i>hásê</i>	<i>kàŋg-ò + H</i>
	possessor				
	a. singular noun				
	<i>possessor with final <HL> tone, no floating H</i>				
	3FullSg	<i>ʔáŋgâ...</i>	<i>hàwâ</i>	<i>bâ:b-ù</i>	<i>‘hás-ò kàŋg-ò</i>
	3FullPl	<i>̀njéy...</i>	"	"	" "

possessor with floating H

3Pl	<i>jòŋ...</i>	$\hat{\text{h}}\acute{\text{a}}^{\text{w}}\acute{\text{a}}$	$\hat{\text{b}}\acute{\text{a}}:\text{b}-\grave{\text{u}}$	<i>hás-ò</i>	$\hat{\text{k}}\acute{\text{a}}\eta\text{g}-\grave{\text{o}}$
'man's'	<i>hà:r-ò...</i>	"	"	"	"

b. plural noun

possessor with final <HL> tone, no floating H

3FullSg	<i>ʔáŋgá...</i>	<i>hàw-êy</i>	<i>bà:b-êy</i>	<i>hás-èy</i>	<i>kàng-êy</i>
3FullPl	<i>ñjéy...</i>	"	"	"	"

possessor with floating H

3Pl	<i>jòŋ...</i>	$\hat{\text{h}}\acute{\text{a}}^{\text{w}}\text{-êy}$	$\hat{\text{b}}\acute{\text{a}}:\text{b}\text{-êy}$	<i>hás-èy</i>	$\hat{\text{k}}\acute{\text{a}}\eta^{\text{g}}\text{-êy}$
'man's'	<i>hà:r-ò...</i>	"	"	"	"

As with alienables, it is difficult to determine the phonologically correct tone of a bisyllabic 3PossSg or 3PossPl stem that elsewhere appears with L.<HL> tone pattern, when it follows 3Pl *jòŋ + H*. For example, with 3PossSg *hàwâ* 'aunt', I hear *jòŋ* $\hat{\text{h}}\acute{\text{a}}\text{wâ}$ 'their aunt', but theoretically this is *jòŋ* $\hat{\text{h}}\acute{\text{a}}^{\text{w}}\acute{\text{a}}$ with a downstepped <HL> syllable. Because downstep is quite sharp in HS, the phonetic distinction (if any) is subtle.

4.2.2.7 3Sg inalienable possessor, singular and plural noun

In alienable possession, all-purpose PossSg and PossPl stem shapes are used by all third person possessors, including 3Sg possessor with proclitic *à*. These all-purpose forms are also the basis for second and (arguably) first person possessor forms. By contrast, in the inalienable paradigm, there is no connection between third person and 1st/2nd persons, and within third person there is a clear distinction between a dedicated 3Sg possessor form (usually with no proclitic *à*) and the residual 3PossSg and 3PossPl stem forms used with all other third person possessors (full NP, 3Pl, 3FullSg, 3FullPl).

The divergence between the 3Sg possessor form on the one hand and all other third person possessor forms on the other can be interpreted in two ways. One is that the 3Sg possessor form is truly unique within the inalienable paradigm, redeploying the unpossessed final/definite singular form ('the father') as the 3Sg form ('his/her father'). In this view, the residual 3PossSg form is limited to the remaining third person categories (full NP, 3Pl, 3FullSg, 3FullPl).

This analysis makes sense in firstly in that the 3Sg possessor form in fact diverges tonally from the 3PossSg form in other combinations. Second, the 3Sg possessor form often ends in *o*, versus a distinct vowel in the 3PossSg forms. Third, the 3Sg form strikingly omits the usual 3Sg proclitic *à* that is regular in alienable possession, while the remaining forms require an overt possessor.

The alternative analysis is that all third person possessors, including 3Sg, require the 3PossSg form of the stem. In this version, the 3Sg form **adds** a suffix *-o + H*, which contracts with the final vowel of the 3PossSg form in the same way that final/definite *-o + H* contracts with the last vowel of an unpossessed noun stem. The advantage of this analysis would be a simplification in the morphological distribution

of the 3PossSg form, which in this analysis would occur with all third person possessors.

The data in (175) bring out the relationship between the 3PossSg form, the 3Sg possessor form with *-o + H* suffix, and the unpossessed form.

(175) Third person singular inalienable possessor of singular noun

	gloss	3PossSg	3Sg possessor	unpossessed
a.	final ...â (kin)			
		<i>3Sg form {L}-toned from {L}</i>		
	'aunt'	<i>hàwâ</i>	<i>hàw-ò + H</i>	<i>hàwê</i>
		<i>3Sg form {H}-toned from {HL}</i>		
	'mother'	<i>ɲâ</i>	<i>ɲó: + H</i> (* <i>ɲáw-ó</i>)	<i>ɲâ</i>
			[still occasionally <i>ɲów-ó + H</i>]	
b.	final ù (kin)			
		<i>3Sg form {L}-toned from {L}</i>		
	'father'	<i>bà:b-ù</i>	<i>bà:b-ò + H</i>	<i>bà:bê</i>
	'cousin'	<i>bà:s-ù</i>	<i>bà:s-ò + H</i>	<i>bà:sê</i>
	'grandparent'	<i>kà:g-ù</i>	<i>kà:g-ò + H</i>	<i>kà:gê</i>
c.	final -ò (kin)			
		<i>3Sg form {H}-toned from {HL}</i>		
	'affine'	<i>ʔánzúr-ò</i>	<i>ʔánzúr-ó + H</i>	<i>ʔánzúrê</i>
	'elder sib'	<i>bé:r-ò</i>	<i>bé:r-ó + H</i>	<i>bé:rê</i>
	'junior sib'	<i>céyn-ò</i>	<i>céyn-ó + H</i>	<i>céynê</i>
	'uncle'	<i>hás-ò</i>	<i>hás-ó + H</i>	<i>hásê</i>
	'husband'	<i>kúrɲ-ò</i>	<i>kúrɲ-ó + H</i>	<i>kúrɲê</i>
c'.	final -ò (paronyms)			
		<i>3Sg form {H}-toned from {H}</i>		
	'nape'	<i>kóŋ-kónd-ò</i>	<i>kóŋ-kónd-ó + H</i>	<i>kóŋ-kónd-ó + H</i>
		<i>3Sg form {H}-toned from {HL}</i>		
	'liver'	<i>tás-ò</i>	<i>tás-ó + H</i>	<i>tás-ó + H</i> ~ <i>tásâ</i> ~ <i>tásê</i>
		<i>3Sg form {LH(L)}-toned from {LHL}</i>		
	'jaw'	<i>gà-gáb-ò</i>	<i>gà-gáb-ò + H</i>	—
			(3Sg alienable à' <i>gà-gáb-ò</i>)	
c''.	final -ò after monosyllabic stem (paronym)			
		<i>3Sg form {H}-toned from {HL}</i>		
	'mouth'	<i>míyⁿ-ò + H</i>	<i>míyⁿ-ó + H</i>	<i>mê</i>
		~ <i>míɲ-ò + H</i>	~ <i>míɲ-ó + H</i>	

d. final -ô (kin)

3Sg form {L}-toned from {L}

'brother'	<i>hâr-m-ô</i>	<i>hâr-m-ò + H</i>	<i>hâr-mê</i>
'sister'	<i>wòy-m-ô</i>	<i>wòy-m-ò + H</i>	<i>wòy-mê</i>
'wife'	<i>ɲând-ô</i>	<i>ɲând-ò + H</i>	<i>wândê</i>

[also *wând-ô*, etc.]

d'. final -ô (paronyms)

3Sg form {L}-toned from {LHL}

'soul'	<i>hùnd-ô</i>	<i>hùnd-ò + H</i>	<i>hùndê</i>
'ear'	<i>hàɲ-ô</i>	<i>hàɲ-ò + H</i>	<i>hàɲê</i>
'belly'	<i>gùnd-ô</i>	<i>gùnd-ò + H</i>	<i>gùndê</i>

3Sg form {L}-toned from {L}

'tongue'	<i>dè:n-ô</i>	<i>dè:n-ò + H</i>	<i>dè:nê</i>
'hand'	<i>kâmb-ô</i>	<i>kâmb-ò + H</i>	<i>kâmbê</i>
'back'	<i>bând-ô</i>	<i>bând-ò + H</i>	<i>bândê</i>
'neck'	<i>jînd-ô</i>	<i>jînd-ò + H</i>	<i>jîndê</i>
'shoulder'	<i>jès-ô</i>	<i>jès-ò + H</i>	<i>jèsê</i>
'heart'	<i>bîn-ô</i>	<i>bîn-ò + H</i>	<i>bînê</i>
'navel'	<i>hùm-ô</i>	<i>hùm-ò + H</i>	<i>hùmê</i>
'knee'	<i>kàng-ô</i>	<i>kàng-ò + H</i>	<i>kàngjê</i>
'bone'	<i>bîr-ô</i>	<i>bîr-ò + H</i>	<i>bîr-ò + H</i>
'lung'	<i>kùmb-ô</i>	<i>kùmb-ò + H</i>	<i>kùmb-ò + H</i>
'penis'	<i>bènd-ô</i>	<i>bènd-ò + H</i>	<i>bènd-ò + H</i>
'testicles'	<i>mà:m-ô</i>	<i>mà:m-ò + H</i>	<i>mà:m-ò + H</i>
'skin'	<i>kùr-ô</i>	<i>kùr-ò + H</i>	<i>kùr-ò + H</i>
'vagina'	<i>bùt-ô</i>	<i>bùt-ò + H</i>	<i>bùt-ò + H</i>

d''. final -ô after monosyllabic stem (paronyms)

3Sg form {L}-toned from {L}

'head'	<i>bùwⁿ-ô</i>	<i>bùwⁿ-ò + H</i>	<i>bòɲ</i>
	~ <i>bùɲ-ô</i>	~ <i>bùɲ-ò + H</i>	
'tooth'	<i>hìyⁿ-ô</i>	<i>hìyⁿ-ò + H</i>	<i>hè:ⁿ</i>
	~ <i>hìɲ-ô</i>	~ <i>hìɲ-ò + H</i>	
'shadow'	<i>bìy-ô</i>	<i>bìy-ò + H</i>	<i>bì:</i>
'foot'	<i>cìy-ô</i>	<i>cìy-ò + H</i>	<i>cè:</i>
'eye'	<i>mùwⁿ-ô</i>	<i>mùwⁿ-ò + H</i>	<i>mò:</i>
	~ <i>mùɲ-ô</i>	~ <i>mùɲ-ò + H</i>	

If the possessed noun is plural, 3Sg possessor replaces *-o + H* by *-ey + H*, cf. definite plural *-ey + H* (unpossessed), and the other third person possessor categories require the **3PossPI** form of the noun, which replaces *-o* by *-ey*. The suffixal tones are the same as for singular possessed nouns. 3Sg possessor examples are *kâmb-èy + H* 'his/her hands' and *bà:b-èy + H* 'his/her fathers' (i.e. including father's brothers). However, for a 3Sg possessor specifically it is also possible to adopt "alienable" morphology, as in *à kâmb-êy* 'his/her hands' and *à bà:b-êy* 'his/her fathers'. This

helpfully allows an overt distinction between ‘his Xs’ and ‘my X’ (e.. *kàmb-èy + H* ‘my hand’, *bà:b-èy + H* ‘my father’).

4.2.3 Morphologically defective nouns

4.2.3.1 *môy* ‘namesake’ (no definite or possessive suffixation)

The noun *môy* ‘person with the same name’ (local French *homonyme*) is intrinsically relational, but is not treated morphologically like kin terms. It is primarily used as a compound final in names, especially nicknames with an initial that means ‘father’ or ‘mother’: *bà:-môy* ‘namesake of (my) father’ and *ʒá:-môy* ‘namesake of (my) mother’. Such appellations allow the speaker to refer to a nonkinsman without disrespectfully pronouncing the name of the speaker’s own actual father or mother. *môy* can be used without the compound initial, as in ‘my namesake’, although the Fulfulde borrowing *tókôrê* (and variants) is regular in this sense.

môy does not allow final/definite suffixes, so its only suffixal form is indefinite plural *móy-ɲòŋ + H*, which for this noun is used in definite as well as indefinite discourse contexts. Pronominally possessed forms are expressed by preposed pronominals, but *môy* itself takes no possessor suffixation. The possessor pronominals are **independent pronouns** for first/second persons (e.g. 1Sg *ây*), but alienable pronominal-possessor proclitics for third person categories (notably 3Sg *à* and 3Pl *ɲòŋ + H*).

(176)	a.	<i>ʔáy</i>	<i>‘môy</i>	‘my homonym’
		<i>ní</i>	<i>‘môy</i>	‘your-Sg homonym’
	b.	<i>à</i>	<i>môy</i>	‘his/her homonym’
		<i>ɲòŋ</i>	<i>môy</i>	‘their homonym’
		<i>ʔáŋgá</i>	<i>‘môy</i>	‘his/her (logophoric) homonym’

môy may be compared with the verb *nê* ‘say’ with respect to its morphosyntax. *nê* is “conjugated” by means of third person subject proclitics or by first/second person independent pronouns: *ʔáy ‘nê* ‘I said’, *à nê* ‘he/she said’, etc. (§6.1.9).

4.2.3.2 Nouns with possessor but without definite suffixation (*bè:*, *kû:*, etc.)

A few nouns do not co-occur with final/definite singular *-o + H* ~ *-o + H* or definite plural *-ey + H*, even before strong definite *H + dî*. They can take indefinite plural *-ɲoŋ + H* if it makes sense semantically (i.e. for count nouns). These nouns are infrequently possessed, but suffixal possessed forms are elicitable at least as variants.

(177)	stem	IndefPl	‘my’	‘his/her’	gloss
	a. Cv: stems				
	<i>bè:</i>	<i>bè:-pòŋ + H</i>	<i>bé:↑-y-è</i>	<i>à[†] bè:</i>	‘borassus palm’
				<i>~ à b é:↑-y-ò</i>	
	<i>kû:</i>	<i>kú:-pòŋ + H</i>	<i>kú:-w-è</i>	<i>à kú:-w-ò</i>	‘yam’ (§3.7.1.9)
			<i>kú:-y-è</i>		
	b. minor color terms				
	<i>bákâ</i>	<i>bákâ-pòŋ + H</i>	<i>bák-è:</i>	<i>à bák-à:</i>	‘blue dye’
	<i>túrí</i>	<i>túrí-pòŋ + H</i>	<i>túr-è:</i>	<i>à túr-à:</i>	‘yellow thing’

4.2.3.3 ‘Daybreak’ (*mùwⁿò ~ mò: ~ mòm* plus *bów ~ bó:*)

A special case is the noun in the noun-verb collocation meaning ‘day break(s)’. Both verb and noun are attested in variant pronunciations, making parsing and semantic compositionality difficult. The verb is pronounced either as *bów* (elsewhere ‘shatter, burst’) or *bó:* (unique form). The noun is variably pronounced *mùwⁿò ~ mùŋò ~ mùwò ~ mò: ~ mòm*. Some of these variants might be equated with *mò:* ‘eye’ or its 3Sg possessor form *mùwⁿ-ò + H ~ mùŋ-ò + H* ‘his/her eye’. However, in variants of the collocation like *mòm bó:*, neither element is clearly parsable, and *mòm* can only be taken as a defective noun.

4.2.3.4 Nouns resistant to or restricting *-o + H* suffix

As noted in §4.1.1 and elsewhere, most nouns can take a final/definite suffix *-o + H*, and for many such nouns this form has generalized in NP-final position. That is, it occurs at the end of a core NP sequence that is maximally noun-adjective-numeral without regard to definiteness.

However, there are still many nouns that do not normally occur with *-o + H* in NP-final position. Many of these nouns are abstractives, derived or underived, which are not normally possessed, determined, or quantified over. In the ancestor of HS and KS, these nouns did not commonly occur in definite form, and there was no reason for an old definite form to generalize. However, these nouns can be coerced into definite form by imposing a possessor or by adding strong definite particle *H + dî*.

Most such stems that have resisted generalization of *-o + H* to nonfinal position belong to one of the types in (178).

- (178)
- nouns whose original definite and possessed forms were uncommon, including semantically abstract nouns
 - inalienable nouns (body parts, kinship), for which *-o + H* is primarily or uniquely limited to the 3Poss and 3Sg possessor suffixes
 - poorly integrated borrowings, e.g. from Fulfulde or Bambara

Consider, for example, the abstract noun *cím-í* ‘truth’, related to the verb *câm* ‘tell the truth’. A definite singular form *cím-ó + H* is elicitable, in strong definite *cím-ó dî* ‘that (same) truth (we were talking about)’. In practice, it nearly always occurs in the form *cím-í*, both in final position (179a-b) and before a modifier (179c-d). Even the strong definite form is also attested as *cím-í dî*.

- (179) a. *cím-í* *nôⁿ*
 truth it.is
 ‘It’s the truth.’ (i.e. ‘It’s true’)
- b. *á↑ = íj* *‘cím-í* *hárú*
 3SgS=Tr truth say
 ‘He/She told the truth.’
- c. *cím-í* *hínzâ*
 truth three
 ‘three truths’
- d. *cím-í* *↑bé:ri*
 truth big
 ‘a big truth’

Further examples of nouns (some of which are borrowings) are in (180). The definite singulars are rare, but are usually elicitable in a possessive or strong-definite combination.

- (180) Nouns that make infrequent use of final/definite suffixes

NF/final	DefSg <i>-o + H</i>	gloss
a. semantically abstract nouns (underived)		
<i>bònê</i>	<i>bòn-ò + H</i>	‘misfortune, hardship’
<i>bá:sí</i>	[unattested]	‘trouble’ (< Arabic)
b. semantically abstract nouns (suffixally derived)		
<i>bâ:n-ì</i>	<i>bâ:n-ò + H</i>	‘well-being, peace’
<i>hól-éy</i>	<i>hól-ó + H</i>	‘craziness’
<i>hìn-êy</i>	<i>hìn-ò + H</i>	‘means, wherewithal’
c. meals (suffixally derived), <i>-ò + H</i> forms rare		
<i>cìrgòs-èy</i>	<i>cìrgòs-Ø-ò</i>	‘lunch’ (variant <i>cùrgòs-èy</i>)
<i>hâwr-èy</i>	<i>hâwr-Ø-ò</i>	‘supper’

While ‘lunch’ and ‘supper’ may seem to diverge semantically from the abstractives, they are not usually determined or quantified. They occur most often in expressions

like *cìrgòs-èy kà* ‘lunch has come’, i.e. ‘lunch is served’. Note that the English translations have undetermined ‘lunch’.

The stems that put restrictions on *-o + H* generally treat definite plural *-ey + H* the same way; that is, if it occurs at all it has a strongly definite sense. The stems prefer the indefinite plural form: *bóné-ṣòṣ + H* ‘(some) misfortunes’, *címí-ṣòṣ + H* ‘(some) truths’.

Inalienable nouns (kin terms, body parts) generally restrict *-o + H* to 3Sg possessor function: *tás-ó + H* ‘his/her liver’, *bà:b-ò + H* ‘his/her father’. Most inalienables therefore do have an unaffixed form in NP-final position in unpossessed indefinite function, e.g. *tásâ ~ táse* ‘liver’ as in ‘I don’t have a liver/father’: *ì sí: = ndù tássâ (~ táse) / bà:b-è*. See §4.2.2.1 for lists of such nouns.

However, some inalienables (especially nonmonosyllabic paronyms) follow the regular alienable-noun pattern with a generalized final-singular suffix. These include bisyllabic *bìr-ò + H* ‘bone’ (nonfinal *bìrì*), *kùmb-ò + H* ‘lung’, *kùr-ò + H* ‘skin’, *bòy-ò + H* ‘nail’, *kúr-ó + H* ‘blood’ (nonfinal *kúrí*), *fútt-ó + H* ‘stomach’, *té:l-ó + H* ‘intestine’, *bènd-ò + H* ‘penis’, and *mà:m-ò + H* ‘testicles’. Another noun, *bùt-ò + H* ‘vagina’, also belongs here, but archaic *bùtè* is preserved in the insulting expression *ṣá:-bùtè* ‘(your) mother’s vagina!’. Trisyllabic examples with generalized final-singular *-o + H* are *gà-gáb-ò + H* ‘jaw’, *dè:mál-ò + H* ‘spleen’, and *kóṣ-kónd-ó + H* ‘nape’.

4.3 Personal pronouns

Personal pronouns can function syntactically as NPs. Except when affixed (as possessors, or as complements of postpositions), they occur in the same linear position as a full NP would (e.g. subject, object). They may be followed by a demonstrative pronoun agreeing in number, by a DF particle, or by a postposition. The forms are given in §4.3.4, below.

4.3.1 Person and number categories

Categories are 1Sg, 1Pl, 2Sg, 2Pl, 3Sg, 3Pl, 3FullSg, and 3FullPl. The **full** (Fu) forms of the third person are used in independent (i.e. nonclitic) position where simple 3Sg and 3Pl are not permitted. The full forms are also used in logophoric and reflexive function in positions where 3Sg or 3Pl could also occur (with a difference in reference). There is no true generic pronoun like French *on*, but the noun *bòr* ‘person’ can be used (in bare form) in this impersonal sense.

4.3.2 Plural pronominal categories

The typologically usual algebraic formulae apply: 1Sg+2Sg or 1Sg+3Sg → 1Pl, 2Sg+3Sg → 2Pl, and 3Sg+3Sg → 3Pl. That is, first person is the “dominant gene”

that determines the output when combined with anything else, and second person is dominant over third person.

The combination 3FullSg+3Sg (i.e. logophoric/reflexive plus plain third person) becomes 3FullPl. In (181), the logophoric 3FullPl pronominal in the quotation denotes a plurality consisting of the quoted speaker (logophoric) and one or more other third persons (nonlogophoric); see §10.4.2.

- (181) à né [ñjêy^t kúl nàm bú:]
 3Sg say [3FullPl all Fut die]
 ‘He_x said that they_{xy} (logophoric) would all die.’

4.3.3 Preference for plural over singular pronouns as possessors

As in other Malian languages, there is a pragmatic preference for choosing a maximally inclusive possessor with respect to one’s home and family. In the case of e.g. ‘I’m going home (French: *chez moi*)’, the possessor can be omitted entirely, the **plural** noun ‘houses, apartments, rooms’ denoting a larger residential aggregation (the family house or compound, local French *concession*) and implying collective ownership (182). Or the plural possessor may be overt (183).

- (182) ì ↑nám ‘kóy húy-éy
 1Sg Fut go house-DefPl
 ‘I am going home.’ [lit. “to the houses”]
- (183) ì ↑nám ‘kóy húy-éy-ndì
 1Sg Fut go house-1SgP-1PIP
 ‘I am going home.’ [lit. “to our house”]

4.3.4 Independent and subject-object clitic pronominals

4.3.4.1 Independent and clitic pronominals

Independent personal pronouns are shown in (184). In the third person, only 3FullSg and 3FullPl forms are possible in independent position. Syntactic positions requiring independent (full) pronouns are summarized in §8.4.2.

- (184) Independent personal pronouns

category independent form

1Sg ?ây
 2Sg nî

1Pl	<i>yérí</i>
2Pl	<i>wàràŋ</i>
3FullSg	<i>ʔáŋgâ ~ ɲgâ ~ ʔáŋâ ~ ɲâ</i>
3FullPl	<i>ɲjêy</i>

The glottal stops (1Sg, 3FullSg) are heard in careful pronunciation (especially after a vowel) but may be elided.

The final syllables are <HL>-toned in all cases. Except when prepausal, the L component is delinked, and is audible (if at all) as downstep on the following word. Example: /ʔây mô/ becomes ʔáy 'mô 'me too'. Historically, the <HL>-tone is etymologically correct for 1Pl, 2Sg, 3FullSg, 3FullPl, and perhaps 2Pl. The phonological history of the 1Sg form is probably complex. TSK has <LH>-toned *ây* (independent and clitic). In KS (which lacks tones) the independent form is bisyllabic *agey* (versus clitic *ay ~ ey*).

4.3.4.2 Subject and object pronominal clitics

The **subject and object clitics** in (185) are used when the pronominal is bare (not modified by a demonstrative, a DF morpheme, or an appositional NP, and not focalized). Whether an object is pre- or postverbal depends on the verb (OV or VO type), and there is only one object per clause. The subject forms shown occur as such in the zero (=perfective) aspect positive.

(185) Personal pronominal clitics (S = subject, O = object)

	S	preverbal O	postverbal O
1Sg	<i>ì + H</i>	<i>nèy</i>	<i>ʔây</i>
2Sg	<i>ɲ + H</i>	<i>nàŋ</i>	<i>nî</i>
1Pl	<i>yò + H</i>	<i>yêr ~ yérí</i>	<i>yérí</i>
2Pl	<i>wò + H</i>	<i>wàràŋ</i>	<i>wàràŋ</i>
3Sg	<i>à</i>	<i>=ɲ ~ =à: ~ à</i> (§4.3.4.6)	<i>-à ~ -â</i> (§4.3.4.7)
3Pl	<i>ɲòŋ + H</i>	<i>ɲòŋ + H</i>	<i>ɲóŋ + H</i>
3FullSg	<i>ʔáŋgâ</i> (etc.)	<i>ʔáŋgâ</i> (etc.)	<i>ʔáŋgâ</i>
3FullPl	<i>ɲjêy</i>	<i>ɲjêy</i>	<i>ɲjêy</i>

For 3FullSg and 3FullPl, the forms used are identical to the corresponding independent forms. The contracted form *ɲgâ* of the 3FullSg is most common in preverbal object function, and is not used in postverbal object position.

For the first and second person categories, the postverbal object series is identical to the independent series. For 1Pl and 2Pl, the preverbal object series is also identical

to the independent series, except that the 1Pl often contracts to *yêr*. In the subject series, the 1st/2nd person categories have forms that are historically related to, but quite different from, the independent forms.

The 1st/2nd person subject pronominals are themselves L-toned, but each has a **floating H-tone** that is realized audibly on a following morpheme that otherwise has an initial L-tone (except imperfective negative *sù*, which was historically H-toned). This floating H-tone was originally part of the pronominal (the equivalent TSK clitics are H- or <LH>-toned), but have become delinked in HS. Example: *ì ḡóró* ‘I sat’ (*gòró* ‘sit’).

In preverbal O function, **1Sg and 2Sg** have innovative forms beginning with *n*, which derives from the bidirectional case-marking morpheme **na* that is separately preserved in the form *ḡ*, and that I label noncommittally as “transitive” (§7.2.6). Thus 1Sg *nèy* < **na* *ây*, and 2Sg *nàḡ* < **na* *nî*. In synchronic HS, however, *nèy* and *nàḡ* (like other preverbal objects) follow transitive morpheme *ḡ* when not separated by any other inflectional morpheme (*áḡ=ḡ nèy kárú* ‘he/she hit me’). They likewise follow nonzero MAN morphemes like imperfective negative *sù* (*à sù ḡnèy ‘kárú* ‘he/she does not hit me’). The 1Sg object clitic can occur clause-initially in imperatives (*nèy nò:-ḡ* ‘give [it] to me!’). The separation of the initial *n* in 1Sg *nèy* and 2Sg *nàḡ* from transitive *ḡ* is complete.

In the **3Sg**, we have subject *à* and postverbal object *-à* or *-â* (depending on the tone of the verb). The 3Sg preverbal object form is *ḡ* in the indicative, *à* before an imperative verb, *=à:* after the subjunctive morpheme *m̂* (they combine as *m̂=à:*), and *=ḡâ:* after inflectional particles that end in a floating H-tone. All of the forms with *a*-vowel have parallels in other Eastern Songhay languages. The *ḡ* preverbal object allomorph reflects **na*, which occurs widely in Eastern Songhay as a transitive (i.e. bidirectional case-marking) morpheme (Heath 2007), but which has already acquired 3Sg object marking status in dialectal KS (Bamba, Fulankiriya). The HS combination of transitive *ḡ* and 3Sg object *ḡ* is transcribed *ḡ=ḡ* but is heard segmentally as [ŋ], i.e. as a single ungeminated nasal. Since it is always followed immediately by the verb, it is actually heard in phrasal context as H-toned [ḡ] (followed by L-tone or by a downstepped H) after tone rules apply. There is even a combination *ḡḡ=ḡ=ḡ* (2Sg subject, transitive, 3Sg object) that is phonologically indistinguishable from simple *ḡ* and from *ḡ=ḡ*.

The entire **3Pl** series with *noḡ* (tone variable) is a HS innovation. Other Songhay languages have 3Pl *i* (subject or preverbal object), and various 3Pl suffixes for postverbal object function (e.g. KS *-ey*). However, in HS the old 1Sg **ây* monophthongized to *ì+H* in subject function, which probably led to an unacceptable homophony of 1Sg and 3Pl, forcing the language to create a new 3Pl clitic series. This was done by “reanalysis” of the indefinite plural suffix **-yóḡ* (KS *-yaḡ*, atonal HS *-noḡ*, TSK *-yów*) as a preverbal clitic. Thus, in (186) the relevant proto-combination had a subject NP ending in **-yóḡ*. The “reanalysis” is rather clunky, and presumably driven more by the need for formal renewal of the 3Pl subject or object category than by a perceptually natural resegmentation.

(186) **[NOUN-yóḡ] VERB* → (NOUN) *noḡ=VERB*

Once this mutation had occurred in subject clitic function, it presumably spread to preverbal and postverbal O functions. The L-tone of the subject and preverbal object clitic $j\grave{o}\eta + H$ is probably secondary, following the pattern of 1st/2nd person proclitics which also lost their original H-tones, and the original H-tone of $*j\acute{o}\eta$ is preserved in postverbal O function and elsewhere indirectly by the associated floating H.

Examples of **subject clitics** (perfective positive) with $z\grave{u}r\grave{u}$ ‘run’ are \grave{i} $\acute{\uparrow}z\acute{u}r\acute{u}$ ‘I ran’, $y\grave{o}$ $\acute{\uparrow}z\acute{u}r\acute{u}$ ‘we ran’, η $\acute{\uparrow}z\acute{u}r\acute{u}$ ‘you-Sg ran’, $w\grave{o}$ $\acute{\uparrow}z\acute{u}r\acute{u}$ ‘you-Pl ran’, \grave{a} ’ $z\grave{u}r\grave{u}$ ‘he/she/it ran’, 3Pl $j\grave{o}\eta$ $\acute{\uparrow}z\acute{u}r\acute{u}$ ‘they ran’, 3FullSg $\eta\acute{\eta}g\acute{a}$ $z\grave{u}r\grave{u}$ ‘(he_x said that) he_x ran’, $\eta\grave{j}\acute{e}y$ $z\grave{u}r\grave{u}$ ‘(they_x said that) they_x ran’.

Examples of **preverbal O clitics** with 3Sg subject \grave{a} , transitive morpheme η , and simple transitive verb $k\acute{a}r\acute{u}$ ‘hit’, are these: $\acute{a}\acute{\uparrow}=\eta$ $n\grave{e}y$ $k\acute{a}r\acute{u}$ ‘he/she hit me’, $\acute{a}\acute{\uparrow}=\eta$ $y\acute{e}r\acute{i}$ $k\acute{a}r\acute{u}$ ‘... hit us’, $\acute{a}\acute{\uparrow}=\eta$ $n\grave{a}\eta$ $k\acute{a}r\acute{u}$ ‘... hit you-Sg’, $\acute{a}\acute{\uparrow}=\eta$ $w\grave{a}r\acute{a}\eta$ $k\acute{a}r\acute{u}$ ‘... hit you-Pl’, $\acute{a}\acute{\uparrow}=\eta$ η $k\acute{a}r\acute{u}$ ‘... hit him/her/it’, $\acute{a}\acute{\uparrow}=\eta$ $j\grave{o}\eta$ $k\acute{a}r\acute{u}$ ‘... hit them’, $\acute{a}\acute{\uparrow}=\eta$ $\eta\acute{\eta}g\acute{a}$ $k\acute{a}r\acute{u}$ often contracted to $\acute{a}\acute{\uparrow}=\eta$ $\eta\acute{\eta}g\acute{a}$ $k\acute{a}r\acute{u}$ ‘(he_x said that) ... hit him_x’, and $\acute{a}\acute{\uparrow}=\eta$ $\eta\grave{j}\acute{e}y$ $k\acute{a}r\acute{u}$ ‘(they_x said that) ... hit them_x’.

Examples of **postverbal O pronominals** except (regular) 3Sg, with VO verb $d\acute{i}$: ‘see’, are \grave{a} $d\acute{i}$: $\eta\acute{a}y$ ‘he/she saw me’, \grave{a} $d\acute{i}$: $y\acute{e}r\acute{i}$ ‘... saw us’, \grave{a} $d\acute{i}$: $n\acute{i}$ ‘... saw you-Sg’, \grave{a} $d\acute{i}$: $w\grave{a}r\acute{a}\eta$ ‘... saw you-Pl’, \grave{a} $d\acute{i}$: $j\grave{o}\eta$ ‘... saw them’, \grave{a} $d\acute{i}$: $\eta\acute{\eta}g\acute{a}$ ‘(he_x said that) ... saw him_x’, and \grave{a} $d\acute{i}$: $\eta\grave{j}\acute{e}y$ ‘(they_x said that) ... saw them_x’. The 3Sg O suffix is $-\grave{a}$ after a H-tone, and $-\acute{a}$ after a L-tone. In either case it produces slight segmental phonological changes in the stem. Examples: $d\grave{u}$ ‘get, acquire’ > $d\grave{u}w-\acute{a}$ ‘get him/her/it’, $d\acute{i}$: ‘see’ > $d\acute{i}y-\acute{a}$.

There are some **(morpho-)phonological interactions** between clitic subject pronouns, functional morphemes (MAN, transitive), and clitic object pronouns, which occur in that linear order. I consider first combinations of subject clitics plus functional morphemes, then those of functional morphemes plus object clitics.

4.3.4.3 Subject pronominal clitic plus imperfective $g\grave{u} + H \sim \grave{w} + H$

The **imperfective** (positive) morpheme is $g\grave{u} + H$ after a consonant (except occasionally after a sonorant) and before transitive η (always). In other contexts (i.e. after a vowel, in the absence of the transitive morpheme), $\grave{w} + H$ is regular. The variant $g\grave{u} + H$ is also possible but uncommon in these other contexts, occurring mostly in slow speech or in broken clauses. The semivowel in $\grave{w} + H$ cliticizes to a preceding word.

The combinations of subject pronoun and imperfective are shown in (187), which is organized by the phonological form of the subject pronoun (C- or V-final, tone of final syllable of the pronoun, presence or absence of a following floating H). Notably, the V-final first and second person subject pronominals, which are elsewhere L-toned with a following floating H (1Sg, 1Pl, 2Pl), become H-toned with floating H (187a-b) before the nonsyllabic allomorph $\grave{w} + H$. The mechanism for this is phonological: the floating H associated with the pronominal docks on the w . The resulting $/C\grave{v} \acute{w}/$ merges as one syllable, and the prohibition on <LH>-toned syllables forces a flattening to H-tone, see <LH> → H Flattening (§3.9.6.3).

- (187) category with $g\grave{u} + H$ with $\grave{w} + H$
- a. V-final pronoun, H-toned plus floating H before $\grave{w} + H$ allomorph
- | | | |
|-----|--|--|
| 1Sg | $\grave{i} \uparrow g\acute{u} + L + H$ | $\acute{i} \uparrow = \uparrow \acute{w} + L + H \sim \acute{i} \uparrow = \uparrow \acute{i} + L + H$ |
| 1Pl | $y\grave{o} \uparrow g\acute{u} + L + H$ | $y\acute{o} \uparrow = \uparrow \acute{w} + L + H$ |
| 2Pl | $w\grave{o} \uparrow g\acute{u} + L + H$ | $w\acute{o} \uparrow = \uparrow \acute{w} + L + H$ |
- b. C-final pronoun, L-toned plus floating H ($\grave{n}\acute{j} \uparrow + H, n\acute{o}\eta \uparrow + H$)
- | | | |
|-----|--|------------------|
| 2Sg | $\grave{n}\acute{j} \uparrow g\hat{u} + H$ | [not applicable] |
| 3Pl | $n\acute{o}\eta \uparrow g\hat{u} + H$ | [not applicable] |
- c. V-final pronoun, L tone, no floating H (\grave{a})
- | | | |
|-----|--------------------------|-----------------------------|
| 3Sg | $\grave{a} g\hat{u} + H$ | $\grave{a} = \grave{w} + H$ |
|-----|--------------------------|-----------------------------|
- d. V-final pronoun, final <HL> tone, no floating H ($?\acute{a}\eta g\hat{a}$)
- | | | |
|---------|--|---|
| 3FullSg | $?\acute{a}\eta g\hat{a} g\hat{u} + H$ | $?\acute{a}\eta g\hat{a} = \grave{w} + H$ |
|---------|--|---|
- e. C-final pronoun, final <HL> tone, no floating H ($\grave{n}\acute{j}\acute{e}y$)
- | | | |
|---------|---|------------------|
| 3FullPl | $\grave{n}\acute{j}\acute{e}y g\hat{u} + H$ | [not applicable] |
|---------|---|------------------|

When $g\hat{u} + H$ or $\grave{w} + H$ is preceded by another floating H-tone, as in 3Pl / $n\acute{o}\eta + H g\hat{u} + H$ /, the floating H docks on the imperfective morpheme, producing 3Pl / $n\acute{o}\eta \uparrow g\hat{u} + H$ / . The <HL> tone on the imperfective morpheme at this stage is then simplified by delinking the L-tone element, since it is always followed by (and phrased with) a nonnull VP. This results in 3Pl / $n\acute{o}\eta \uparrow g\acute{u} + L + H$ / and 1Pl / $y\grave{o} \uparrow \acute{w} + L + H$ /.

The floating L+H sequence that ends up following the imperfective morpheme in some of these combinations is realized as a downstepped H-tone on the following word. If that word begins with a L-tone, the floating H docks on it, raising it to H, so the following word always begins with a H-tone. The floating L then downsteps this H-toned word (or syllable).

4.3.4.4 Subject pronominal clitic plus transitive clitic $\acute{n}\acute{j}$

Transitive enclitic $\acute{n}\acute{j}$ is required (except in plural-subject imperatives) when the subject and object of a canonical (i.e. OV) transitive verb are both nonzero and would otherwise be adjacent (§7.2.6). It cliticizes to the preceding morpheme, and some following pronominal objects join in the clitic cluster.

$\acute{n}\acute{j}$ has falling tone. Since it is always followed by an object (NP or pronoun) and a verb, it is never prepausal. It therefore undergoes Final-L Delinking to $\acute{n}\acute{j} + L$. The floating L is realized, if at all, as downstep of a following H-tone.

$\acute{n}\acute{j}$ **cliticizes** to the preceding subject (NP or pronoun). When it follows a consonant other than a semivowel { $w y$ }, it is segmentally inaudible, but even then it usually leaves a tonal effect on the preceding and/or following word(s). In particular, L-toned subject proclitics are coerced into H-tone when they fuse into one syllable with $=\acute{n}\acute{j}$,

since surface <LH>-toned syllables are disallowed. (188) shows the combinations of subject pronouns with an immediately following transitive $\hat{\eta}$, i.e. in the (positive) perfective.

- (188) category with $\hat{\eta}$
- a. V-final pronoun, L-tone, plus floating H ($i + H, y\grave{o} + H, w\grave{o} + H$)

1Sg	$i\hat{\uparrow} = \hat{\eta} + L$	
1Pl	$y\acute{o}\hat{\uparrow} = \hat{\eta} + L$	
2Pl	$w\acute{o}\hat{\uparrow} = \hat{\eta} + L$	
 - b. V-final pronoun, L tone, no floating H (\grave{a})

3Sg	$\acute{a}\hat{\uparrow} = \hat{\eta} + L$	
-----	--	--
 - c. V-final pronoun, final <HL> tone, no floating H ($?\acute{a}\eta\acute{g}\hat{a}$)

3FullSg	$?\acute{a}\eta\acute{g}\hat{a} = \hat{\eta} + L$	
---------	---	--
 - d. C-final pronoun, L-toned, plus floating H ($\hat{\eta} + H, \eta\grave{o}\eta + H$)

2Sg	$\hat{\eta}\hat{\uparrow} = \hat{\eta} + L$	pronounced syllabic [ŋ] oe [ú]
3Pl	$\eta\acute{o}\eta\hat{\uparrow} = \hat{\eta} + L$	pronounced [ŋóŋ]
 - e. C-final pronoun, final <HL> tone, no floating H ($\grave{\eta}j\acute{e}y$)

3FullPl	$\grave{\eta}j\acute{e}y\hat{\uparrow} = \hat{\eta} + L$	
---------	--	--

After cliticization, in all cases the syllable containing $\hat{\eta}$ (which becomes $=\hat{\eta} + L$) is H-toned. Those combinations that include a lexically L-toned subject pronoun (188a-b,d) require <LH> \rightarrow H Flattening (§3.9.6.3). Something similar happens with the final <HL> tones in (188c,e), but here it is <HLH> that flattens to H, by <LH> \rightarrow H Flattening plus automatic <HH> to H (§3.9.6.3).

Transitive $\hat{\eta}$ is not subject to resyllabification with a following V-initial object. Nouns that appear to begin with a vowel actually have an initial glottal stop that prevents resyllabification with preceding consonants. 3Sg does not have its usual vocalic allomorph \grave{a} after transitive $\hat{\eta}$. Instead, it takes its consonantal form $\hat{\eta}$, which fuses with the transitive morpheme. (This combination too is always followed by a C-initial verb.) When the object is a noun with preposed 3Sg possessor \acute{a} , a glottal stop is inserted (I do not always transcribe it), with with ‘her field’ in (189).

- (189) $h\grave{a}:r\text{-}\acute{e}y\hat{\uparrow} = \hat{\eta}$ $[? \acute{a}$ $f\grave{a}:r\text{-}\acute{o}]$ $^{\prime}n\acute{e}:r\acute{e}$
 man-DefPl=Tr [3SgP field-3PossSg] sell
 ‘The men sold her field.’

4.3.4.5 Subject pronominal clitic plus subjunctive $\hat{m} \sim \hat{\eta}$

A subject pronominal (like any subject NP) may be directly followed by **subjunctive** $\hat{m} \sim \hat{\eta}$. The velar variant is used by some speakers, but only preconsonantly. Most

of the combinations are phonologically parallel to combinations of the same subject pronominals with transitive $\hat{\eta}$ as described in the preceding section.

The forms are shown in (190), organized by phonological form. The delinked L-tone is heard, if at all, as downstep on a following H-tone.

(190) Pronominal subject plus subjunctive

category	\hat{m} variant	$\hat{\eta}$ variant
a. V-final pronoun, L-tone ($y\grave{o} + H$, $w\grave{o} + H$, \grave{a})		
1Pl	$y\acute{o}\uparrow = \hat{m} + L$	$y\acute{o}\uparrow = \hat{\eta} + L$
2Pl	$w\acute{o}\uparrow = \hat{m} + L$	$w\acute{o}\uparrow = \hat{\eta} + L$
3Sg	$\acute{a}\uparrow = \hat{m} + L$	$\acute{a}\uparrow = \hat{\eta} + L$
b. V-final pronoun, final <HL>-tone ($?\acute{a}\eta\acute{g}\acute{a}$, $\grave{n}\acute{j}\acute{e}y$)		
3FullSg	$?\acute{a}\eta\acute{g}\acute{a} = \hat{m} + L$	$?\acute{a}\eta\acute{g}\acute{a} = \hat{\eta} + L$
3FullPl	$\grave{n}\acute{j}\acute{e}y = \hat{m} + L$	$\grave{n}\acute{j}\acute{e}y = \hat{\eta} + L$
c. nasal-final pronoun, L-tone (2Sg $\hat{\eta} + H$, 3Pl $\eta\grave{o} + H$)		
2Sg	$\emptyset = \hat{m} + L$	$\emptyset = \hat{\eta} + L$
	pronounced $[\acute{m}] \sim [\acute{\eta}]$	
3Pl	$\eta\acute{o} = \hat{m} + L$	$\eta\acute{o}\eta = \hat{\eta} + L$
	pronounced $[\eta\acute{o}m] \sim [\eta\acute{o}\eta]$	
d. irregular portmanteau		
1Sg	$\acute{i} + L$	

Because $\hat{m} \sim \hat{\eta}$ already begins with a H-tone component, the floating H-tones associated with some subject pronominals have no audible effect. Except in the irregular 1Sg form (190d), $\hat{m} \sim \hat{\eta}$ splits into $\hat{m} + L$ or $\hat{\eta} + L$ by Final-L Delinking. The \hat{m} or $\hat{\eta}$ cliticizes to the pronominal and syllabifies with the latter's final syllable. Because <LH>-toned syllables are not allowed in HS, <LH> \rightarrow H Flattening applies in (190a-c).

The underlying $/\eta m/ \sim / \eta \eta/$ clusters straddling the pronoun-clitic boundary in the 2Sg and 3Pl forms (190c) simplify to $m \sim \eta$, suggesting that the pronoun-final nasal is deleted before the clitic nasal when they are tautosyllabic. Historically, the 2Sg pronominal $*n\hat{i}$ was simply omitted by a special morphophonemic rule before subjunctive $*m\grave{a}$ (cf. KS 2Sg subjunctive ma), but HS speakers may well interpret the synchronic deletion as phonological, given the parallel in the 3Pl form.

The irregular 1Sg subjunctive portmanteau \acute{i} , heard as $\acute{i} + L$ after L-Delinking, has the tones appropriate to the expected regular form $\#i\text{-}m + L$ from $/i + H \hat{m}/$, reflecting L-Delinking and <LH> \rightarrow H Flattening. In effect, subjunctive morpheme $*\hat{m}$ has disappeared segmentally after the 1Sg pronominal (except before 3Sg object clitic as in $\acute{i} = m = \acute{a}$; see end of §4.3.4.6), but it has left behind its tonal imprint. However, the irregularity of the 1Sg subjunctive form is ancient (cf. KS ya and KCh ye , without subjunctive ma).

4.3.4.6 3Sg preverbal object clitic allomorphs ($=\hat{\eta}$, $=\hat{a}$ ·, \hat{a})

The distribution of the three allomorphs of the preverbal 3Sg object clitic, used with canonical (OV) transitives, is summarized in (191).

(191) 3Sg object clitics (preverbal)

	form	distribution	combination	
			simple	after +H
a.	\hat{a}	clause-initial (imperatives)	\hat{a}	
b.	$=\hat{a}$ ·	after... 1) Subjunctive \hat{m} 2) Perfective negative $m\hat{a}\eta + H$ 3) Future $n\hat{a}m + H$	$m\hat{a} = \hat{a}$ · $m\hat{a}\eta = \hat{a}$ · $\uparrow m\hat{a}\eta = \hat{a}$ · $n\hat{a}m = \hat{a}$ · $\uparrow n\hat{a}m = \hat{a}$ ·	
c.	$\hat{\eta}$	after... 1) Transitive $\hat{\eta}$ 2) Infinitival $k\hat{u} + H$ 3) Imperfective $g\hat{u} + H$ 4) Imperfective negative $s\hat{u} + H$	$\hat{\eta} = \hat{\eta} + L$ $k\hat{u}\hat{\eta} = \hat{\eta} + L$ $g\hat{u}\hat{\eta} = \hat{\eta} + L$ $s\hat{u}\hat{\eta} = \hat{\eta} + L$	

Allomorph \hat{a} (191a) is identical to the 3Sg subject proclitic, and (aside from tonal modification due to Tonal Rhythm) the 3Sg object suffix $-\hat{a} \sim -\hat{a}$ on VO transitive verbs. As preverbal object marker, \hat{a} occurs only in singular-subject imperatives: \hat{a} $f\hat{u}r\hat{u}-\eta$ ‘get away-2Sg from it!’, \hat{a} · $j\hat{i}s\hat{i}-\eta$ ‘put-2Sg it down!’. The latter example shows that \hat{a} can be upstepped before a L-toned word, as is also true of the 3Sg subject clitic \hat{a} .

Except in singular-subject imperatives, the 3Sg object marker is never clause-initial. In general, it appears as clitic $=\hat{\eta}$ after a vowel, and as clitic $=\hat{a}$ · after a consonant. The exception is that $=\hat{\eta}$ also occurs after transitive $\hat{\eta}$. The two then fuse into $\hat{\eta} = \hat{\eta} + L$, pronounced $[\hat{\eta}]$ plus (if applicable) downstep. Since we can hear only one nasal consonant, one could argue that transitive $\hat{\eta}$ and 3Sg object $\hat{\eta}$ are replaced by a portmanteau $\hat{\eta}$, or equivalently that one of them is deleted when adjacent to the other. In fact, KS has phonetic $[na]$ instead of the expected $\#[na:]$ from $/na a/$ (transitive na plus 3Sg object a), so the contraction of the two morphemes is ancient.

Examples of $=\hat{a}$ · (191b) are subjunctive $\hat{a}\hat{\eta} = m = \hat{a}$ · $k\hat{a}r\hat{u}$ ‘that he/she may hit him/her’ and perfective negative \hat{a} $m\hat{a}\eta = \hat{a}$ · $k\hat{a}r\hat{u}$ ‘he/she didn't hit him/her’. In $\hat{a}\hat{\eta} = m = \hat{a}$ · $k\hat{a}r\hat{u}$, the initial 3Sg subject \hat{a} is tone-raised by the following \hat{m} , suggesting that the initial syllabic grouping is $[\hat{a}\hat{\eta} = \hat{m}] = \hat{a}$ ·...

Examples of $=\hat{\eta}$ (191c) are $\hat{a}\hat{\eta} = \hat{\eta} = \hat{\eta}$ · $k\hat{a}r\hat{u}$ ‘he/she hit him/her’, infinitive $k\hat{u}\hat{\eta} = \hat{\eta}$ · $k\hat{a}r\hat{u}$ ‘to hit him/her’, imperfective \hat{a} $g\hat{u}\hat{\eta} = \hat{\eta}$ · $k\hat{a}r\hat{u}$ ‘he/she does/will hit him/her’, and imperfective negative \hat{a} $s\hat{u}\hat{\eta} = \hat{\eta}$ · $k\hat{a}r\hat{u}$ ‘he/she does/will not hit him/her’. 3Sg object $=\hat{\eta}$, alone among pronominal object markers, requires V-final allomorphs of all preceding morphemes that have such an allomorph (transitive $\hat{\eta}$ is

the only such morpheme that lacks a V-final allomorph). Therefore the imperfective negative must have *gù + H* (not allomorph *w̃ + H*), and the infinitive must have *kù + H* (not allomorph *w̃ + H*).

In §4.3.4.5 above it was noted that the 1Sg subject marker (elsewhere *ì + H*) fuses irregularly with the subjunctive morpheme (elsewhere *m̂*) as *î*. This gets its segments from *ì + H*, but its tones from the nonexistent regular combination $\#î\hat{=}m̂$, parallel to actually occurring forms like 1Pl subjunctive *yó\hat{=}m̂*. While $\#î\hat{=}m̂$ does not occur as such, we do get it as part of the 1Sg→3Sg combination *í = m = à:*, as in *í = m = à:* *káru* ‘that I may hit him/her’.

4.3.4.7 3Sg postverbal object suffix allomorphs (-à ~ -â) and Tonal Rhythm

VO transitive verbs, which do not involve physical impact, have a suffixed 3Sg object suffix *-a*. Other pronominal VO objects, e.g. 1Sg *?ây*, have their independent pronoun forms.

The tone of 3Sg object *-a* is determined by the Tonal Rhythm rule (§3.9.4.1). If (after whatever segmental contractions occur) the preceding syllable is H-toned, we get *-à*. If the preceding syllable is L-toned, we get *-â*. So *dí:* ‘see’ has *díy-à* ‘saw him/her’, but *dù* ‘get’ has *dùw-â*.

For a fuller list of the forms, see §6.1.7.

4.3.5 Pronouns as postpositional complements and as possessors

HS differs from other Songhay languages in that it has developed pronominal paradigms for postpositions and for possessed nouns. We have seen that there are two distinct pronominal possessor paradigms, one for alienables (§4.2.1) and another for inalienables (§4.2.2). The tones are either spread from the noun into the suffixes, or produced by Tonal Rhythm taking as starting point the tones of the stem (§3.9.4.1).

Suffixes *-o ~ -a:* (singular) and *-ey* (plural) mark the grammatical number of the possessed noun and are therefore not pronominal. However, in some other combinations a homophonous suffix *-ey* marks 1Sg possessor. Furthermore, *-o ~ -a:* has spawned offshoots that now function as third person possessor morphemes.

3Poss (3PossSg and 3PossPl) is the form of an inalienably possessed noun that combines with preceding 3Pl, 3FullSg, and 3FullPl (but not 3Sg) pronouns in possessor function, and with preceding nonpronominal NP possessors. A similar form, labeled Poss (PossSg, PossPl) is that of an alienably possessed noun with any third person possessor; with additional suffixes the Poss form is also used in second person (and, arguably) in first person alienable possessor combinations. 1st/2nd person possessors are always marked by suffixes or suffix complexes. Third person pronominal possessors are expressed by a preposed (proclitic) pronoun: 3Sg *à*, 3Pl *ɲòŋ + H*, 3FullSg *?áŋgâ*, 3FullPl *ɲjêy*. However, 3Sg *à* is omitted with most inalienable nouns (“inalienable 1”), since these nouns have a uniquely 3Sg possessor form. A few inalienables (“inalienable 2”) that end in long *a:* do not have this 3Sg

possessor form for phonological reasons, and so they do make use of 3Sg *à* as proclitic (§4.2.2.4).

(192) summarizes the basic morphological structures described in more detail in preceding sections. Tones are omitted, but they can distinguish segmentally identical alienable and inalienable forms, except where “[= alienable]” is explicitly indicated. N = possessed noun, X = third person possessor proclitic. Inalienable 1 and 2 merge for 1st/2nd person possessors; they are distinct for most third person possessors, with inalienable 2 adopting some alienable features.

(192) Morphology of pronominally possessed nouns (N)

category	alienable	inalienable 1	inalienable 2
a. singular noun			
1Sg	<i>N-e</i>	<i>N-ey</i>	
1Pl	<i>N-ey-ndiy-a:</i>	<i>N-ey-ndi</i>	
2Sg	<i>N-o-noŋ</i>	<i>N-aŋ</i>	
2Pl	<i>N-o-ndoŋ</i>	<i>N-an-doŋ</i>	
3Sg	<i>à N-o</i>	<i>N-o + H</i>	<i>à N</i>
(3)Poss	<i>X N-o</i>	<i>X N-o</i>	<i>X N</i>
b. plural noun			
1Sg	<i>N-e-noŋ</i>	<i>N-ey-noŋ</i>	
1Pl	<i>N-ey-ndiy-ey</i>	[= alienable]	
2Sg	<i>N-ey-noŋ</i>	[= alienable]	
2Pl	<i>N-ey-ndoŋ</i>	[= alienable]	
3Sg	<i>à N-ey</i>	<i>N-ey + H</i>	<i>à N-ey</i>
(3)Poss	<i>X N-ey</i>	<i>X N-ey</i>	

The minority inalienable 2 paradigm matches the pronominal paradigm of adpositions, which follow NPs and third person pronouns but which take 1st/2nd person suffixes. I usually call them “postpositions” but the morphology is more complex than this suggests. In other Songhay languages they are strictly postpositions.

It makes sense historically that the HS inalienable 1 paradigm did not develop for adpositions. This is because the feature that distinguishes inalienable 1 from inalienable 2 is that the former has a special 3Sg possessor form, historically identical to the definite singular and definite plural forms of the possessed noun. Proto-Songhay postpositions never had definite forms. So the HS adpositions have retained the original (Proto-Eastern Songhay) structure for third person pronoun complements, i.e. with proclitic pronouns, while joining with (all) inalienables in developing a new suffixal paradigm for 1st/2nd persons. HS adpositional paradigms are of inalienable rather than alienable type, where this was morphologically possible. This may be

partly for chronological reasons: the inalienable possessor paradigm is more ancient than the alienable one (there are incipient inalienable paradigms in KS, for a few kin terms). More importantly, adpositions are intrinsically “inalienable” in the sense that they require a complement, and several HS adpositions are adaptations of body-part and other relational nouns (‘head’, ‘home’, ‘body’, ‘back’, etc.).

Paradigms for the most common HS adpositions are in (193).

(193) Adpositional paradigms

	<i>sê</i> ‘to, for’	<i>dô</i> ‘at, chez’	<i>gâ:</i> ‘in’	<i>bòn</i> ‘on’
1Sg	<i>s-êy</i>	<i>dúw-êy</i>	<i>gâ:-y</i>	<i>bùŋ-èy</i>
1Pl	<i>s-éy-ndì</i>	<i>dúw-éy-ndì</i>	<i>gâ:y-ndì</i>	<i>bùŋ-èy-ndì</i>
2Sg	<i>s-âŋ</i>	<i>dúw-âŋ</i>	<i>gâ:-ŋ</i>	<i>bùwⁿ-âŋ</i>
2Pl	<i>s-án-dòŋ</i>	<i>dúw-án-dòŋ</i>	<i>gâ:-n-dòŋ</i>	<i>bùwⁿ-àn-dòŋ</i>
3Sg	<i>à sê</i> ~ <i>à^t sè</i>	<i>à dô</i> ~ <i>à^t dò</i>	<i>à^t gâ(:)</i>	<i>à^t bòn</i>
3Pl	<i>ŋòŋ sê</i>	<i>ŋòŋ dô</i>	<i>ŋòŋ ↑gâ(:)</i>	<i>ŋòŋ ↑bòn</i>
3FullSg	<i>ʔángá ‘sê</i> ~ <i>ʔángá sè</i>	<i>ʔángá ‘dô</i> ~ <i>ʔángá dò</i>	<i>ʔángá gâ(:)</i>	<i>ʔángá bòn</i>
3FullPl	<i>̀̀jéy ‘sê</i> ~ <i>̀̀jéy sè</i>	<i>̀̀jéy ‘dô</i> ~ <i>̀̀jéy dò</i>	<i>̀̀jéy gâ(:)</i>	<i>̀̀jéy bòn</i>

In prepausal position, *sê* and *dô* are usually treated as L-toned, and in addition *gâ:* is usually shortened to *gâ*. As a result, 3Sg *à* is frequently upstepped (§3.9.4.3), resulting in *à^t sè* etc. Moreover, 3Sg *à* may be lengthened after a C-final word and is always lengthened after C-final MAN particles (§3.7.5.3). The floating tone of 3Pl *ŋòŋ + H* is commonly realized on the adposition. Even though the <HL> tone on the adposition in e.g. *ŋòŋ sê* is not conspicuous, especially prepausally, it does not seem to be treated as L-toned and I did not observe frequent upstepping of *ŋòŋ*. As for *ʔángá* and *̀̀jéy*, their final <HL> syllable is realized with H-tone, followed by L- or downstepped <HL>-toned adposition. In e.g. *ʔángá ‘sê* and *̀̀jéy ‘sê*, I cannot distinguish downstepped <HL> ‘sê from L-toned *sè* in prepausal position.

4.3.6 Pronouns preceding or following *̀̀dù + H* ‘with, and’

4.3.6.1 Pronouns after *̀̀dù + H* ‘with, and’

If Y is an NP, *̀̀dù + H Y* is the usual instrumental-comitative phrase ‘with Y’, in context translatable variously as ‘by means of Y’ (instrumental) or ‘along with’ (comitative). Here I disregard cases where a cliticized *̀̀dù + H* functions like a

derivational suffix on verbs (§6.2.5). The combinations of *ńdù + H* plus pronominal are shown in (194).

(194) *ńdù + H* ‘with’ followed by pronominal

category	after <i>ńdù + H</i>
a. suffixed/clitic	
3Sg	<i>ńd-à</i>
3Pl	<i>ńdù ńón</i>
b. independent pronoun	
1Sg	<i>ńdù ?ây</i>
1Pl	<i>ńdù yérí</i>
2Sg	<i>ńdù ní</i>
2Pl	<i>ńdù wàràń</i>
3FullSg	<i>ńdù ?áńgá</i>
3FullPl	<i>ńdù ñjêy</i>

There is a tonal contrast between *ń ńdú ?ây* [ńdú+?áj] ‘you-Sg got me’ (VO verb *dù* ‘get’) and *ńdù ?ây* [ńdù?áj] ‘with me’.

These pronominal forms are identical to those used for postverbal direct object, see the right-hand column of (185) in §4.3.4.2. For regular third person, the form of the pronoun is a suffix (3Sg) or an enclitic (3Pl) (194a). For the other pronominal categories, a form identical to the independent pronoun is used (194b).

4.3.6.2 Pronouns before *ńdù + H* ‘and’

Conjunctions are formed by placing a left conjunct (NP or pronominal) to the left of an *ńdù + H* prepositional phrase. The structure is formally asymmetrical: X [with Y], though often glossable in English as the more symmetrical ‘X and Y’. The **left conjunct takes the form of an independent pronoun**. In particular, a third person left conjunct must take the 3Full form (so the clitic forms 3Sg *à* and 3Pl *ńón + H* are not permitted). Examples of pronoun-pronoun conjunctions are in (195), the glosses suggesting the HS structure.

(195) Conjunctions of two pronouns

- ?ây = ńdù ní* ‘I [with you-Sg]’
- ní = ńd-à* ‘you-Sg [with him/her/it]’
- ?áńgá = ńdù ńón* ‘he/she/it [with them]’
(not #á↑ = *ńdù ńón*)

- d. $\grave{n}j\acute{e}y = \acute{n}d\grave{u} \acute{n}ó\eta$ ‘they [with them]’
 (not $\# \acute{n}ó\eta \uparrow = \acute{n}d\grave{u} \acute{n}ó\eta$)

There is a broad preference for linearizing on the basis of a hierarchy 1st > 2nd > 3rd. However, this preference is less strict in HS than in some dialects of KS, and $\acute{n}í = \acute{n}d\grave{u}$ $\acute{?}á\acute{y}$ ‘you-Sg [with me]’ can be used as an alternative to (195a).

4.4 Demonstratives

4.4.1 Demonstrative pronouns ($H + w\hat{o}$, plural $H + w\text{-}\acute{e}y$) and contracted $-\hat{o}$:

The independent demonstrative pronoun, used as a self-standing NP or as a modifier at the end of a NP, is $H + w\hat{o}$, plural $H + w\text{-}\acute{e}y$. The diphthong of the plural is slightly distinct phonetically from that of $w\acute{o}y$ ‘woman’ and that of the numeral $w\acute{o}y$ ‘10’ (§3.3.1); all three are homophonous in some dialects of KS. $H + w\hat{o}$ may contract with the latter’s final vowel to form a long $-\hat{o}$:, which I transcribe as a suffix. There is no contracted form of $H + w\text{-}\acute{e}y$.

There is a striking similarity between singular demonstrative $H + w\hat{o}$ and nominal final/definite singular $-o + H \sim -a: + H$, especially the first allomorph, and between plural demonstrative $H + w\text{-}\acute{e}y$ and nominal definite plural $-ey + H$. However, they have different tones, since the demonstratives are <HL>-toned while the nominal suffixes are either H- or L-toned (depending on the tones of the stem). In addition, demonstrative $H + w\hat{o}$ and plural $H + w\text{-}\acute{e}y$ have an associated preceding H-tone than can be audibly expressed on an otherwise L-toned preceding syllable, as with ‘grass’ in (196). ‘Dog’ already has a final H-toned syllable, so it is not audibly affected by the floating H.

(196)	‘dog’	‘grass’
a. singular noun		
Fin/Def Sg	$h\acute{a}ns\text{-}\acute{o} + H$	$s\grave{u}b\text{-}\acute{o} + H$
Dem (two words)	$h\acute{a}ns\text{-}\acute{o} w\hat{o}$	$s\grave{u}b\text{-}\acute{o} \uparrow w\hat{o}$
Dem (contracted)	$h\acute{a}ns\text{-}\hat{o}$:	$s\grave{u}b\text{-}\hat{o}$:
Dem (doubled)	$h\acute{a}ns\text{-}\hat{o}: w\hat{o}$	$s\grave{u}b\text{-}\hat{o}: w\hat{o}$
b. plural noun		
DefPl	$h\acute{a}ns\text{-}\acute{e}y + H$	$s\grave{u}b\text{-}\acute{e}y + H$
Dem (two words)	$h\acute{a}ns\text{-}\acute{e}y w\text{-}\acute{e}y$	$s\grave{u}b\text{-}\acute{e}y \uparrow w\text{-}\acute{e}y$
Dem (contracted)	—	—

Contraction to $-\hat{o}$:. can even occur with nouns ending in short a , as in $k\grave{o}yr\grave{a} + H$ ‘village’, $k\grave{o}yr\grave{a} w\hat{o}$ or $k\grave{o}yr\text{-}\hat{o}$: ‘this/that village’. However, the many nouns with long-voweled final/definite singular $-\grave{a}$:, and the handful of nouns with stem-final long a : (e.g. $\acute{?}add\acute{u}h\acute{a}$: ‘mid-morning’), do not contract. V-final monosyllabic stems like $k\acute{u}$: ‘yam’ and $b\acute{e}$: ‘borassus palm’ likewise do not contract.

For comments on semantics and usage see §5.6.

4.4.2 Combinations of temporal noun plus demonstrative

Some of the more common combinations denoting the current ('this') time unit are given in (197). The contracted demonstrative type is productive and can be added to other time-of-day nouns such as those denoting one or another of the five daily Muslim prayers.

(197) Temporal adverbial phrases with demonstrative suffix

	form	free gloss	composition
a. suffixed			
	<i>hànd-ô:</i>	'this month'	month-DemSg
	<i>sù-súb-ô:</i>	'this morning'	morning-DemSg
	<i>cígín-ô:</i>	'tonight'	night-DemSg
b. phrasal			
	<i>hóⁿ↑-wô</i>	'today'	day-DemSg

The form *hóⁿ↑-wô* 'today' is rather frozen and I write it as one word. It is distantly related to *hán-ó + H* 'day', but the contraction is ancient (e.g. KCh *ho:ⁿ*). The simple form *hòⁿ* (L-toned) occurs in *hál hòⁿ* 'until today'.

4.4.3 Spatial demonstrative adverbs

The major spatial demonstrative adverbs are those in (198).

(198) Spatial demonstrative adverbs and adverbial phrases

	form	gloss	comment
a.	<i>né:↑-wò</i>	'here'	or <i>né:↑-^twô</i>
	<i>nè:</i>	'here'	
	= <i>nè</i>	'here'	clitic
b.	<i>nón-dì</i>	'there' (definite)	
	<i>nón-dí↑^twô</i>	'there' (definite)	
	= <i>nò ~ = nòŋ ~ = nò</i>	'there' (definite)	clitic
c.	<i>héndî</i>	'over there' (deictic)	
	<i>héndí^twô</i>	'over there' (deictic)	

- d. *dórí-yá:* 'wô 'here; (in) this place'
dórí-yá: ðì 'there; (in) that same place'

The combination #*nè:* *héndí* was rejected.

Some of the forms in (198) include demonstrative *wô* 'this/that'. *nón-dí* 'wô and *héndí* 'wô are less common than simple *nón-dì* and *héndí*. The *H + wô* in *dórí-yá:* 'wô is more tightly fused, since simple #*dórí-yá:* is not in use. *né:*↑-*wò* is the common nonclitic form for 'here', and I write it as one hyphenated word.

The forms in (198d) are not used by all HS speakers, but were common among my younger informants from Hombori itself. They may be related to *dúw-ó + H* 'place' (nonfinal *dêy ~ dôy*), and specifically to a 1Pl alienably possessed form *dúw-èy-ndíy-à:* 'our place'.

The clitics for 'here' and 'there (definite)' are especially common with locational-existential 'be' quasi-verbs (199), but can also follow true verbs and other predicates. *bár = nò* and *bár-nè* are usually pronounced [bán:ò], [bán:è] (§3.10.5). *H + gò:* 'be' is upstepped when it combines with the clitics.

- | | | | | |
|-------|-------------------------------|----------------|---|---|
| (199) | quasi-verb | gloss | with 'there' | with 'here' |
| a. | <i>H + gò:</i>
<i>bárâ</i> | 'be'
'X.be' | <i>H + gò:</i> ↑ = <i>nò</i>
<i>bár = nò</i> | <i>H + gò:</i> ↑ = <i>nè</i>
<i>bár-nè</i> |
| b. | <i>sí:</i> | 'not be' | <i>sí: = nò</i> | <i>sí: = nè</i> |

Spatial adverbs can be combined with a juxtaposed more specific locational phrase, as in (200).

- | | | | | |
|-------|----------------------------------|-----------|-------------------------|--------------------------|
| (200) | <i>à'</i> | <i>kâ</i> | <i>né:</i> ↑- <i>wò</i> | <i>dú-wéy-ndì</i> |
| | 3Sg | come | here | at our place (chez nous) |
| | 'He/She came here to our place.' | | | |

The basically nominal syntactic status of spatiotemporal adverbs is brought out by examples like (201), where 'here' functions as postverbal object of a VO verb 'see'.

- | | | | |
|-------|--------------------------------------|------------|------------|
| (201) | <i>ỳ</i> | <i>dí:</i> | <i>nè:</i> |
| | 2Sg | see | here |
| | 'Did you-Sg see here (=this place)?' | | |

A nuanced semantic distinction between *né:*↑-*wò* and cliticized =*nè* is suggested by the contrast between (202a) and (202b). The temporal inflexibility of =*nè* suggests a tighter link to the here-and-now, as in presentatives with *nè:* (§7.2.3.3). For *tê* 'happen, take place, occur' see §7.1.1.3.

- | | | | | |
|-------|----|---|--------------|-------------------------|
| (202) | a. | <i>hàrg-ò</i> | <i>tê</i> | <i>né:</i> ↑- <i>wò</i> |
| | | cold[noun]-Fin/DefSg | happen/exist | here |
| | | 'Cold weather occurs/occurred here.' (can refer to past time) | | |

- b. *hàrg-ò* *té=nè*
 cold[noun]-Fin/DefSg happen/exist=here
 ‘Cold weather is happening (now).’

4.4.4 Demonstrative expressions based on distal *yá:* ‘there’

In contexts involving trajectories or vague location (‘it ran this way’, ‘he will sit somewhere around here’), the demonstrative adverb system tends to reduce to a binary distinction between proximal *nè:* and distal *yá:*. (203) illustrates with approximative *hérê* ‘around, through, along, in the general area of’.

(203) Spatial demonstrative adverbs with approximative *hérê*

	form	gloss	comment
a.	<i>nè: hérê</i>	‘along here, around here’	also <i>né:↑-wò hérê</i>
b.	<i>yá: hérê</i>	‘along there, around there’	

yá: but not *nè:* also occurs with *cíné* ‘(the) likes (of sth)’ in the common manner adverbial expression *yá:-cíné* ‘(in) this manner’. A near-synonym is *yá:-wò* ‘thus, like this/that’, and *yá:-cíné* is perhaps best considered a reduction from *yá:-wò cíné*, which is also attested. *yá:* also occurs in *yá:-dîn* ‘in that (same) way’. In (204b) *yá:-wò* functions as a noun.

- (204) a. *yá:-cíné gá à bò: ↑hímà w ↑tíy-à*
 this.way Focus 3Sg XImpf.Infin ought Infin do-ResultPass
 ‘This is the way it should be done.’
- b. [*yá:-wò cíl-ò*] *sù* *ká:n* ‘s-êy
 [like.this image.PossSg] ImpfNeg be sweet to me
 ‘(Behavior) like this doesn’t please me.’
- c. [*yá:-dîn dá*] ‘tê:-ŋ
 [like.that Emph] do-Imprt
 ‘Do like that.’ (e.g., ‘Keep doing what you’ve been doing.)

4.4.5 Emphatic and approximative modifiers of demonstratives

Emphatics of the type ‘right here’ can be expressed by adding emphatic *dâ* or the all-purpose emphatic *já:tîn* (<Fulfulde) after the basic adverbial expression. For ‘right here’ the forms with *dâ* are *né:↑-wò dâ* alongside *nè: dâ*. For ‘right there’ we get *nón-dî dâ* (discourse-definite) or *héndî dâ* (deictic).

The most common form of the ‘now’ adverb is *mà-sán-dâ* (§5.13.2). A slightly more emphatic form is *mà-sán-dá sà:tíyò*. I have no other attestations of *sà:tíyò*, which may have originated as a diminutive of the noun *sá:tê* ‘time, hour’ (ultimately < Arabic).

Approximative *hérê* ‘around (here/there)’ is added to a spatial expression (NP or demonstrative adverb) to indicate either vague location or a trajectory through a space. Examples with demonstratives are in (203) in §4.4.4 above.

4.5 Nominalizations and nominal inflection

4.5.1 Verbal nouns in *-jɔŋ + H*

There are two productive verbal noun formations. The fully productive one (cf. English *-ing*) is that with suffix *-jɔŋ + H* added to the verb stem, forming simple verbal nouns like those in English *-ing*. A homophonous suffix *-jɔŋ + H* is used with nouns as an indefinite plural suffix (§5.4.11), but verbal nouns with *-jɔŋ + H* take singular agreement. The floating H has audible effect in the verbal noun in (205), where it docks on the imperfective morpheme.

(205)	<i>dirà-jòŋ</i>	\uparrow <i>gú</i>	\uparrow <i>bóri</i>
	/dirà-jòŋ + H	gù(+ H)	bòrì/
	walk-VblN	Impf	be.good
	‘Walking is good.’		

Examples of verbal noun *-jɔŋ + H* are in (206). The word-level phonology is regular. The suffix gets its tone by spreading from the final tone of the stem. If the stem-final syllable has <HL>-tone, the L is realized on the suffix and the preceding syllable is H-toned. The distinction between *Cv* and *Cv:* monosyllabics is preserved, unlike the case with *-r-o + H* verbal nouns.

(206) Verbal nouns in *-jɔŋ*

gloss	verb	VblN
a. bisyllabic		
<i>{H}-toned</i>		
‘fall on buttocks’	<i>dókó</i>	<i>dókó-jóŋ + H</i>
‘hit’	<i>kárú</i>	<i>kárú-jóŋ + H</i> (see below)
<i>{L}-toned</i>		
‘walk’	<i>dirà</i>	<i>dirà-jòŋ + H</i>
‘turn over’	<i>bèrè</i>	<i>bèrè-jòŋ + H</i>
<i>{HL}-toned</i>		
‘eat breakfast’	<i>fúmmé</i>	<i>fúmmé-jòŋ + H</i>
‘go in’	<i>húra</i>	<i>húra-jòŋ + H</i>

b. CvC		
{H}-toned		
‘separate’	<i>fěy</i>	<i>fěy-ńóŋ + H</i>
{L}-toned		
‘scatter’	<i>sèy</i>	<i>sèy-ńòŋ + H</i>
{HL}-toned		
‘buy’	<i>děy</i>	<i>děy-ńòŋ + H</i>
c. Cv, Cv: (vowel-length distinction preserved)		
{H}-toned		
‘arrive’	<i>tó:</i>	<i>tó:-ńóŋ + H</i>
{L}-toned		
‘want’	<i>bà</i>	<i>bà-ńòŋ + H</i>
‘come’	<i>kà</i>	<i>kà-ńòŋ + H</i>
‘take out’	<i>kà:</i>	<i>kà:-ńòŋ + H</i>
{HL}-toned		
‘happen’	<i>tê</i>	<i>tê-ńòŋ + H</i>
‘say’	<i>nê</i>	<i>nê-ńòŋ + H</i>
‘test’	<i>sî:</i>	<i>sî:-ńòŋ + H</i>
d. trisyllabic		
{H}-toned		
‘tell a lie’	<i>tánǵárí</i>	<i>tánǵárí-ńóŋ + H</i>
{L}-toned		
‘treat (medically)’	<i>sàfàrì</i>	<i>sàfàrì-ńòŋ + H</i>
{HL}-toned		
‘calm down’	<i>súbúrí</i>	<i>súbúrí-ńòŋ + H</i>
{LHL}-toned		
‘get tired’	<i>zàràbí</i>	<i>zàràbí-ńòŋ + H</i>

KS *-yaŋ* ~ *-yan* and H-toned TSK *-yów* are cognates of HS *-ńoŋ + H*, used in both verbal noun and indefinite plural function. Whereas KS allows *-yaŋ* ~ *-yan* to take a definite singular suffix (the combination appearing as *-yan-oo*), in HS no suffixes can be added to *-ńoŋ + H*.

There is no *-ńoŋ + H* verbal noun for the quasi-verbs *H + gò*: ‘be’ (in a location), its negation *sí*: ‘not be’, *nôŋ* ‘it is ...’ (identificational), copula *cì* ‘be’, or *té*: ‘become’. For another quasi-verb, *bárâ* ‘X.be’, which replaces *H + gò*: in extraction constructions, *bárâ-ńòŋ + H* was (marginally) elicitable but seems rare.

In the case of transitive verbs that have an intransitive derivative with suffix *-à*, the usual verbal noun is based on the intransitive derivative. It may be difficult to determine whether the derivative has unspecified object or resultative passive sense, though the semantic context may point to one or the other. In the absence of a context favoring a passive reading (‘being hit’), the unspecified object reading (‘hitting [things]’) is preferred. Examples of the two senses are *kâr-à-ńòŋ + H* in (207a-b). If there is an overt direct object, nominal or pronominal, the verbal noun is based directly on the transitive, as in (207c-d) with *kárú-ńóŋ + H*.

- (207) a. *kâr-à-ṣòṅ* *gá=ṣ́=ṣ́* *‘té:* *túndú*
 hit-ResultPass-VbIN Focus=Tr=3SgO make idiot
 ‘Hitting (=being hit) [focus] has turned him into an idiot.’
- b. *kâr-à-ṣòṅ* [*kàl* *gá:bì*]
 hit-UnspecO-VbIN [must strength]
 ‘Hitting (e.g., hammering) requires strength.’
- c. *gúr-ó* *kárú-ṣòṅ*
 iron-Fin/DefSg hit-VbIN
 ‘tapping (=hammering) iron.’
- d. *nèy* *kárú-ṣòṅ*
 1SgO hit-VbIN
 ‘hitting me’
- e. *à’* *zàràbí* *dírà-ṣòṅ*
 3Sg be tired walk-VbIN
 ‘He’s tired from walking.’

Example (207a) shows that the verbal noun can function as a clausal argument, in this case subject. The *-ṣòṅ + H* verbal noun can be used as a citation form, as when an interlocutor queries a speaker metalinguistically as to the identity of a verb. However, more common in citation function is the bare infinitival form beginning with *kù*, as in intransitive *kù ùdírà* ‘to walk’ and transitive (with nonreferential 3Sg object proclitic) *kù ù=ṣ́ kárú* ‘to hit’.

4.5.2 Verbal nouns in *-r-o + H* (nonfinal *-r-u ~ -rî*)

Almost as productive as *-ṣòṅ + H* is a verbal noun suffix whose final singular form is *-r-o + H*. The nonfinal counterpart is usually *-r-u*, with a few cases of archaic <HL>-toned nonfinal *-rî* and one of nonfinal *-rê* after lexically {L}-toned stem, see below. Both *-r-u* and *-r-o + H* are atonal, and acquire their tones by copying from the final tone of the stem. Unlike *-ṣòṅ + H*, *-r-o + H* lengthens a preceding *Cv* stem to *Cv:-* (208c). Like *-ṣòṅ + H*, *-r-o + H* is added to intransitivized forms of transitives, provided that the stem has an *-a* suffixed derivative (passive or unspecified-object) and that no object noun is overtly present.

(208) Verbal nouns in *-r-o + H*

gloss	verb	VblN	VblN gloss
a. bisyllabic			
<i>{H}-toned</i>			
‘be rotten’	<i>fúmbú</i>	<i>fúmbú-r-ó + H</i>	‘rotteness’
‘be bitter’	<i>hóttó</i>	<i>hóttó-r-ó + H</i>	‘bitterness (taste)’
‘be dry’	<i>kó:gú</i>	<i>kó:gú-r-ó + H</i>	‘dryness’
‘be expensive’	<i>séndí</i>	<i>séndí-r-ó + H</i>	‘inflation, high cost’
<i>{L}-toned</i>			
‘pay (sb)’	<i>bàná</i>	<i>bàná-r-ò + H</i>	‘(sb’s) pay, wages’
‘turn over’	<i>bèrè</i>	<i>bèrè-r-ò + H</i>	‘overturning’
‘walk’	<i>dìrà</i>	<i>dìrà-r-ò + H</i>	‘departure, traveling’
‘plant (crop)’	<i>dùmà</i>	<i>dùmà-r-ò + H</i>	‘sowing, planting’
‘cut-UnspecO’	<i>dùmb-à</i>	<i>dùmb-à-r-ò + H</i>	‘cutting; destiny’
‘shut-UnspecO’	<i>dà:b-à</i>	<i>dà:b-à-r-ò + H</i>	‘lid, cover’
‘be nasty’	<i>fùtù</i>	<i>fùtù-r-ò + H</i>	‘nastiness’
		[compare <i>fùtùr-ò + H</i> ‘twilight’]	
‘hit-UnspecO’	<i>kàr-à</i>	<i>kàr-à-r-ò + H</i>	‘hitting’
‘be angry’	<i>zàhà</i>	<i>zàhà-r-ò + H</i>	‘anger’
<i>{HL}-toned</i>			
‘be in seclusion’	<i>dámbê</i>	<i>dámbê-r-ò + H</i>	‘prenuptial seclusion’
‘eat breakfast’	<i>fúmmê</i>	<i>fúmmê-r-ò + H</i>	‘breakfast’
‘go far away’	<i>mó:rû</i>	<i>mó:rû-r-ò + H</i>	‘distance’
‘witness’	<i>sé:dê</i>	<i>sé:dê-r-ò + H</i>	‘testimony’
b. CvC stems			
<i>{H}-toned</i>			
‘separate’	<i>fěy</i>	<i>fěy-r-ó + H</i>	‘separation’
<i>{HL}-toned</i>			
‘buy’	<i>děy</i>	<i>děy-r-ò + H</i>	‘purchase’
<i>{L}-toned</i>			
‘disperse’	<i>sèy</i>	<i>sèy-r-ò + H</i>	‘dispersion, migration’
c. Cv, Cv: stems			
<i>{H}-toned</i>			
‘arrive’	<i>tó:</i>	<i>tó:-r-ó + H</i>	‘arrival’
<i>{HL}-toned</i>			
‘test’	<i>sí:</i>	<i>sí:-r-ò + H</i>	‘testing’
<i>{L}-toned</i>			
‘come’	<i>kà</i>	<i>kà:-r-ò + H</i>	‘arrival (here)’
‘take’	<i>zà</i>	<i>zà:-r-ò + H</i>	‘taking’

- d. trisyllabic
 ‘cough’ *kògòtô* *kògòtó-r-ò + H* ‘coughing’

fúmmê ‘eat breakfast’ also has a related noun *fúmmá:rî* ‘breakfast’, directly borrowed (like *fúmmê* itself) from Fulfulde.

The known cases of archaic nonfinal *-rî*, compatible only with {L}-toned stems, are given in (209). Some have rather lexicalized senses. The final/definite singular form is still *-r-ò + H*, since the final/definite singular suffix cannot take a contoured tone, but in the {LHL} cases we hear the H-tone on the penult of the final/definite singular form, see §3.9.6.2.

(209) Verbal nouns with nonfinal *-rî*

gloss	verb	<i>-r-ò + H</i> Fin/Def Sg	<i>-rî</i> Nonfinal	gloss
a. L-toned monosyllabic stem				
‘eat’	<i>ɲà:</i>	<i>ɲà:-r-ò + H</i> (3Poss <i>ɲá:-r-ò</i>)	<i>ɲà:-rî</i>	‘food’
b. L.L-toned bisyllabic stem				
<i>final-singular and nonfinal with {LHL} melody</i>				
‘create’	<i>tàkà</i>	<i>tàká-r-ò + H</i>	<i>tàkà-rî</i>	‘creation’
‘help’	<i>fà:bà</i>	<i>fà:bá-r-ò + H</i> (3Poss <i>fà:bá-r-ò</i>)	<i>fà:bà-rî</i>	‘assistance’
‘call name’	<i>zàmà</i>	<i>zàmá-r-ò + H</i> (3Poss <i>zàmá-r-ò</i>)	<i>zàmà-rî</i>	‘family name’
<i>final-singular form with {L}, nonfinal with {LHL} melody</i>				
‘replaster’	<i>sòpt-à</i>	<i>sòpt-à-r-ò + H</i> (3Poss <i>sòpt-á-r-ò</i>)	<i>sòpt-à-rî</i>	‘replastering’ (also <i>sòtt-à</i> etc.)

Nonfinal *-rê* occurs in final/definite singular *dù:-r-ò + H*, nonfinal *dù:-rê* (alongside *dù:-r-û*) ‘acquiring, getting’ from *dù* ‘get’.

If a verb has a well-established lexicalized nominal in *-i* or *-ey* with roughly verbal-noun sense (next section), the *-r-o + H* form is not always elicitable. For example, from *dóru* ‘be sick’ the usual noun is *dór-í* (definite singular *dór-ó*), and *dóru-r-ó* is elicitable but apparently not in use. For the majority of verbs, though, it is possible to elicit a *-r-o + H* form.

The semantic difference between *-noŋ + H* and *-r-o + H* may be slight, but the former is always a pure, atemporal abstractive verbal noun while the latter tends to denote an event or a temporally located or bounded process. A few *-r-o + H* forms show further semantic specialization as **instrumental** nouns (e.g. ‘close, shut’ plus *-r-o + H* gives *dà:b-à-r-ò + H* ‘lid, cover’, parallel to English *covering*).

4.5.3 Deverbal nominals in *-i* and *-ey*

A number of verbs have a related nominal in suffix *-i* or *-ey* instead of, or in addition to, the productive verbal noun with *-r-o*. There are some lexical idiosyncrasies in the tonal relationships between the verb and the nominal.

The known examples of *-i* are in (210). The tones of the nominal are sometimes, but not always, related to those of the associated verb. For the *-i* nominals in (210a), the suffix *-o + H* is elicited, e.g. before strong definite *H + di*, but is not in common use. The nominals in (210b) tend to restrict *-i* to nonfinal (NF) position, making it easier for nonfinal suffix *-u* to replace *-i*. When this replacement occurs, they merge with zero-derived nominals (§4.5.4).

(210) Nominals in *-i*

a. *-i* often used finally, *-o + H* limited to definite contexts

gloss	verb	nominal		gloss
		NF/FinSg	DefSg	
<i>{L}</i> -toned noun and verb				
‘be healthy’	<i>bà:n</i>	<i>bà:n-ì</i>	<i>bà:n-Ø-ò + H</i>	‘peace, wellbeing’
‘be good’	<i>bò:rì</i>	<i>bò:r-ì</i>	<i>bò:r-Ø-ò + H</i>	‘goodness, beauty’
‘add’	<i>tòn-tòn</i>	<i>tòn-tòn-ì</i>	—	‘addition’
<i>{H}</i> / <i>{L}</i> -toned noun from <i>{H}</i> or <i>{HL}</i> -toned verb				
‘weep’	<i>hé:ⁿ</i>	<i>hé:n-í</i>	<i>hé:n-Ø-ò + H</i>	‘weeping’
tone shift from <i>{H}</i> to <i>{L}</i> in (final-)definite singular (§4.1.2.3)				
‘be sweet’	<i>kâ:n</i>	<i>kâ:n-í</i>	<i>kâ:n-Ø-ò + H</i>	‘sweetness’
‘speak’	<i>sèlèŋ</i>	<i>sénn-í</i>	<i>sénn-Ø-ò + H</i>	‘language, speech’

b. *-o + H* often used finally, *-i ~ -u* generally nonfinal only

gloss	verb	NF	nominal		gloss
			Fin/Def Sg		
<i>{H}</i> -toned noun from <i>{H}</i> - or <i>{HL}</i> -toned verb					
‘be sick’	<i>dórú</i>	<i>dór-í ~ -ú</i>	<i>dór-Ø-ó + H</i>		‘disease, ailment’
as above but segment added, as in adjective (<i>yèyn-ò + H</i> ‘cold’)					
‘be cold’	<i>yéy</i>	<i>yéyn-í ~ -ú</i>	<i>yéyn-Ø-ó + H</i>		‘cold, cold weather’
as above but syncope and *rn → nn, as in adj. <i>kònn-ò + H</i> ‘hot’					
‘be hot’	<i>kóróŋ</i>	<i>kónn-ú</i>	<i>kónn-Ø-ó + H</i>		‘heat, hot weather’
<i>{H}</i> -toned noun, semantically divergent from <i>{L}</i> -toned verb					
‘plant crops’	<i>dùmà</i>	<i>dúm-í</i>	<i>dúm-Ø-ó + H</i>		‘sowing, planting; race (ethnicity)’
<i>{L}</i> -toned noun from <i>{H}</i> - or <i>{HL}</i> -toned verb					
‘be dirty’	<i>zí:bí</i>	<i>zì:b-ì</i>	<i>zì:b-Ø-ò + H</i>		‘dirtiness’

‘sing’	<i>dô:n</i>	<i>dò:n-ì ~ -ù</i>	<i>dò:n-Ø-ò + H</i>	‘song’
‘dance’	<i>gâ:n</i>	<i>gà:n-ì ~ -ù</i>	<i>gà:n-Ø-ò + H</i>	‘(a) dance’
<i>as above but segment added, as in adjective (bù:n-ò + H ‘lethargic’)</i>				
‘die’	<i>bú:</i>	<i>bù:n-ù</i>	<i>bù:n-Ø-ò + H</i>	‘death’

-Ø- in the definite forms indexes the zeroing of the underlying -i. Elsewhere I do not usually include a -Ø- of this type in transcriptions. Compare ‘death’ in the list above with the compound *gá:-[bú:n-í]* ‘laziness’, which consists of *gá:* ‘body’ and a {H-toned verbal noun of *bú:* ‘die’ (**bú:n*)}.

The known examples of -ey nominals are in (211). Note the predominant form *CVC-êy* with L.<HL> tones. When a final/definite singular or definite plural suffix is added, the nominal suffix (including the diphthong -ey) is segmentally obliterated, and the H-tone element in the <HL>-toned suffix is lost. The forms in -ey without further suffixation are in common use as abstract nouns, while the suffixed -o + H forms are mostly found before strong definite *H + ði* (and not always there). There are some additional nouns and compound finals of this shape that cannot be decomposed in the absence of an associated verb, e.g. *sà:rêy* ‘grave, tomb’ (nonfinal form), *-târêy* ‘-hood’ (§4.8.7).

(211) Nominals in -ey

gloss	verb	nominal		gloss
		NF/FinSg	DefSg	
a. <HL>-toned -êy				
<i>after {L}-toned stem, regardless of tone of verb</i>				
‘be big’	<i>bé:rì</i>	<i>bè:r-êy</i>	<i>bè:r-Ø-ò + H</i>	‘respect, honor’
‘walk’	<i>dirà</i>	<i>dir-êy</i>	<i>dir-Ø-ò + H</i>	‘(a) trip, travel’
‘be able’	<i>hín</i>	<i>hìn-êy</i>	<i>hìn-Ø-ò + H</i>	‘(the) means’
‘be difficult’	<i>séndí</i>	<i>sènd-êy</i>	<i>sènd-Ø-ò + H</i>	‘hardship’
‘become old’	<i>zé:n</i>	<i>zè:n-êy</i>	—	‘old age’
‘be tired’	<i>jêŋ</i>	<i>-jèŋ-êy</i>	<i>-jèŋ-Ø-ò + H</i>	‘lack of ...’ (§4.8.8)
<i>after {H}-toned stem</i>				
‘marry’	<i>hí:jí</i>	<i>hí:j-êy</i>	<i>hí:g-Ø-ò + H</i>	‘marriage’
(for <i>j ~ g</i> see §3.6.4)				
b. L-toned -èy after {L}-toned stem, {HL}-toned verb, meals				
‘eat lunch’	<i>círgósû</i>	<i>cìrgòs-èy</i>	<i>cìrgòs-Ø-ò + H</i>	‘lunch’
‘eat supper’	<i>háwrû</i>	<i>hàwr-èy</i>	<i>hàwr-Ø-ò + H</i>	‘supper’
c. H-toned -éy				
‘go crazy’	<i>hóló</i>	<i>hól-éy</i>	<i>hól-Ø-ó + H</i>	‘craziness’

Again, -Ø- in the definite forms indexes the zeroing of the underlying -ey.

A few additional examples of -i and -ey occur only in **compounds**. Several consist of ‘heart’ (*bìnè*) or ‘head’ (*bòŋ*) as compound initial plus an abstractive nominal.

There is often an associated compound adjective, and the abstractives could be considered deadjectival.

(212) Compounds

gloss	verb	nominal NF/FinSg DefSg	gloss
a. synonymous <i>-i</i> and <i>-ey</i>			
<i>bìn-[ká:n-éy]</i>	‘joy’		“heart-[be.sweet-Nom]”
<i>bìn-[ká:n-í]</i>	“		“
<i>bòŋ-[ká:n-éy]</i>	‘good fortune’		“head-[be.sweet-Nom]”
<i>bòŋ-[ká:n-í]</i>	“		“
b. <i>-ey</i>			
<i>bìn-[hásár-éy]</i>	‘disappointment’		“heart-[ruin-Nom]”
<i>bòn-[cèyr-èy]</i>	‘foolishness’		“head-[break-Nom]”
<i>bòŋ-[fèr-éy]</i>	‘culture’		“head-[open-Nom]”
<i>bòŋ-[fút-éy]</i>	‘bad luck’		“head-[be.bad-Nom]”
<i>bòŋ-[háw-éy]</i>	‘quandary’		“head-[tie-Nom]”

In isolation, when the final is {H}-toned, as in *bìn-[ká:n-éy]* and *bòŋ-[fút-éy]*, I often hear the initial as likewise H-toned. However, with 3Sg possessor the initial’s L-tone is clear: à’ *bìn-ká:n-ò* ‘his joy’.

‘Fever’ is *bòŋ-[sàr-ò + H]*, lit. “head-jumping,” cf. *sáru* ‘jump’. The nonfinal form is *bòŋ-[sàr-ù]* or (archaic) *bòŋ-[sàr-í]*. The forms suggest a possible origin as a haplogically reduced form of **bòŋ-[sàr-ù-rí]*, rather than as a derivative in *-í*.

‘Fear [noun]’ is expressed as the compound *hámbúru-kúbéy*, cf. verb *hámbúru* ‘be afraid’. For the compound final cf. *kúb-ó + H* ‘darkness’. The existence of a noun *hámbúru-ó + H* ‘head hair’ may have motivated the development of a compound.

4.5.4 Zero-derived nominals and minor nominalizations (*-réy*, *-ów*, *-mî*)

In (213a), the verb and the associated noun are identically tonally and segmentally. Final/definite singular *-o + H* is strictly definite in function and is not widely used. Because the stems end in *ey*, it is also possible that the nouns have the *-ey* suffix described in the preceding section, contracting with the stem-final *ey*. The example in (213b) has {H}-toned verb and {L}-toned noun, compare the meal terms ‘lunch’ and ‘supper’ in (211b) in the preceding section.

(213) Zero-derived verbal nouns

gloss	verb	nominal		nominal gloss
		NF/FinSg	DefSg	
a. verb and noun {H}-toned				
‘trust’	<i>ná:néy</i>	<i>ná:néy</i>	[not used]	‘trust [noun]’
‘converse’	<i>fóká:réy</i>	<i>fóká:réy</i>	<i>fóká:r-ó + H</i>	‘conversation’
b. verb {H}-toned, noun {L}-toned				
‘get clothes’	<i>bàṅká:réy</i>	<i>bàṅkà:rèy</i>	<i>bàṅkà:r-ò + H</i>	‘clothing’

There are also some examples of more or less zero-derived nominals whose *-o + H* suffixed form is now lexically basic. For example, verb *túfêy* ‘spit’ is associated with the noun *túf-ò + H* ‘(gob of) spit’. The nonfinal form is either *túf-û* or (probably archaic) *túfêy*, the latter variant revealing the zero derivation.

There are only a handful of minor nominal suffixes (with verbal-noun-like sense) that remain to be accounted for. The cases in (214) are abstractive, and the forms in *-réy* and *-ów* are regularly used in NP-final as well as nonfinal position. The definite forms are occasionally used before a demonstrative or strong definite morpheme.

(214) Minor nominal types (*-réy*, *-ów*)

gloss	verb	nominal		gloss
		NF/Final	DefSg	
a. <i>-réy</i>				
‘know’	<i>béy</i>	<i>béy-réy</i>	<i>béy-r-ó + H</i>	‘knowledge, wisdom’
‘possess’	<i>mèy</i>	<i>méy-réy</i>	<i>méy-r-ó + H</i>	‘taking possession’
b. <i>-ów</i>				
‘malfunction’	<i>hàsàrà</i>	<i>hásár-ów</i>	—	‘damage, malfunctioning’

Regarding (214b), there is a transitive verb *hásár-ów* ‘cause damage’, but it may be a secondary denominative from the verbal noun *hásár-ów*.

There are a few nominals in *-m-ò + H*, with an archaic nonfinal form *-mî*. Only ‘farming’ is currently in wide use (215).

(215) Nominals in *-m-ò + H*, nonfinal *-mî*

gloss	verb	nominal		gloss
		Nonfinal	Fin/Def Sg	
‘weave’	<i>cèy</i>	<i>cèy-mî ~ -m-ù</i>	<i>cèy-m-ò + H</i>	‘sth woven’ [rare]
‘buy’	<i>dèy</i>	<i>dèy-mî ~ -m-ù</i>	<i>dèy-m-ò + H</i>	‘(a) purchase’ [rare]

‘farm’	<i>fàrù</i>	<i>fàr-mî ~ -m-ù</i>	<i>fàr-m-ò + H</i>	‘farming, agriculture’
‘sit’	<i>gòrò</i>	<i>gòr-mî ~ -m-ù</i>	<i>gòr-m-ò + H</i>	‘sitting’ [rare]

dèy-mì was recognized by a young informant only in the compound *mè:-[dèy-m-ò]* (lit. “mouth-purchase”), which denotes a traditional prestation by a young man to his betrothed prior to the wedding. The same speaker recognized *cèy-mì* only in *[túŋg-ú]-[cèy-m-ò]* ‘woven wrap (woman’s garment)’, traditionally made by local weavers.

An unusual form is *mé-[fèr-méy]* ‘prayer at the time of breaking one’s fast (in Ramadan). It is based on *mê* ‘mouth’ and *fèrí* ‘untie’ (compare the antonym *háw-mê* ‘fast’ from *háw* ‘tie’ and *mê* ‘mouth’).

There is no productive instrumental nominalization, but note the archaic survival in (216), cf. KS verb *ha:bu* ‘sweep’ and instrumental nominal *ha:bi-rji* ‘broom’.

(216) Archaic instrument nominal

gloss	verb	nominal	gloss
		Nonfinal	Fin/Def Sg
‘sweep’	<i>fí:sî</i>	<i>fì sîgì ~ fìsîg-ù</i>	<i>fìsîg-ò + H</i> ‘broom’

4.5.5 Characteristic nominals (*-kòynì*, *-kòm*, *kóy*)

The derivational suffixes (or specialized compound finals) in this section can be loosely called **characteristic** (abbreviation Char) since the resulting nominal denotes a fixed attribute of a person.

The known cases of derivational suffix *-kòynì* are in (217). The suffix is added directly to a noun stem, as in a tight compound, and may be glossed ‘possessor of X’, especially where X denotes a stable, socially significant attributes. The final/definite singular form is *-kòyn-ò + H* and is generally restricted to definite function. The **stem drops tones to {L}**, so the entire word is {L}-toned.

In a few cases like ‘sleeping person’ (217c), one can argue that the compound initial is really a verb (the derivative then being agentive-like), but we could also consider the possibility of a zero-derived nominal.

(217) Characteristic nominals in *-kòynì*

gloss	noun	Characteristic	gloss
a. L-toned noun			
‘peace, health’	<i>bà:n-ì</i>	<i>[bà:n-ì]-kòynì</i>	‘sb with no cares’
‘head’	<i>bòŋ</i>	<i>bòŋ-kòynì</i>	‘chief’
‘thing; wealth’	<i>hàyà</i>	<i>hàyà-kòynì</i>	‘wealthy person’
b. H-toned noun			
‘knowledge’	<i>béy-réy</i>	<i>[bèy-rèy]-kòynì</i>	‘sage, expert’

‘disease’	<i>dór-Ø-ó + H</i>	<i>[dòr-ù]-kòynì</i>	‘sick person’
‘idol (fetish)’	<i>tó:r-ó + H</i>	<i>[tò:r-ù]-kòynì</i>	‘fetish owner’
c. ...<HL>-toned (or HL) noun			
‘sleep [verb]’	<i>jìrbî</i>	<i>jìrbî-kòynì</i>	‘sleeping person’
‘strength’	<i>gá:bì</i>	<i>gá:bì-kòynì</i>	‘powerful person’
‘belly’	<i>gùndê</i>	<i>gùndê-kòynì</i>	‘pregnant woman’
‘hunger’	<i>hèrêy</i>	<i>hèrêy-kòynì</i>	‘malnourished one’
‘house’	<i>húw-ó + H</i>	<i>hù-kòynì</i>	‘head of family’
	[nonfinal form <i>hû</i>]		
‘livestock’	<i>jáwdî</i>	<i>jáwdî-kòynì</i>	‘wealthy person’
‘day; success’	<i>zá:nî</i>	<i>zá:nî-kòynì</i>	‘successful person’

Suffix *-kòm* (final/definite singular *-kòm-ò + H*) is attested in *hòl-kòm-ò + H* ‘crazy person; person in trance (spirit possession)’, cf. *hóló* ‘become crazy’.

Where a person is defined by reference to a dwelling, a vehicle, a workplace, working gear, or a similar object, a possessive construction ending in *kóy-ó + H* (nonfinal *kôy*) ‘owner of’ can be used. Here *kóy-ó + H* takes its regular PossSg (alienably possessed) form *kóy-ò* without floating H. Examples are in (218).

(218) Characteristic nominals with *kóy-ò*

gloss	Fin/Def Sg	Characteristic	gloss
‘store, shop’	<i>bítíg-ò + H</i>	<i>bítíg-ò kóy-ò</i>	‘shopkeeper’
‘country, land’	<i>gánd-à: + H</i>	<i>gánd-à: kóy-ò</i>	‘landowner’
‘house’	<i>húw-ó + H</i>	<i>húw-ó kóy-ò</i>	‘homeowner’
‘vehicle, truck’	<i>mòbíl-ò + H</i>	<i>mòbíl-ò kóy-ò</i>	‘truck owner’
‘table, selling stand’	<i>tà:bál-ò + H</i>	<i>tà:bál-ò kóy-ò</i>	‘pedlar with stand’

The nonfinal form *kôy* is seen in *bítígí ‘kôy fò: ‘one shopkeeper’ (bítígí)*.

Unpossessed, uncompounded *kóy-ó + H* is used in discourse as an informal anaphoric expression denoting someone who has been introduced into the discourse earlier (generally without a name). Rough English equivalents are forms like *the guy*, as in “if somebody_x comes and nobody is here, I’ll leave a note so the guy can find me.” Local French *l’intéressé(e)* is also used like this. *kóy-ó + H* may also be related to the noun *kò-kòy-ò + H* ‘chief, headman, king’.

4.5.6 Participle *-ànt-ò + H* and ordinal *-ànt-ò + H*

The **participial** suffix *-ànt-ò* can be added to many (but not all) verbs to create an adjective. The participle denotes characteristic or at least relatively stable attributes (‘disgusting’, ‘living’, ‘clean’) of the entity in question, often focusing on behavioral patterns with a tinge of moral evaluation. It is not elicitable with verbs denoting atelic processes (*#gà:n-ànt-ò + H* ‘dancing’) or e.g. with stance verbs in their core sense

(#*gòr-ànt-ò + H* ‘sitting’). The entire word is {L}-toned, erasing lexical tones of the verb stem. The suffix reflects *-ante (unsuffixed form). Some speakers still have -*àntè* as nonfinal form (i.e. before another modifier), but many use the productive nonfinal suffix -*u*, hence -*ànt-ù*, in this position. The final/definite singular form -*ànt-ò + H* will be the citation form.

(219) Examples of participial -*ànt-ò + H*

gloss	verb	Participial	gloss
‘be disgusting’	<i>dá:yê</i>	<i>dà:y-ànt-ò + H</i>	‘disgusting’
‘stand, stop’	<i>gâ:y</i>	<i>gà:y-ànt-ò + H</i>	‘straight’
‘be alive’	<i>húná</i>	<i>hùn-ànt-ò + H</i>	‘living, alive’
‘be unkempt’	<i>húsú</i>	<i>hùs-ànt-ò + H</i>	‘unkempt’
‘be rude’	<i>hínsî</i>	<i>hìns-ànt-ò + H</i>	‘rude’
‘be last’	<i>kò-kòrù-bándé</i>	<i>kò-kòrù-bànd-ànt-ò + H</i>	‘last (in order)’
‘do poorly’	<i>làgàrè</i>	<i>làgàr-ànt-ò + H</i>	‘fragile’
‘be wet’	<i>tá:y</i>	<i>tà:y-ànt-ò + H</i>	‘wet’
<i>irregular</i>			
‘be clean’	<i>hìnèŋ</i>	<i>hìnw-ànt-ò + H</i>	‘clean’

For irregular ‘clean’ in (219), there is a variant participle *hìn-ànt-ò + H* ‘clean’, cf. causative *hín-éyndí ~ hínw-éyndí* ‘clean (sth)’ (§6.2.2).

Cv and *Cv*: monosyllabic stems lack participles, probably because of phonological difficulties (avoidance of #*C-àntò + H* with the stem reduced to a consonant). Informants rejected participles for e.g. *tó*: ‘be full’ and *tá*: ‘sew’, where the semantics would seem to be favorable.

Ordinal -*ànt-ò + H* is not distinguishable formally from participial -*ànt-ò + H* (in some other Songhay languages they are distinct at least in the final/definite singular form). Examples including the numerals ‘2-10’ are in (220). Numerals from ‘2’ to ‘5’, along with their ordinals, take absolute prefix *?i- + H* when not modifying a preceding noun, hence *?i-hínká* ‘two (of them)’, ordinal *?i-hínk-ànt-ò* ‘the second one’.

(220) Examples of ordinal -*ànt-ò + H*

gloss	numeral	ordinal	gloss
‘two’	<i>hínká</i>	<i>hínk-ànt-ò + H</i>	‘second’
‘three’	<i>hínzâ</i>	<i>hínz-ànt-ò + H</i>	‘third’
‘four’	<i>tá:cí</i>	<i>tà:k-ànt-ò + H</i>	‘fourth’
‘five’	<i>gú:</i>	<i>gùw-ànt-ò + H</i>	‘fifth’
‘six’	<i>?íddû</i>	<i>ìddùw-ànt-ò + H</i>	‘sixth’
‘seven’	<i>?íyyê</i>	<i>ìyy-ànt-ò + H</i>	‘seventh’
‘eight’	<i>yá:hâ</i>	<i>yà:h-ànt-ò + H</i>	‘eighth’

‘nine’	<i>yággâ</i>	<i>yàgg-ànt-ò + H</i>	‘ninth’
‘ten’	<i>wóy</i>	<i>wòy-ànt-ò + H</i>	‘tenth’
‘twenty’	<i>wàràṅkà</i>	<i>wàràṅk-ànt-ò + H</i>	‘twentieth’
‘thirty’	<i>wàrànzà</i>	<i>wàrànz-ànt-ò + H</i>	‘thirtieth’

There is a suppletive ordinal *jín-ó + H* ‘first’, cf. *fó*: ‘one’ and its definite singular *fíy-à: + H* ~ *fúw-à: + H*. However, for complex numerals ending in *fó*: an ordinal ending in *fíy-ànt-ò + H* is used: *wóy* \hat{c} *índù fó*: ‘eleven’, *wóy* \hat{c} *índù fíy-ànt-ò + H* ‘eleventh’. The same *fíy-ànt-ò + H* is used after ‘hundred’ and ‘thousand’ to avoid adding *-ànt-ò + H* directly to the basic stem: *zàngù + H* ‘hundred’, ordinal *zàngù* \hat{c} *fíy-ànt-ò + H* ‘(one) hundredth’; *zèmbêr* ‘thousand’, ordinal *zèmbêr fíy-ànt-ò + H* ‘(one) thousandth’. For ‘last (in order)’ see under (219) above.

4.5.7 Agentive *-k-ò + H* (nonfinal *-kôw*)

The agentive is productive. It can be used to denote someone currently engaged in an activity, but it is especially common in terms for occupations or other enduring statuses defined by reference to an activity. The verb is tone-dropped to {L}. The suffix itself has a <HL>-toned nonfinal form *-kôw*, with a diphthong reminiscent of that of adjectives. The final/definite singular suffix complex is L-toned *-k-ò + H*, and the definite plural is *-k-èy* ~ *-c-èy*. Both *-k-ò + H* and *-kôw* can be used NP-finally.

(221) Examples of agentive *-k-ò + H*

gloss	verb	agentive	gloss
‘walk, travel’	<i>dirà</i>	<i>dirà-k-ò + H</i>	‘traveler’
‘announce’	<i>fê</i>	<i>fê:-k-ò + H</i>	‘town crier’
‘look’	<i>gùná</i>	<i>gùná-k-ò + H</i>	‘seer (e.g. fortune-teller)’
‘ask’	<i>há:ⁿ</i>	<i>há:ⁿ-k-ò + H</i>	‘asker, suitor’
‘hunt’	<i>hó:</i>	<i>hó:-k-ò + H</i>	‘hunter’
‘shout’	<i>ká:tí</i>	<i>ká:tí-k-ò + H</i>	‘muezzin (calls to prayer)’
‘sew’	<i>tá:</i>	<i>tá:-k-ò + H</i>	‘tailor’
‘eat’	<i>ṅâ:</i>	<i>ṅâ:-k-ò + H</i>	‘eater’

For transitive verbs that have an *-à* derivative, the simple uncompound agentive is based on this derivative (probably in unspecified-object function, §6.2.3). Alternatively, agentives from transitive verbs can incorporate an object noun, which precedes the verb in a tight compound. See §4.8.2 for examples and discussion.

4.6 Morphology of adjectives

4.6.1 Verbs of adjectival quality

Most prototypical adjectival senses are represented in HS by word families comprising an **inchoative verb** ('X become big, grow up'), a causative verb with **factitive** sense ('make X big, cause X to increase'), and a modifying **adjective** ('big'). In addition to the standard verbal nouns in *-noŋ + H* and/or *-r-o + H* (§4.5.1-2), there may be other nominalizations with abstractive or more specialized senses (see §4.5.3-4).

Since e.g. inchoative 'it became red' normally implies 'it is red', the perfective (aspectually unmarked) verb form is used where English would use the present tense to denote a stable state: *à' bòrì* 'it became (and is) good'. The inchoative verb is therefore the basic predicative form, and morphologically it can be taken as the core of its word family, the other forms being derived by affixation. However, there is considerable lexicalization of the adjectival forms (next section). Examples of verbs of adjectival quality are *bòrì* 'be good, be pretty', *kâ:n* 'be sweet; (blade) be sharp', *séndí* 'be hard (solid), difficult, expensive', and *tá:y* 'be wet'. The word-family revolving around *kâ:n* includes causative *kâ:n-éyndí* 'sweeten; sharpen (blade)', adjective *kâ:n-òw* 'sweet; sharp', and noun *kâ:n-î* 'sweetness; sharpness' (§4.5.3).

4.6.2 Adjectives as noun modifiers

Adjectives are used as modifiers, generally postnominal. The absolute prefix *?ì- + H* is used when no noun is present. When a {L}-toned noun precedes a {L}-toned adjective, the first syllable of the adjective is raised to H-tone, as in *hèyn-ù Ìbá:n-òw* 'soft (=well-pounded) millet grain'; see Adjectival Tone-Raising (§3.9.4.2). The same adjective occurs with {L} melody in *gúr-ú bà:n-òw* 'soft metal'. In *hú 'ká:réy* 'a white house', a {H}-toned adjective is downstepped as the L-tone of /hû/ 'house' is delinked

4.6.2.1 {L}-toned with nonfinal -òw (regular type)

Many verbs of adjectival quality have a related postnominal adjective, which follows a noun in nonfinal (NF) form. If no noun is present, the adjective can function absolutely ('the big one') but in this case requires absolute prefix *?ì- + H* (see the next section).

The regular nonfinal form for adjectives ends in *-òw*. For systematic tonal variant *-òw* see §4.6.2.5 and §4.2.6.8. (I have occasionally heard *-òw* in the adjectives covered here.) *-ow* as a suffix is mainly adjectival, though some underived and derived nouns also end in this diphthong, see (139b) in §4.1.2.10, §4.5.4, and §4.5.7. In the final/definite singular form, the suffix *-o + H* is arguably added to *-ow*, which is then segmentally deleted, arguably by contraction of /-ow-o/ to *-o*, see Prevocalic

Diphthong-Deletion (§3.7.2). The morphophonology is not synchronically transparent.

Adjectival suffix *-ow* is still sometimes heard in NP-final position, but as with nouns, the tendency in HS is to generalize *-o + H* in NP-final position. Final/definite singular *-o + H* in nouns is frequently associated with nonfinal *-u*, and there is a weaker tendency for *-u* to replace nonfinal *-ow* in adjectives as well.

The adjectives in (222) belong to the productive adjectival type. The adjective is lexically **{L}-toned** regardless of the tone of the verb. The stem of the adjective shares the segments of the verb, except that a final short vowel or diphthong (e.g. *têfêy*) in a nonmonosyllabic stem contracts with the suffixal vowels.

(222) Regular {L}-toned adjectives

verb	gloss	adjective	
		Nonfinal	Fin/Def Sg
a. CvC verb			
<i>verb {H}-toned</i>			
<i>nín</i>	‘be ripe; be cooked’	<i>nìn-òw</i>	<i>nìn-ò + H</i>
<i>verb {HL}-toned</i>			
<i>hây</i>	‘be (wide) open’	<i>hày-òw</i>	<i>hày-ò + H</i>
<i>mân</i>	‘be near, approach’	<i>màn-òw</i>	<i>màn-ò + H</i>
<i>tîn</i>	‘be heavy’	<i>tìn-òw</i>	<i>tìn-ò + H</i>
b. Cv:C verb			
<i>verb {H}-toned</i>			
<i>tá:y</i>	‘be wet, moist’	<i>tà:y-òw</i>	<i>tà:y-ò + H</i>
<i>zè:n</i>	‘be old’	<i>zè:n-òw</i>	<i>zè:n-ò + H</i>
<i>verb {HL}-toned</i>			
<i>kâ:n</i>	‘be sweet, sharp’	<i>kâ:n-òw</i>	<i>kâ:n-ò + H</i>
<i>verb {L}-toned</i>			
<i>bà:n</i>	‘be soft’	<i>bà:n-òw</i>	<i>bà:n-ò + H</i>
<i>dò:n</i>	‘be easy, lightweight’	<i>dò:n-òw</i>	<i>dò:n-ò + H</i>
c. V-final bisyllabic verb			
<i>verb {HL}-toned</i>			
<i>fùmbú</i>	‘be rotten’	<i>fùmb-òw</i>	<i>fùmb-ò + H</i>
<i>gání</i>	‘be unripe, raw, fresh’	<i>gàn-òw</i>	<i>gàn-ò + H</i>
<i>kású</i>	‘be coarse’	<i>kàs-òw</i>	<i>kàs-ò + H</i>
<i>kó:gú</i>	‘be dry, harden’	<i>kò:g-òw</i>	<i>kò:g-ò + H</i>
<i>hóttó</i>	‘be bitter’	<i>hòtt-òw</i>	<i>hòtt-ò + H</i>
<i>mórú</i>	‘be sour’	<i>mòr-òw</i>	<i>mòr-ò + H</i>
<i>séndí</i>	‘be hard, expensive’	<i>sènd-òw</i>	<i>sènd-ò + H</i>
<i>yúltú</i>	‘be smooth’	<i>yùlt-òw</i>	<i>yùlt-ò + H</i>

verb {HL}-toned			
<i>léptê</i>	‘be flat’	<i>lèpt-òw</i>	<i>lèpt-ò + H</i>
	[also <i>léttê</i> , etc.]		
<i>mó:rû</i>	‘be/go far away’	<i>mò:r-òw</i>	<i>mò:r-ò + H</i>
<i>zí:bî</i>	‘be dirty’	<i>zì:b-òw</i>	<i>zì:b-ò + H</i>
verb {L}-toned			
<i>tèfèy</i>	‘(land) be flat, broad’	<i>tèf-òw</i>	<i>tèf-ò + H</i>
verb {LHL}-toned			
<i>là:lâ</i>	‘be bad’	<i>là:l-òw</i>	<i>là:l-ò + H</i>

For *hây* ‘be open’, some speakers reject the adjectival forms in favor of relative-clause equivalents (... *gâ hây-à* ‘which is open’). The noun-adjective phrase *wòy háy-ó + H* ‘woman who has given birth’ involves a different verb *háy* ‘give birth’ and is not comparable to adjectival constructions (§4.6.2.10).

Some adjectival forms described below compete with deverbal participles of similar meaning (§4.5.6), e.g. *nìn-ò + H* alongside *nìn-ànt-ò + H* ‘ripe, cooked’. In this case, using meat as an example, a speaker explained that *nìn-ò + H* indicates that the meat is ‘done’ (fully cooked), while *nìn-ànt-ò + H* can mean either ‘done’ or ‘nearly done, in the process of becoming fully cooked’.

4.6.2.2 {L}-toned with nonfinal -òw (minor segmental irregularities)

The adjectives in (223), like those in the preceding section, are {L}-toned, but there are segmental discrepancies between verb and adjective. In (223a), the verb is C_1V ; while the adjective is based on $C_1V:C_1-$ with a reduplicated appearance. For the historical background of *bá*: ‘be many, much’ see §3.10.1. In (223b), the adjective is based on a version of the verb with an extra *n* (at least for ‘die’, the *n* is etymologically accurate, having been lost in the verb, §3.10.4). In (223c), the verb *kórón* undergoes syncope (§3.7.3) of the second vowel, then (except in archaic pronunciations) assimilation of /rn/ to *nn* (§3.10.5).

(223) Segmentally irregular {L}-toned adjectives

verb	gloss	adjective	
		Nonfinal	Fin/Def Sg
a. <i>bá</i> :	‘be many, much’	<i>bò:-b-òw</i>	<i>bò:-b-ò + H</i>
b. <i>bú</i> :	‘die, be dead’	<i>bù:n-òw</i>	<i>bù:n-ò + H</i>
	[adjective means ‘lethargic, feeble’, not ‘dead’]		
<i>yéy</i>	‘be cold’	<i>yèyn-òw</i>	<i>yéyn-ó + H</i>
c. <i>kórón</i>	‘be hot’	<i>kònn-òw</i>	<i>kònn-ò + H</i>
		~ <i>kòrn-òw</i>	~ <i>kòrn-ò + H</i>

See also the phonologically similar suffixally derived factitive (causative) verbs in (332) in §6.2.2.

4.6.2.3 {L}-toned *bè:rì* ‘big’ and related forms

‘Big’ is unusual in lacking even an optional nonfinal variant in *-ow*. Instead, the original form *bè:rì* ‘big’ is still widely used, even in final position (224). Also belonging to this word family is the kin term *bé:rê* ‘elder same-sex sibling’, whose antonym *céynê* ‘younger same-sex sibling’ was once similarly parallel to an adjective meaning ‘small’ (KCh *ciina*, KS *keyna*) that has been lost in HS.

(224) ‘Big’ (no final singular suffix)

verb	gloss	adjective
<i>bè:rî</i>	‘be big, grow’	<i>bè:rì</i> (nonfinal; final-singular) <i>bè:r-ò + H</i> (definite singular)

4.6.2.4 {L}-toned quadrisyllabic iterations with final *ey* in the verb

For the iterated (fully reduplicated) adjectives in (225), whose verb ends in a diphthong, I was able to elicit an *-ow* form with some difficulty.

(225) Quadrisyllabic stem-iterated adjectives

verb	gloss	adjective	
		Nonfinal	FinSg
<i>mótú-mótéy</i>	‘be soggy’	<i>mòtù-mòt-òw</i>	<i>mòtù-mòt-ò + H</i>
<i>pótú-pótéy</i>	‘be slimy’	<i>pòtù-pòt-òw</i>	<i>pòtù-pòt-ò + H</i>
<i>bítí-bítí</i>	‘be soiled’	[unattested]	

4.6.2.5 {HL}-toned reduplicated *Ć-Ĉ* adjectives (*kú-kû*, *bí-bî*)

There are also a small number of adjectives with lexical {HL} melody in the nonfinal form. The suffixed final/definite singular form is {H}-toned, so these adjectives belong to the {HL}/{H} type. See the following section for nonreduplicative adjectives of this type.

The reduplicated adjectives are in (226).

(226) Bisyllabic reduplicated adjectives with {HL} melody

verb	gloss	Nonfinal	Fin/Def Sg
a. <i>bí-bî</i>	‘be black’	<i>bí-bî ~ bí-b-ôw</i>	<i>bí-b-ó + H</i>
b. <i>kú: ~ kú-kû</i>	‘be long, tall’	<i>kú-kû</i>	<i>kú-kû ~ kú-k-ó + H</i>

‘Black’ has a bisyllabic reduplicated shape similar to that of ‘long’. A nonfinal variant with *-ôw* is attested alongside *bí-bî*. Whereas ‘long’ has both unreduplicated and reduplicative verb variants, no unreduplicated verb meaning ‘be black’ is attested. However, with the semantics stretched a little, note unreduplicated verb *bî ~ bî:* ‘get dark (at night)’ and unreduplicated noun *bîy-ô + H* ‘shade, shadow’ (nonfinal *bî:*). For unreduplicated diminutive *-b-îyà* in two bird names see (254a) in §4.9.5.

In nonfinal *kú-kû*, I am reluctant to segment the final vowel as a nonfinal suffix (*kú-k-û*), since *kú-kû* is identical to the reduplicated variant of the verb. The transcription *kú-kû* is also parallel to *bí-bî*. The nonfinal form *kú-kû* is also sometimes found in final position.

4.6.2.6 Unreduplicated {HL}-toned color adjectives (*ká:rêy*, *círêy*)

The other {HL}/{H}-type adjectives are the two primary color terms other than ‘black’ (which is treated in the preceding section). ‘Red’ and ‘white’ (227) differ from ‘black’ (and from ‘long, tall’) in having no reduplicative features. They also avoid the *-ow* suffix in the nonfinal form. The associated verbs are {L}-toned.

(227) Primary color adjectives, {HL}-toned

verb	gloss	Nonfinal	Fin/Def Sg
a. <i>círêy</i>	‘be red’	<i>círêy</i>	<i>cír-ó + H</i>
b. <i>kà:rêy</i>	‘be white’	<i>ká:rêy</i>	<i>ká:r-ó + H</i>

4.6.2.7 Other color-related expressions

For the record, other color-related stems are:

a) The defective noun *túrí* ‘yellow thing’ (no final/definite suffix allowed) is used as a compound final: *háw-‘túrí* ‘a/the yellow cow’, plural *háw-‘túrí-pòŋ + H* ‘a/the yellow cows’, there is also a verb *?ó:Idê* ‘become yellow’ from Fulfulde.

b) ‘blue’ has a defective noun *bákâ* ‘blue dye’, as in *háw-‘bákâ* ‘a/the blue cow’. It is treated grammatically like *túrí* ‘yellow’. Another word for ‘blue’ is *bùlà-bùlà*. It is common in languages of the region, and seems to derive from a commercial detergent brand name.

c) *gà:rúr-à:* is a noun-like adjective or compound final ‘green’.

d) *bó:s-ó + H* ‘ashes’ can be used to mean ‘ash-colored, grey’.

Other color-related terms include the verb *tósê* ‘be spotted’ (< Fulfulde) and the adjective *cí:fí-cá:fá* ‘multicolored’.

4.6.2.8 Diminutive adjectives (*bór-yá*, *ká(t)-íyá*, etc.)

A few adjectives consistently have diminutive morphology, consistent with senses denoting below-norm measures on scales. Even the corresponding verbs end in (*i*)*ya* or *i* that might be segmented as a diminutive allomorph, otherwise absent from verbal morphology. These word families are analysed in more depth in §4.9.8. The basic forms (omitting some variants) are repeated here without commentary (228).

(228) Adjectives with diminutive morphology

verb	gloss	adjective	
		Nonfinal	Fin/Def Sg
a. verb {L}-toned with <i>iyà</i> , NF {LHL}-toned, Fin/Def Sg {H}-toned			
<i>dùccìyà</i>	‘be short’	<i>dùcc-iy-ôw</i>	<i>dúcc-íyá + H</i>
<i>dùṅgùryà</i>	‘be short’	<i>dùṅgùr-y-ôw</i>	<i>dúṅgùr-íyá + H</i>
<i>kàtìyà</i>	‘be small, young’	<i>kàt(t)-íy-ôw</i>	<i>kát(t)-íyá + H</i>
b. verb {L}-toned with <i>ì</i>			
<i>màrì</i>	‘be slender’	<i>màr-y-ôw</i>	<i>már-yá + H</i>
<i>bòrì</i>	‘be good, pretty’	<i>bòr-y-ôw</i>	<i>bór-yá + H</i>

màrì and related forms can also mean ‘insignificant, petty’.

The NP-final and definite forms in (228) are shown with floating H that is expressed on a following word, as in (229). The tonal effect could alternatively be attributed to Rightward H-Spreading (§3.9.5.3).

(229)	<i>[wòy</i>	<i>bór-yá]</i>	<i>↑dírà</i>
	<i>/[wòy</i>	<i>bór-yá + H]</i>	<i>dirà/</i>
	<i>[woman</i>	<i>good/pretty-Dimin]</i>	<i>walk/travel</i>
	<i>‘A/The pretty woman traveled.’</i>		

4.6.2.9 ‘Empty’

‘Empty’ is often expressed by a circumlocution like ‘X that nothing is in’ (230a). For the semantic range ‘empty’, ‘bare’, ‘naked’, ‘unaccompanied’, there is also a word-family including a noun *kò:n-ô + H* (dialectally also *kò:nâ*). This has the form of an alienably possessed noun, but it is preceded by an independent (e.g. final/definite singular) noun as in (230b) or by an independent pronoun (e.g. *?áy kò:n-ô* ‘I alone’). More common is a predicative construction of the type ‘X that is its (own)

emptiness’, with 3FullSg *ʔáŋgâ* as possessor in reflexive sense. The simple predicative construction is seen in (230c), and a relative-clause version in (230d).

- (230) a. *kùs-ò* *gâ* *bá:y-à:* *sí:* [*â'* *gà*]
 waterjar-Fin/DefSg Rel nothing not.be [3Sg in]
 ‘a/the waterjar that nothing is in it’
- b. *kùs-ò* *↑kó:’n-ò*
 clay.pot-Fin/DefSg emptiness-Fin/DefSg
ì *↑bó* [*’kú↑=í* *dèkè*] *wàlà*
 2SgS XImpf [Infin=3SgO put.up] Q
 ‘Is it the empty pot [focus] that you-Sg are putting up (on the oven)?’
- c. *kùs-ò* *gá*
 waterjar-Fin/DefSg Rel
 [[*ʔáŋgá* *kò:n-ó*] *’nòŋ*] *dì*
 [[3ReflSgP emptiness-PossSg] be] StDef
 ‘the waterjar (or: clay pot) that is empty’ (lie. “that is its emptiness”)
- d. [*kùs-é* *dì*] [*ʔáŋgá* *kò:n-ó*] *’nòŋ*
 [waterjar-1SgP StDef] [3ReflSgP emptiness.3PossSg] be
 ‘my waterjar (or: clay pot) is empty’.

kò:nò (dialectally *kò:nâ*) can also be used as a verb. In this case I do not hyphenate it, as it makes no sense to analyse it as a possessed noun. As a verb, it can co-occur with the usual pre-VP inflectional particles.

- (231) *â'* *màŋ* *↑kó:’nò*
 3SgS PerfNeg be.empty
 ‘It did not get emptied.’

The unsuffixed form *kó:’* is also used in the same contexts, i.e. as noun or verb, instead of *kò:n-ò*.

- (232) [[[*húw-ó* *kó:ŋ*] *kún-ò*] *gà:*]
 [[[house-3Sg.Inal bare] interior-Sg] in]
gá *à* *bára* [*w* *↑górò*]
 Focus 3Sg X.be [Infin sit]
 ‘He just sits inside the house’ (lit. “inside the house alone [focus] ...”)

4.6.2.10 Adjectives or compound finals from action verbs

Adjectives generally correspond to verbs of adjectival quality like ‘be(come) red’. However, there are also scattered compound-like expressions whose final appears to

be an adjectivalized action verb. The compound (or noun-adjective) denotes an individual in the resulting state. Two examples from the dictionary:

(233)	compound	gloss	related verb(s)
	a. non-bahuvrihi		
	wòy bér-ó + H	‘transformed woman’	béré ‘be transformed’ bèrè ‘flip, change (sth)’
	wòy háy-ó + H	‘woman who has given birth’	háy ‘give birth’
	wòy hí:g-ó + H	‘married woman’	hí:jí ‘get married’
	hàr fàr-ò + H	‘(male) farmer’	fàrù ‘work a millet field’
	b. bahuvrihi		
	bòn cèyr-ò + H	‘fool’ (“broken head”)	céyí ‘become broken’ cèyí ‘break (sth)’

4.6.3 Absolute form of adjectives (*?ì- + H*)

The adjectives from the preceding section, along with participles and ordinals (and some numerals, §4.7.1 below), can be used either as modifiers of a preceding overt noun, or “absolutely” as heads of NPs. In the latter case, an **absolute** prefix *?ì- + H* is required, as in *ì ?dú ?ì-?ká:n-ò* ‘I got the sweet one’. The floating H tone spreads to the onset of a L-toned adjectival stem, but it is phonetically vacuous for the few adjectives that already begin with a H-tone. Examples are in (234).

(234) Absolute adjectives, participles, and ordinals (Fin/Def Sg forms)

	gloss	as modifier	absolute
	a. regular adjectives		
	<i>{L}-toned</i>		
	‘sweet, sharp’	<i>kà:n-ò + H</i>	<i>?ì-?ká:n-ò + H</i>
	<i>{HL}/{H}-toned</i>		
	‘red’	<i>cír-ó + H</i>	<i>?ì-cír-ó + H</i>
	‘long, tall’	<i>kúk-ó + H</i>	<i>?ì-kúk-ó + H</i>
	b. participles, all <i>{L}</i> -toned		
	‘living’	<i>hùn-ànt-ò + H</i>	<i>?ì-?hùn-ànt-ò + H</i>
	c. ordinals, all <i>{L}</i> -toned		
	‘second’	<i>hìŋk-ànt-ò + H</i>	<i>?ì-?hìŋk-ànt-ò + H</i>

4.7 Numerals and other quantifiers

4.7.1 Modifying and absolute forms of simple numerals

Numerals may follow a noun, which takes its nonfinal form and is not marked for plurality. Numerals also follow adjectives, but precede demonstratives (§5.1). The unsuffixed basic form of the numeral is used both nonfinally and finally within a core NP when definiteness is not marked. Definiteness (‘the two’) can be marked by adding suffix $-o + H \sim -a: + H$.

In the absence of an overt noun, the numeral takes **absolute** form. This form is also used in counting up (‘1, 2, 3, ...’). Some numerals are like adjectives in having an overt absolute prefix. While all adjectives have $?i- + H$, numerals (and other quantifiers) divide into three groups. ‘1’ (optionally) and ‘all’ take absolute allomorph $?à- + H$, ‘1’ (optionally), ‘2’ to ‘5’, and ‘10’ take absolute allomorph $?i- + H$, and the remaining numerals are unmarked for absoluteness.

There is no evidence for the floating tone in $?à- + H$ and $?i- + H$ for numerals, since the numerals that can follow either of these allomorphs already happen to begin with a H-tone. I include the floating H in transcriptions since $?i- + H$ is also used with adjectives, where the evidence is clear.

The forms of the basic numerals and of *kûl* ‘all’ are shown in (235). The tonal alternations in ‘1’ and ‘10’, with {H}-toned basic form and {HL}-toned definite, are unique. ‘1’ is also irregular in other respects.

(235) Numerals (modifying and absolute forms) and ‘all’

	value	basic	definite	Absolute prefix
a.	‘all’	<i>kûl</i>	—	$?à-$
b.	1	<i>fó:</i>	$\left\{ \begin{array}{l} fíy-à: + H \\ fúw-à: + H \end{array} \right.$	$\left. \begin{array}{l} ?à- \sim ?i- + H \\ ?à- \sim ?i- + H \end{array} \right\}$
c.	‘2’ to ‘10’			
		<i>absolute suffix ?i- + H</i>		
	2	<i>hínká</i>	<i>hínk-ó + H</i>	$?i- + H$
	3	<i>hínzâ</i>	<i>hínz-ò + H</i>	$?i- + H$
	4	<i>tá:cí</i>	<i>tá:k-ó + H</i>	$?i- + H$
	5	<i>gú:</i>	<i>gúw-ó + H</i>	$?i- + H$
		<i>no absolute suffix, stem begins with ?í or yá</i>		
	6	<i>?íddû</i>	<i>?íddúw-ò + H</i>	—
	7	<i>?í:yê</i>	<i>?í:y-ò + H</i>	—
	8	<i>yá:hâ</i>	<i>yá:h-ò + H</i>	—
	9	<i>yággâ</i>	<i>yágg-ò + H</i>	—
		<i>absolute suffix ?i- + H</i>		
	10	<i>wóy</i>	<i>wóy-ò + H</i>	$?i- + H$

d. decimal units

wàrá plus final segments of single-digit numeral

20	wàráŋkà	wàráŋk-ò + H	—
30	wàránzà	wàránz-ò + H	—
<i>wóy- '10' plus single-digit numeral</i>			
40	wóy-tá:cí	wóy-tá:k-ò + H	—
50	wóy-gú:	wóy-gúw-ò + H	—
60	wóy-ʔíddû	wóy-ʔíddúw-ò + H	—
70	wóy-ʔí:yê	wóy-ʔí:y-ò + H	—
80	wóy-yá:hâ	wóy-yá:h-ò + H	—
90	wóy-yággâ	wóy-yágg-ò + H	—

e. noun-like numerals

100	zàngù + H	zàng-ò + H	—
1000	zèmbér 'fó:	zèmbér 'fíy-à: + H	—
	(stem zèmbêr)		

HS allows pluralization of '1' and of the terms for 'hundred' and 'thousand', but I could not elicit plurals for other numerals like '2' or '30'. The indefinite plural of '1', namely $ʔà-fó:-nóŋ + H \sim ʔi-fó:-nóŋ + H$ 'some, a few' (postnominal $fó:-nóŋ + H$), can introduce a new nonsingular discourse referent. By contrast, the definite forms of '1', singular $ʔà-fíy-à: + H$ and plural $ʔà-fíy-èy + H$ (and their variants), can function as **restricted indefinites**. That is, they can distinguish an individual or a subset of an already introduced set from (the) other individuals or subsets. The resulting partition of the full set is often expressed parallelistically, as in 'one ($ʔà-fíy-à: + H$) went and (the other) one ($ʔà-fíy-à: + H$) stayed behind', or 'some/certain ones ($ʔà-fíy-èy + H$) went and some/the others ($ʔà-fíy-èy + H$) stayed behind'.

Associated with '1' are the adjectives $fóllóŋ$ and $fòllòŋk-ò + H$ 'sole, single, only (one)'. The $ŋk$ in the latter form may be that of the uncommon gentile derivation seen in $sòŋ-àŋk-ò + H$ '(traditional) Songhay person', cf. collective or abstractive $sòŋây$.

Although '10' by itself takes the absolute prefix in the absence of a noun, decimal compounds beginning with '10' ('40' through '90') do not.

HS distinguishes $fó:$ '1' from interrogative adjective $fò$ 'which?' (note the short vowel and the <HL>-tone), hence $wòy fó:$ 'one woman' versus $wòy fò$ 'which woman?'. TSK likewise distinguishes $fó:$ '1' from $fò$ 'which?'. In KS, the two merge as $fó$.

$zèmbêr$ 'thousand' is generally not used alone in the sense '1000'; instead, it is followed by the numeral 'one': $zèmbér 'fó:$. For '100', either $zàngù + H$ by itself or $zàngù fó:$ can be used. Other multiples like '2000' and '300' consist of $zèmbêr$ or $zàngù + H$ followed by the relevant simple numeral, e.g. $zàngù gú:$ '500'.

$zàngù + H$ 'hundred', the only {L}-toned numeral, is subject to Adjectival Tone-Raising following a L-toned noun: $wòy \uparrow zàngù + H$ 'one hundred women'. Contrast $wòy zèmbér 'fó:$ 'one thousand women'.

Larger numerals are based on the French terms *million* and *milliard*.

When a noun-numeral NP is possessed, the numeral (as the final lexical stem in the NP) takes the usual alienable pronominal possessor suffixes: *hàr tá:k-ò-nôŋ* ‘your-Sg four men’.

For currency amounts, see §5.4.7.1.

For ordinal adjectiveness, see §4.5.6.

4.7.2 Decimal-digit composite numerals

Numerals ‘1’ to ‘9’ can be added to any term for a decimal unit (multiple of 10), with a linking element *cìndù* between the two (cf. verb *cìndí* ‘remain’). Examples: *wóy-gú: ^cìndù tá:cí* ‘54’, literally ‘ten-five remain 4’, *wóy-ʔíddú cìndù fò:* ‘61’. In allegro speech, *cìndù* can be reduced to *cìnd*. Numerals from ‘11’ to ‘19’ are of course based on *wóy* ‘10’. In these combinations as elsewhere, *wóy* takes absolute *ʔi-* + *H* when the noun is covert: *ʔi-wóy ^cìndù tá:cí* ‘14’.

4.7.3 Distributive iteration of numerals

The distributive (§5.4.4), e.g. ‘ten by ten’, is formed by iteration (full reduplication) of the numeral. In absolute (NP-initial or citation) position, numerals that require the absolute prefix take it just once. The forms may also be used without the absolute prefix after a noun. Multiples of ‘10’ that begin in *wóy-* (‘40’ to ‘90’) repeat only the final element. Likewise, compound numerals consisting of ‘10’ or a multiple of it plus a single-digit term repeat only the final element. The numeral for ‘1’ is omitted in ‘100’ and ‘1000’. Examples in (236).

(236) Distributive iteration of numerals

value	simple form	reduplication
a. single digits to ‘10’		
1	<i>ʔà-fò:</i>	<i>ʔà-fò:-fò:</i>
2	<i>ʔi-hínká</i>	<i>ʔi-hínká-hínká</i>
3	<i>ʔi-hínzâ</i>	<i>ʔi-hínzá-ʔhínzâ</i>
4	<i>ʔi-tá:cí</i>	<i>ʔi-tá:cí-tá:cí</i>
5	<i>ʔi-gú:</i>	<i>ʔi-gú:-gú:</i>
6	<i>ʔíddú</i>	<i>ʔíddú-ʔíddú</i>
7	<i>ʔí:yê</i>	<i>ʔí:yê-ʔí:yê</i>
8	<i>yá:hâ</i>	<i>yá:hâ-ʔyá:hâ</i>
9	<i>yággâ</i>	<i>yággâ-ʔyággâ</i>
10	<i>ʔi-wóy</i>	<i>ʔi-wóy-wóy</i>
b. decimal units		
20	<i>wàráŋka</i>	<i>wàráŋkà-wàráŋkà</i>
50	<i>wóy-gú:</i>	<i>wóy gú:-gú:</i>

- /ʔàlwà:líy-à: + H hèn-ò + H/ lit. “stork’s millet”
(*hèn-ò + H* ‘millet’)
- c. *ʔàlbázár-ò* *↑má:f-ò* ‘onion sauce’
/ʔàbázár-ò + H mà:f-ò + H/ lit. “onion’s sauce”
(*mà:f-ò + H* ‘sauce’)

Sometimes tight and loose compounds of the same sense co-exist, especially when the initial is inalienable and the final denotes a part or subtype. In this case, a possessor can be expressed either on the initial or on the whole compound (overtly on the final): *čè:-bóy-è* ‘my foot-nail’ or *čìy-èy* *↑bóy-ò* ‘my foot’s nail’, in both cases more freely ‘my toenail’.

The phonology of tight compound initials can be tricky (for the tones see §4.8.4). For most nouns, the compound-initial form is identical to the nonfinal (NF) form used before a numeral or adjective. However, there are some apparently archaic compounds that show irregular compound initial forms. In some cases the archaic compound-initial form competes with a synchronically more regular nonfinal form. The stems known to me that have an irregular form in at least one tight compound, excluding simple contractions (on which see below), are listed in (238).

(238) Compound initials with irregular forms (noncontracting)

gloss	Fin/Def Sg or 3Sg poss. (inal.)	Nonfinal	tight cpd initial	
			regular	irregular
a. <i>Cv</i> stem (in nonfinal form) sometimes lengthened to <i>Cv</i> :- <i>no change in vowel quality</i>				
‘mother’	<i>ɲó: + H</i>	<i>ɲâ</i>	<i>ɲâ-</i>	<i>ɲâ:- ~ ɲâ:-</i>
‘mouth’	<i>míyⁿ-ó + H</i>	<i>mê</i>	<i>mê-</i>	<i>mé:-</i>
<i>change in vowel quality</i>				
‘house’	<i>húw-ó + H</i>	<i>hû</i>	<i>hú-</i>	<i>hó:-</i>
b. <i>Cv</i> : stem sometimes shortened to <i>Cv</i> -				
‘foot’	<i>çiy-ò + H</i>	<i>cè:</i>	<i>cè:-</i>	<i>cê-</i>
				[contrast <i>cê</i> ‘time(s)’]
c. kin term with <i>e/u</i> alternation (FinSg <i>bà:bè</i> , 3Poss <i>bà:b-ù</i>)				
‘father’	<i>bà:b-ò + H</i>	<i>bà:bè</i>	<i>bà:bè-</i>	<i>bà:b-ù-, bà:-</i>

Some relevant compounds with these initials are in (239).

- (239) a. initial is ‘mother’ (*ɲâ*)
- regular*
ɲá-[^lʔíz-ò:] + H ‘half-sibling (same mother)’
- lengthened, H-toned*
ɲá:-‘môy ‘mother’s homonym’ (as name)

- ná*:-[bóŋ-ó] + H ‘bride’s godmother’
lengthened, L-toned
nà:-bùtè ‘mother’s vagina’ (insult)
nà:-fînà (vulgarity, originally ‘mother’s anus’)
- b. initial is ‘mouth’ (*mê*), for bahuvrihis see (244a) in §4.8.3.2
regular
mé:-[sèmb-íyà] ‘millet grains’ (“mouth-[knife-Dimin]”)
lengthened, H-toned
mé:-cí:néy ‘magical incantation’ (“mouth-whisper”)
lengthened, L-toned (includes bahuvrihis, §4.8.3)
mè:-[bè:r-ò] + H ‘blowhard, braggart’ (“big-mouthed”)
mè:-[dà:bù-r-ò] + H ‘lid’ (“mouth-covering”)
mè:-[fùt-ò] + H ‘foul-mouthed speaker’ (“mouth-nasty”)
mè:-[mùrg-ò] + H ‘one with twisted mouth’
mè:-[zè:t-ò] + H ‘one with gaping mouth’
mè:-[dèy-m-ò] + H ‘offering to fiancée’ (“mouth-purchase”)
- c. initial is ‘house’ (*hû*)
regular
hú-cèrè ‘neighbor’ (“house-friend”)
irregular (lengthened, vowel-quality change)
húw:-[gónd-ó] + H ‘house snake’ (two spp.)
hó:-[míy-ò] + H ‘doorway’ (“house-mouth”)
[contracted from cpd *húw-ó míy-ò + H, cf. KS *huw-o mîj-oo*]
- d. initial is ‘foot’ (*cè*:)
regular
cè:-[bó:l-ò] + H ‘lines formed by water on feet’
cè:-[gàng-ò] + H ‘bowlegged person’
cè:-[jìnd-ò] + H ‘ankle’ (“foot-neck”)
cè:-[kòb-[í:z-ò]] + H ‘toenail’
cè:-[kòr-ò] + H ‘fleshy bottom of heel’
cè:-[mùwⁿ-ò] + H ‘anklebone’ (“foot-eye”)
cè:-[sì:r-ò] + H ‘person with twisted leg’
cè:-[tà:m-ò] + H ‘sole’
- irregular (cê-)*
cé:-[bè:r-ò] + H ‘elephant’ (“big-footed”)
cé:-[kòps-ò] + H ‘hoof’
- e. initial is ‘father’ (*bà:bè*)
regular (from final form)
bà:bè-hû ‘collateral agnatic line’
regular (from 3Poss)
[*bà:b-ù*]-ká ‘grasshopper sp.’ (*Heteracris*)

<i>{H}</i> -toned	
[bá:b-ú]-[bóŋ-ó] + <i>H</i>	‘bridegroom’s godfather’
irregular, contracted	
bà:-lúkkíyá	‘grasshopper sp.’ (<i>Heteracris</i>)
bà:-môy	‘father’s homonym (with the same name)’

Bisyllabic nouns can clip off a final vowel as compound initials. In some cases the short version also occurs elsewhere as a nonfinal form (i.e. before an adjective or numeral).

(240) Compound initials with irregular forms (contracting)

gloss	3Sg (inal) FinSg (other)	Nonfinal	tight cpd initial
a. <i>CvCv</i> stem with <i>CvC</i> nonfinal variant			
‘heart’	<i>bìn-ò + H</i>	<i>bìni ~ bìn</i>	<i>bìn-</i>
‘bird’	<i>cír-ò + H</i>	<i>círû ~ círôw</i> ~ <i>círî ~ cîr</i>	<i>cír-</i>
b. diminutive <i>CvCCv</i> stem with <i>CvC</i> nonfinal variant			
‘male slave’	<i>báŋŋâ</i>	<i>bìni ~ bìn</i>	<i>bàn-</i>

Examples are *bìn*-[ká:n-éy] + *H* ‘joy’ from “heart-sweetness,” *cír-gáb-ò + H* ‘hawk’, and *bàn-čèyn-ò + H* ‘slave boy’. *báŋŋâ* ‘male slave’ is probably a frozen diminutive, and it is possible that the compound derives historically from a nondiminutive prototype.

4.8.2 Agentive compounds

The deverbal agentive nominal has suffix *-k-ò* (nonfinal *-kôw*) after a *{L}*-toned form of the stem (§4.5.7). A noun stem denoting the object type can be added as a compound initial. It is part of the domain of the overlaid *{L}* melody. Examples are in (241). Verbs are *kárú* ‘hit, beat’, also ‘play (instrument)’ and ‘mold (bricks)’, *hàsàrà* ‘ruin, waste’, *té:* ‘do, make’, and *kú:n* (and variants) ‘collect (firewood)’.

(241) compound	gloss	initial
<i>bât</i> -[kâr-[k-ò] + <i>H</i>]	‘tomtom beater’	<i>bât-ò + H</i> ‘calabash tomtom’
[gùl-ù]-[kâr-k-ò] + <i>H</i>	‘tomtom beater’	<i>gúl-ò + H</i> ‘tomtom’
[là:t-ù]-[kâr-k-ò] + <i>H</i>	‘flute player, flautist’	<i>lá:t-ó + H</i> ‘flute’
<i>fèr(è)</i> -[kâr-k-ò] + <i>H</i>	‘brickmaker’	<i>fér-ò + H</i> ‘brick’
<i>gòmni</i> -[hàsàrà-k-ò] + <i>H</i>	‘ungrateful person’	<i>gòmni</i> ‘gift, good deed’
	[lit. “good.deed-ruiner”]	
<i>gò:rò</i> -[kò:mà-k-ò] + <i>H</i>	‘kola chewer’ (bird)	<i>gó:rô</i> ‘kola nut’

<i>gòy</i> -[tè:-k-ò]+ <i>H</i>	‘work-doer, worker’	<i>góy-ó</i> + <i>H</i>	‘work’
<i>hám</i> -[ɲà:-k-ò]+ <i>H</i>	‘meat-eater’	<i>hám-ó</i> + <i>H</i>	‘meat’
<i>sàriyà</i> -[tè:-k-ò]+ <i>H</i>	‘judge’	<i>sàriyá</i>	‘judgement’
<i>tù:rì</i> -[kù:n-k-ò]+ <i>H</i>	‘firewood gatherer’	<i>tù:r-ò</i> + <i>H</i>	‘tree’

A number of descriptive ornithological terms take the form of similar object-incorporating agentives, but the agentive suffix takes a diminutive form *-c-íyà*. Examples are *?àlhìn(i)*-[hàw-c-íyà] ‘black-faced dioch’ (lit. “henna-[tie-Agent-Dimin]”) and [hèb-ù]-[dàn-c-íyà] ‘rock bunting’ (lit. “market-[put-Agent-Dimin]”).

4.8.3 Bahuvrihi compounds

In a bahuvrihi compound, a noun (often a partonym) is followed by an adjective or numeral. The compound denotes a person or other object thus characterized. For example, [eye-one] could mean ‘one-eyed person’, and [mouth-big] could mean ‘person who talks too much’. Bahuvrihis can also be used like modifying adjectives, following a noun, as in [woman [eye-one]] meaning ‘one-eyed woman’.

4.8.3.1 Noun-numeral bahuvrihis

Bahuvrihis with numerals are less common than those with adjectives. Examples are in (242). The numeral ‘1’ can either take its basic form *fó*: (242a) or its adjectival form *fòllòŋk-ò*+*H* ‘(a) single’ (242b). Numeral ‘4’ is attested in two bahuvrihis, one with irregular shortening of the numeral’s first vowel (242d). The numeral ‘4’ (*tá:cí*) is tone-dropped in ‘sorcerer’ (242d), and its vowel is shortened in ‘grass sp.’.

(242) Noun-numeral bahuvrihi compounds

compound	composition	free gloss
a. with <i>fó</i> : ‘1’		
<i>lák-kál-’fó</i> :	mind-one	‘halfwit, retarded person’ (uncommon)
<i>mò:-fó</i> :	eye-one	‘one-eyed’
[<i>kám-b-ù</i>]- <i>fó</i> :	hand-one	‘one-handed’
b. with <i>fòllòŋk-ò</i> + <i>H</i> ‘1’		
<i>mò:-[fòllòŋk-ò]</i> + <i>H</i>	eye-single	‘one-eyed’
c. with <i>híŋká</i> ‘2’		
<i>bòŋ-híŋká</i>	‘head-two’	‘two-headed’

d. with <i>tá:cí</i> ‘4’		
<i>final {L}-toned</i>		
<i>mò:-[tâ:k-ò] + H</i>	eye-four	‘sorceror’ (euphemism)
<i>final shortened</i>		
<i>bòn-[ták-ó] + H</i>	head-four	‘grass sp.’ (<i>Dactyloctenium</i>)

4.8.3.2 Noun-adjective bahuvrihis

Bahuvrihis consisting of a noun and an adjective are characterized morphophonologically by the absence of Adjectival Tone-Raising. This is only detectable when both noun and adjective are {L}-toned. Fortunately, this combination is very common, since most adjectives are {L}-toned and since several of the paronyms that are widely used in bahuvrihis are also {L}-toned.

The bahuvrihis whose initial is *bòŋ* ‘head’ or *mò:* ‘eye’ in (243) are representative. The initials are already L-toned. When followed by a {L}-toned adjective, there is no tone-raising. For example, *bòŋ-[fùt-ò] + H* ‘bringer of bad luck’ is completely {L}-toned, while the underlying noun-adjective sequence *bòŋ fùt-ò + H* ‘bad head’ shows tone-raising.

(243) Noun-adjective bahuvrihi compounds with ‘head’ and ‘eye’

compound	composition	free gloss
a. with <i>bòŋ</i> ‘head’		
<i>adjective contains a {H}-tone</i>		
<i>bòŋ-[kó:n-ó] + H</i>	head-empty	‘unimaginative person’
<i>bòm-bî:</i>	head-black	‘witch doctor’
~ <i>bòŋò-bî:</i> ~ <i>bùŋò-bî:</i>		
<i>adjective {L}-toned</i>		
<i>bòm-[bòw-ò] + H</i>	head-shattered	‘fool, idiot’
<i>bòm-[bù:n-ò] + H</i>	head-feeble	‘deadbeat’
<i>bòn-[cèyr-ò] + H</i>	head-broken	‘fool’
<i>bòŋ-[fùt-ò] + H</i>	head-bad	‘bringer of bad luck’
<i>bòŋ-[kâ:n-ò] + H</i>	head-sweet	‘blessed (fortunate) person’
<i>bòn-[lètt-ò] + H</i>	head-flat	‘stupid person’
<i>bòn-[sènd-ò] + H</i>	head-difficult	‘disobedient person’
b. with <i>mò:</i> ‘eye’		
<i>adjective contains a {H}-tone</i>		
<i>mò:-fêl</i>	eye-forked	‘cross-eyed person’
<i>adjective {L}-toned</i>		
<i>mò:-[gâl-gâl-ò] + H</i>	eye-wide.open	‘wide-eyed person’
<i>mò:-[kò:g-ò] + H</i>	eye-dry/hard	‘ill-mannered person’

The nouns *mê* ‘mouth’ and *gá:* +*H* ‘body’ are among the few paronyms containing a H-tone element, see §4.2.2.1. The tendency is for these initials to drop to L-toned form, both in bahuvrihi and other compounds. Their bahuvrihis are in (244). *mê* usually lengthens its vowel as compound initial, cf. (239b) in §4.8.1.

(244) Noun-adjective bahuvrihi compounds with ‘mouth’ and ‘body’

compound	composition	free gloss
a. with <i>mê</i> ‘mouth’ (cf. §4.8.1)		
<i>lengthened, L-toned initial</i>		
<i>mè:-[bè:r-ò] + H</i>	mouth-big	‘blowhard, braggart’
<i>mè:-[fùt-ò] + H</i>	mouth-bad	‘foul-mouthed speaker’
<i>mè:-[mùrg-ò] + H</i>	mouth-twisted	‘one with twisted mouth’
<i>mè:-[zè:t-ò] + H</i>	mouth-misshapen	‘one with protruding lower lip’
b. with <i>gá:</i> + <i>H</i> ‘body’		
<i>L-toned initial, final with initial H-tone</i>		
<i>gà:-[bú:n-ò] + H</i>	body-feeble	‘sluggish person’
<i>gà:-kó:n</i>	body-empty	‘naked person’
	[also <i>gà:-kó:n-ò + H</i> etc.]	
<i>gà:-[kónn-ò] + H</i>	body-hot	‘person with a fever’
<i>gà:-[zé:n-ò] + H</i>	body-old	‘widow or divorcée’

A number of additional bahuvrihis, especially denoting natural species (compare English bird names like *silverbill* and *thick-knee*) can be found in the sections on diminutive compounds, see (253) in §4.9.2.

While the majority of bahuvrihis have a paronym as initial, there are other possibilities. For example, *[tâ:-mù]-[bè:r-ò] + H* ‘gendarme’ is literally “shoe-big,” referring to the conspicuous boots worn by gendarmes.

A {L}-toned bahuvrihi used adjectivally after a noun is subject to Adjectival Tone-Raising: *hàr* $\hat{\uparrow}$ *bón-fùt-ò + H* ‘a/the man who brings bad luck’.

4.8.4 Tonal patterns in noun-noun tight compounds

In most tight noun-noun compounds, the initial has the tonally and segmentally regular form of the corresponding noun, and the final has its regular form (inflected for final/definite and number value). Regular phonological rules can apply at the boundary.

However, there are some compounds that idiosyncratically require tone-dropping to {L} of the initial. Two examples from the dictionary are in (245).

(245)	nonfinal	gloss	compound	gloss
		<i>ʔàlà:rúbâ</i>	‘Wednesday’	<i>ʔàlà:rùbà-kárí</i>
				‘last Wednesday of the month’
		<i>hámní</i>	‘fly’	<i>hàmni-[kùŋg-ò + H]</i>
				‘humming insect sp.’

Tone-dropping of nominal initials is systematic in *-târêy* compounds of essential nature (§4.8.7), characteristic nominals in *-kòyni* (§4.5.5), and diminutives with suffix *-íyâ* and variants (§4.9.1). Tone-dropping likewise applies to verb stems in some derivatives, such as those with intransitivizing suffix *-â* (§6.2.3), agentive *-k-ò + H* (§4.5.7), and participial *-ànt-ò + H* (§4.5.6).

4.8.5 ‘Mother’ and ‘child’ as compound finals

ɲâ ‘mother’ is common as a compound final denoting entire plants and trees, in the frequent case where an uncompounded term properly denotes a fruit or other part. Examples: *bè: ɲá* ‘borassus palm tree’, *bá:n-ò ɲâ* ‘acacia tree’ (*Vachellia [=Acacia] nilotica*). Here *bè:* or *bá:n-ò + H* without *ɲâ* could be taken as denoting the palm’s fruits (eaten by livestock) or the acacia’s pods (collected and sold in markets for medicinal and hide-tanning uses). However, the uncompounded terms are used flexibly. In contexts not calling for fine distinctions they can denote the tree or plant as a whole (especially in a collective sense). *tù:r-ò + H* ‘tree’ or ‘wood, firewood’ combines with ‘mother’ as *tù:r-ò ɲâ* ‘tree’.

As compound final, *-ɲâ* does not take the (inalienable) possessive endings that *ɲâ* ‘mother’ takes as a kin term. Contrast the suffixes in *ɲâ:-y* ‘my mother’ and in *bè: ɲá-w-è* ‘my borassus palm’, the latter showing ordinary (alienable) possessive ending, with epenthetic *-w-* inserted before a V-initial suffix.

For examples of *ɲâ* as compound initial, see (239a) in §4.8.1 above.

The irregular noun ‘child (especially son/daughter)’ is nonfinal *ʔizê*, inalienably possessed 3PossSg *ʔíz-ó: + H*. As compound final it contracts with a preceding vowel as final/definite singular *-í:z-ò + H* (with no lengthening of the *o*) and nonfinal *-ì:zê*, without the glottal stop. The compound may denote an individual grain, fruit, or other small unit that (in some sense) is produced by a larger whole denoted by the noun used as compound initial. It may likewise denote the offspring of any animal, or the figurative offspring of e.g. a village or rain. For humans, it may denote a young member of a category, or in some cases simply an individual member (regardless of age). The compound may also function as a simple diminutive (‘small X’) added to a noun denoting an object, construction, etc.

The initial is normally dropped to {L}-tone.

(246)	noun	gloss	compound	gloss
	a. plants			
	<i>màṅgór-ò + H</i>	‘mango(es)’	<i>màṅgòr-í:z-ò + H</i>	‘(a) mango (fruit)’
	<i>búbúr-ó + H</i>	‘tree sp.’	<i>bùbùr-í:z-ò + H</i>	‘fruit of tree sp.’ (<i>Combretum aculeatum</i>)
	b. animals			
	<i>fàrk-ò + H</i>	‘donkey’	<i>fàrk-í:z-ò + H</i>	‘baby donkey’
	<i>hàw-ó + H</i>	‘cow’	<i>hàw-í:z-ò + H</i>	‘calf’
	<i>hàns-ó + H</i>	‘dog’	<i>hàns-í:z-ò + H</i>	‘puppy’
	<i>cé-bè:r-ò + H</i>	‘elephant’	<i>cè-bè:r-í:z-ò + H</i>	‘baby elephant’
	<i>cìṅṅà + H</i>	‘rain’	<i>cìṅṅ-í:z-ò + H</i>	‘velvet mite’ (emerges after rain)
	c. people			
	<i>gàrgàs-ò + H</i>	(a caste)	<i>gàrgàs-í:z-ò + H</i>	(young caste member)
	<i>ká:d-ò + H</i>	‘Dogon’	<i>kà:d-í:z-ò + H</i>	‘young Dogon’
	<i>kòyrà + H</i>	‘village’	<i>kòyr-í:z-ò + H</i>	‘villager’ (or ‘small village’)
	d. inanimate			
	<i>gá:s-ó + H</i>	‘calabash’	<i>gà:s-í:z-ò + H</i>	‘small calabash’
	<i>húw-ó + H</i>	‘house’	<i>hùw-í:z-ò + H</i>	‘apartment’
	<i>hàmbúr-ó + H</i>	‘head hair’	<i>hàmbùr-í:z-ò + H</i>	‘(a) head hair’
	e. frozen (initial not otherwise in use)			
	—	—	<i>kòb-í:z-ò + H</i>	‘finger’

Another less transparent compound of this type is *kòb-í:z-ò + H* ‘finger or toe’. That the initial is historically a wayward variant of *kàmbè* ‘hand’ is suggested by cognates: TSK *kàmbè-ýsè* ‘finger’, KS *kabe-ize* ‘finger’, and KCh dialectal variants for ‘finger’ (kobe and kobo-jje).

When it is not necessary to repeat the term denoting the whole, an uncompounded *?izê* can be used for almost any small unit (excluding currency). A common question in the weekly market is *?izé mèrjè* ‘how many (units)?’, referring for example to mangoes or batteries.

4.8.6 ‘Male’ and ‘female’ compounds

The nouns *hàr* ‘man, male’ and *wòy* ‘woman, female’ can be added as adjectives to a noun stem that denotes an animal species or the like, to specify sex: *cé-[bè:r-ù] hàr* ‘male elephant’ and *cé-[bè:r-ù] wòy* ‘female elephant’. The idiosyncratic lengthening of the stem-vowel of *hàr* before V-initial suffixes such as final/definite suffixes

(§4.1.2.4, §3.7.5.2) also applies in this case: *cé-[bè:r-ù] hà:r-ò + H* ‘the male elephant’.

In addition to this transparent use, there is a more subtle “male/female” opposition in terms for pairs of similar botanical species. In the three cases I know of, the implicitly “female” term is unmarked (perhaps simply because it denotes the more familiar species), while the “male” term is a compound ending in (archaic) diminutive form *-hàr-íyà* or (with final/definite singular suffix) *-hàr-íy-à*: Examples are *bòl-ò + H* ‘*Desmidorchis (=Caralluma) acutangula*’ and *bòl-hàr-íyà* ‘*Caralluma adscendens*’, two closely related cactus-like succulents with multiple erect stems. The stems of *C. adscendens* are more slender, and this is what suggests “maleness.”

In the case of *dèŋ-ò + H* ‘*Senegalia (=Acacia) laeta*’ and *[dèŋ-ù]-[hàr-íyà]*, the salient difference suggested by an informant is that the latter does not bear fruits (it is sterile, like men). Another pair involving herbs whose foliage can be cooked for sauces is *hùb-ò + H* ‘*Cleome gynandra*’ and *[hùb-ù]-[hàr-íyà]*, which denotes two *Amaranthus* spp. and, dialectally, also *Cleome viscosa*. The “gender” difference may relate to edibility (*C. gynanda* is preferred in sauces), but more likely it refers to the more erect aspect of the “male” species.

The “gender” difference in botanical taxonomy is better developed in TSK. It has parallels in other regional languages, including Dogon.

4.8.7 Nominals of essential nature (*-târêy*)

The independent noun *târêy* means ‘(the) outside; the area around (a house)’. It is doubtful that this has any historical connection to the important compound final *-târêy*. Its compounds denote the essential nature of some social category (or species), and sometimes by extension the collectivity in question. The tone of the compound initial is neutralized to {L}. Final/definite *-târ-ò + H* is elicitable but uncommon except in discourse-anaphoric sense, see §4.1.2.10.

Examples are *hàr-târêy* ‘manliness’, *hànsì-târêy* ‘dogginess, acting like a dog’ (used e.g. in scolding a child for misbehavior), *fùlàn-târêy* ‘being Fulbe (ethnic group); the Fula people (collective)’, *zèm-târêy* ‘being a goldsmith’, *tàlkà-târêy* ‘poverty, being indigent’, and *[kò-kòy]-târêy* ‘chiefhood, being the chief’. Input nouns here are *hàr-ò + H* ‘man’, *hàns-ó + H* ‘dog’ (nonfinal *hànsì*), *fùlàn-ò + H* ‘Fulbe person’, *zèm-ò + H* ‘goldsmith’, *tàlkâ* ‘pauper’, and *kò-kòy-ò + H* ‘chief’.

4.8.8 Compounds with *-jèŋ-êy* ‘lack of’

Compounds with this final normally have no further suffixes, but definite singular *-jèŋ-ò + H* is elicitable. Strictly speaking, it should be transcribed as *-jèŋ-∅-ò + H*, recognizing that the derivational *-êy* morpheme has been zeroed by phonological contractions. The palatalization of *ŋ to *ɲ* in *-jèŋ-êy* is due to the following front vowel. The compound final is itself a nominal derived from verb *jèŋ* ‘be tired; fail’, though the semantic connection is less clear than formerly. The tone melody *C̀C-êy* is typical of such derivatives (§4.5.3).

Compounds with this final, denoting lack or insufficiency of a physical or abstract commodity, are usually tight compounds, but loose compounds are attested. Some cases cannot be classified, as when the initial is an abstractive nominal that can occur nonfinally or NP-finally. *hár-ó* \uparrow [jéʹn-éy] ‘lack of water, drought’ is a loose compound. [ɲà:-rí]-[jè-néy] ‘lack of food’ and *hú*-[jèp-éy] ‘lack of housing’ are tight compounds. *lák-kál*-[jè-néy] ‘unimaginativeness, lack of intelligence’, and *ná:néy*- \uparrow [jé-ʹnèy] ‘lack of trust’ could be either.

4.8.9 Semi-segmentable and compound kin terms

For ‘father’s brother’ a distinction is made between elder and junior, using adjectives meaning ‘big’ and ‘small’. *bà:b-èy* \uparrow *bé:r-ò* means ‘my father’s elder brother’, consisting of inalienably possessed *bà:b-èy* + *H* ‘my father’ and the adjective ‘big’. Likewise e.g. *ná:y* \uparrow *céyn-ò* ‘my mother’s younger sister’.

The all-purpose affinal term is *ʔánzúrê*, which can denote a parent-, sibling-, or child-in-law. Its inalienably possessed forms can be followed by gender-specifying adjectives (§4.8.6), as in *ʔánzúr-áj* *hà:r-ò* + *H* ‘your male in-law’, see §5.2.1.

‘(A woman’s) co-wife’ is *wòy-sìnè* (nonfinal *-sìn*), a frozen compound beginning with *wòy* ‘woman’. In bigamous households where a man has two or more wives, the women tend to regard each other (and especially their respective children) as rivals. There is a parallel formation *hàr-sìnè* (including *hàr-* ‘man’) meaning ‘(a man’s) male rival’, denoting another man who is in love with the same woman. See also §4.2.2.1, just before (161)

Another pair of archaic compounds is *wòy-mè* ‘sister’ and *hàr-mè* ‘brother’, again beginning with *wòy-* ‘woman’ and *hàr-* ‘man’. These terms are regularly used for cross-sex relationships, while *bé:rê* ‘elder sibling’ and *céynê* ‘younger sibling’ are normal for same-sex relationships.

‘Stepmother’ or ‘mother’s co-wife’ is usually just *hàwê*, a semantic extension from ‘aunt’. HS does not use expressions with *fùmb-ò* + *H* ‘rotten’ in this sense.

4.8.10 Nominal compounds with verb stem as initial

A few compounds that function as nouns syntactically appear to contain a verb stem as initial. Of course it is always possible that the initial was originally a noun related to the verb, but in some cases this noun does not occur elsewhere in HS.

bìnn-ì:zê ‘accursed person’ consists of the verb *bínní* ‘curse’ and *ʔizê* ‘child’. The antonym is *gà:rà-ʔizê* ‘blessed child’ including the verb *gà:rà* ‘bless’

‘Comrade, companion’ is *hàn-sìnè*, no longer transparently segmentable (the reconstruction is **hànga-kasine* with **hànga* ‘follow, serve, tag along with’). The two other HS compounds with *-*kasine* are *wòy-sìnè* ‘(woman’s) co-wife’ and *hàr-sìnè* ‘(man’s) male rival’, discussed in §4.8.9 above.

Most compounds whose initial denotes an event, activity, or state are loose compounds with a regular nominal related to the verb. For ‘place of (activity)’ we get e.g. *góy-ó dúw-ò* ‘workplace’, a transparent loose compound of noun *góy-ó* + *H*

‘work’ (zero-derived verbal noun) and a possessed form (PossSg) of noun *dúw-ó + H* ‘place’. For ‘sitting place’ the form elicited was *gòr-m-ò dúw-ò*, the initial being an archaic nominal from verb *gòrò* ‘sit’.

4.8.11 Nominal compounds with verb stem as final

In a handful of compounds the final appears to be a verb or a nominalized form thereof that is not attested outside of compounds.

(247)	compound	gloss	related verb
a.	<i>[ŋòyn-ù]-[káŋ-ó]</i>	‘west’ (“sun-fall[en]”)	<i>káŋ</i> ‘fall’
b.	<i>bàrì-dàm</i>	‘horse race’ (“horse-put”)	<i>dàm</i> ‘put’

4.8.12 Reduced clauses or VPs functioning as compound nouns

In addition to the diminutive cases that involve clause-like structures, mentioned at the end of the preceding section, I can cite one *[[kà:g-ò]-né:ré]-[w-déy-[?ànzùf-ò]]* ‘whydah, bird sp. with extravagantly long tail’, lit. “[grandparent-his]-sell-[InfIn-buy-[tail-Fin/DefSg]].” The idea is that the bird sold his grandmother to get money to buy a fancy tail with. Roughly similar expressions for long-tailed birds occur in other Songhay languages. Another phrasal compound is *[hàr-bóŋ]-sù-[gáwr-ú]-jéré* ‘grasshopper with pointed head’ (*Acrida bicolor*), lit. “[man-head]-ImpfNeg-[jar]-carry.on.head”). A pointed head would make it impossible for a person to carry a heavy earthenware water jar, African-style, on top of his or her head.

4.9 Diminutives

4.9.1 {LHL}-toned with *-íyà ~ -íyâ ~ -íy-à:*, nonfinal *-íy-òw*)

The productive nominal diminutive has {L} tone overlay on the stem plus a diminutive suffix. The form of the suffix is somewhat variable, but it is often heard as *-íyà* or *-íyâ*. The *i* of the suffix replaces a stem-final short vowel. Under some conditions the *i* of the suffix is deleted by syncope (see below). A nonfinal form *-íy-òw* is attested in some but not all cases. The final/definite singular is *-íy-à: + H* and the definite plural is *-íy-èy + H*. Phonologically, these final/definite forms appear to be based directly on *-íyà ~ -íyâ* rather than on nonfinal *-íy-òw*, see §3.7.2.1 and §4.1.3.3.

This is a classic diminutive with affective overtones. It is distinct from another type, more strictly related to size (and parental relations), involving *-izê* ‘child’ as compound final, see §4.8.5.

(248) shows that some rather basic nouns allow this suffixal diminutive. These transparent, productive diminutives generally allow the nonfinal form *-íy-òw*, unlike some other diminutives to be covered below. An alternative nonfinal form *-íyâ* ~ *-íyâ* (or even *-íyâ*) may also occur but is not shown.

(248) Suffixed diminutive nouns

gloss	noun	Dimin	
		Nonfinal	Fin/Def Sg
a. human			
‘man’	<i>hà:r-ò + H</i>	<i>hà:r-íy-òw</i>	<i>hà:r-íy-à: + H</i>
	(NF <i>hàr</i> , for stem vowel length see §3.7.5.2)		
b. animate			
‘dog’	<i>háns-ó + H</i>	<i>hàns-íy-òw</i>	<i>hàns-íy-à: + H</i>
c. inanimate			
‘stick’	<i>bùnd-ò + H</i>	<i>bùnd-íy-òw</i>	<i>bùnd-íy-à: + H</i>
‘knife’	<i>sémb-ó + H</i>	<i>sèmb-íy-òw</i>	<i>sèmb-íy-à: + H</i>
‘box’	<i>bát-ò + H</i>	<i>bàt-íy-òw</i>	<i>bàt-íy-à: + H</i>
‘shorts’	<i>bènt-ò + H</i>	<i>bènt-íy-òw</i>	<i>bènt-íy-à: + H</i>
‘small granary’	<i>bò:n-ò + H</i>	<i>bò:n-íy-òw</i>	<i>bò:n-íy-à: + H</i>

Uncompounded nouns, chiefly flora-fauna terms, that occur only in the diminutive form are given in (249). The unreduplicated nouns of this type generally do not have the nonfinal form with *-òw*. Instead, the nonfinal form ends in *-íyâ* ~ *-íyâ* ~ *-íyâ*. I normalize this variation as *-íyâ* in the nonfinal column of (249) for unsyncoated diminutives.

(249) Invariant diminutive nouns

gloss	Nonfinal	Fin/Def Sg
a. fauna		
<i>syncoated and tonally reshaped, cf. (250) below</i>		
‘ground squirrel’	<i>kúy-yâ</i>	<i>kúy-y-à: + H</i>
<i>unsyncoated</i>		
‘hare’	<i>tàb-íyâ</i>	<i>tàb-íy-à: + H</i>
‘Gambian sun squirrel’	<i>kàsàl-íyâ</i>	<i>kàsàl-íy-à: + H</i>
‘winged termite’	<i>kòmbà:n-íyâ</i>	<i>kòmbà:n-íy-à: + H</i>
‘silverbill’	<i>mìs-íyâ</i>	<i>mìs-íy-à: + H</i>
‘namaqua dove’	<i>lòŋk-íyâ</i>	<i>lòŋk-íy-à: + H</i>
‘finch, small birds’	<i>tìkr-íyâ</i>	<i>tìkr-íy-à: + H</i>
	~ <i>cìkr-íyâ</i>	

b. other

reduplicated

‘reed flute’

bòl-bòl-íyòw *bòl-bòl-íy-à:*

‘Hedgehog’ is either *?àŋ-kù:n-ò + H* or its diminutive *?àŋ-kù:n-íyâ*, with no real difference in meaning.

jèr-fènd-íy-à: + H is intelligible structurally as a diminutive of *jèr-fènd-ò + H* ‘head-cushion’, cf. *fènd-ò + H* ‘calabash cover, fan’. However, it denotes ‘francolin (quail-like bird)’.

4.9.2 {HL}- and {LHL}-toned diminutives after syncope of *-íyà

In a number of cases, what probably originated as a diminutive of the type **C̀̀C-íy-òw ~ *C̀̀C-íy-ǎ:* has lost the H-toned suffixal **i* by **syncope**. The examples of this in (250) involve original **ɲ* (perhaps palatalized from **ŋ*) or **y* preceding the diminutive suffix. Further examples are given in the sections below on diminutive compounds. One such example, a compound with *wá-yy-à: + H* from *wà:* ‘milk’, does not reflect syncope as such, but it mimics the other syncopated cases.

One might expect a syncopated **C̀̀C-íy-òw* to surface as *#C̀̀C̣y-òw*, but since HS does not allow <LH> tones on surface syllables, it is flattened to H-tone. The result is *C̀̀C̣y-òw* (with various treatments of the medial *Cy* cluster). See <LH> → H Flattening (§3.9.6.3). The exception is *kòŋ-ɲâ* from *kóŋâ* ‘female slave’, where the H-tone of **í* in **kòŋ-íyà* migrated rightward rather than leftward.

(250) Syncopated and tonally flattened diminutives

gloss	noun	Dimin	
		Nonfinal	Fin/Def Sg
a. with <i>y</i>			
‘woman’	<i>wòy</i>	<i>wóy↑-y-òw</i>	<i>wóy↑-y-à: + H</i>
b. with <i>ɲ</i>			
‘head’	<i>bùwⁿ-ò + H</i> (NF <i>bòŋ</i>)	<i>búɲ↑-ɲ-òw</i>	<i>búɲ↑-ɲ-à: + H</i>
‘female slave’	<i>kóŋâ</i>	<i>kòŋ-ɲâ</i>	<i>kòŋ-ɲ-à + H</i>

háyyòw ‘a little’ (strong definite *háyy-à: + H*), used adverbially or as a noun, probably originated as diminutive **hày-íy-òw*, cf. *hàyà* ‘thing’.

Certain nouns ending in *ɲna* resemble the diminutives with *ɲɲ* in (250b), but do not appear to be true diminutives. For example, *?àndúɲɲâ* ‘world (of the living)’ has no diminutive or hypocoristic sense and reflects Arabic (*?ad-*)*dunyaa*. *cìɲɲà + H* ‘rain’ matches KS (*n*)*cìɲɲi* and variants, pointing to an original **ɲɲ* cluster. Nonfinal *báɲɲâ*, definite singular *báɲɲ-à: + H* ‘male slave’ matches KCh and KS *baɲɲa* (dialectal KS *baɲna*) and TSK *bǎɲna*, and may likewise reflect **ɲɲ*.

4.9.3 {L}-toned diminutives with -iyà

Another nominal type is entirely {L}-toned, with -iyà as the ending. The stems tend to be invariant in this form when the referent is singular (so nonfinal and final/definite singular are not reliably distinguished). A definite singular form -iy-à: +H is sporadically but inconsistently elicitable before strong definite *H+dì*. Plural suffixes may be added, however. See §4.1.3.3 for more on the inflectional suffix morphology of these forms.

Many of the stems do not occur without -iyà, so segmentation is not transparent. I do segment wherever this seems reasonable, based on the meaning of the noun and the frequency of diminutives in flora-fauna terminology. The type is especially common with noun-adjective compounds (§4.9.5).

(251) {L}-toned -iyà

stem	gloss	comment
a. <i>kòf-iyà</i>	‘grasshopper’	
b. <i>hònd-iyà</i>	‘young woman’	NF also <i>hòndiy-òw</i>
c. <i>zà-zàb-iyà</i> <i>dà-dàb-iyà</i>	‘mosquito’ ‘insectivorous bat’	NF <i>zà-zàbî</i> ~ <i>zà-zàb-iyà</i>

Before strong definite *H+dì*, I hear both syllables of -iyà with H-tone as in *kòf-íyá*[↑] *dì* ‘that (same) grasshopper’; see §4.1.3.3.

For compounds ending in a {L}-toned diminutive, see §4.9.5, below.

4.9.4 Noun-adjective diminutive compounds containing a H-tone

There are a number of flora-fauna terms of the **non-bahuvrihi** compound type. In this type, e.g. [mouse red-Dimin] means ‘little red mouse’, i.e. a type of mouse that is further specified by the adjective. The adjectives are diminutive in form but have no hypocoristic flavor.

(252) Diminutive noun-adjective non-bahuvrihi compounds

gloss	compound	composition
a. fauna		
<i>syncopated and tonally reshaped</i>		
‘gerbil’	<i>[cèŋ-ù]-[kír-(í)yá]</i>	“mouse red-Dimin”
‘patas monkey’	<i>[fò.n-ù]-[kír-(í)yá]</i>	“monkey red-Dimin”

unsyncoated and tonally reshaped

‘Egyptian vulture’	[gàb-ù]-[ká:r-íyá]	“hawk white-Dimin”
‘zorilla’	[hèyl-ù]-[fúmb-íyá]	“cat rotten-Dimin”
‘darkling beetle (<i>Vieta</i>)’	[gàŋ-gàm]-[kó:g-íyá]	“beetle hard-Dimin”

b. flora

unsyncoated, {LHL}-toned final

<i>Caralluma adscendens</i>	bòl-[hàr-íyà]	“ <i>Desmidorchis acutangula</i> male-Dimin”
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kír-yá (variant *cír-yá*) from *círêy* ‘red’ is irregularly {H}-toned in these examples, not {HL} #*kír-yà* as we might expect after syncope. It can also be pronounced *kír-íyá*. But see the {L}-toned compounds including ‘red-Dimin’ in §4.9.5 below, and comments on ‘red’ and ‘black’ there.

Adjectival Tone-Raising, i.e. [L.L] [L.L] → [L.L] [H.L] (§3.9.4.2), is inapplicable when the final is entirely {H}-toned, as in *hèyl-ù fúmb-íyá* ‘zorilla’ (252a). The example [gàb-ù]-[ká:r-íyá] ‘Egyptian vulture’ (252a), whose initial is {H}-toned *gáb-ó + H* ‘large scavenging hawk’, suggests that the initial is tone-dropped in combination with a diminutive final.

The initial in *dòŋ-[ká:r-íyá]* ~ *dò-[ká:r-íyá]* ~ *dò:-[ká:r-íyá]* ‘grasshopper (*Diabolocatantops*)’ (“?-white-Dimin”) is synchronically opaque, but it corresponds to cognates meaning ‘grasshopper’. So this compound too originally belonged to the type in (252).

Bahuvrihi compounds (§4.8.3) ending in a diminutive adjective are distinct semantically from the examples in (252) above, which have intersective adjectives. However, there is no tonal difference between the two types. The diminutive bahuvrihis in (253) therefore show the same global {LHL} melody as in (252), and again ‘red’ and ‘white’ have their special {H}-toned diminutive forms.

(253) Diminutive noun-adjective bahuvrihi compounds

gloss	compound	composition
a. fauna		
<i>Dimin adjective syncoated and tonally reshaped</i>		
‘cutthroat finch’	<i>gìndì-[kír-(í)yá]</i>	“throat-red-Dimin”
<i>unsyncoated and tonally reshaped</i>		
‘vinaceous dove’	[fàt(-ù)]-[ká:r-íyá]	“wing-white-Dimin”
‘herb sp.’	<i>bòŋ-[ká:r-íyá]</i>	“head white-Dimin”
<i>unsyncoated, {LHL}-toned final</i>		
‘knob-billed duck’	[nì:n-ù]-[gùnj-íyà]	“nose-curve-Dimin”
‘viper (<i>Echis</i>)’	<i>gà:-[kàs-íyà]</i>	“body-rough-Dimin”
‘lapwing’	<i>círím-[cè:-[kò:j-íyà]]</i>	“bird?-[foot-hard-Dimin]”
b. flora		
<i>unsyncoated</i>		
‘herb sp. (<i>Polycarpea</i>)’	<i>bòŋ-[ká:r-íyà]</i>	“head-white-Dimin”

The frequency of ‘red’ and ‘black’ in these {L}-toned compounds suggests the possibility that there may have been some lexical blending. As diminutive of ‘red’, both {H}-toned *-[kír-yá]* and {L}-toned *-[kír-iyà]* are found in different compounds. The confusion here might be with *cír-ò + H* ‘bird’ (wide range of nonfinal and compound initial forms: *cír-û ~ cîrôw ~ círî ~ cîr ~ círà*), and its diminutive(s), as in *kò-tí-y-èy cîr-íy-à: + H* ‘barn owl’ (“children’s bird”) (§4.9.6). There is also a related noun, in diminutive form and vaguely reduplicative, with variants *cìkír-íyà* and *tìkr-íyà*, collectively denoting various small birds (sparrows, finches). In *[[hár-ó]-bój]-[kír-yà]* ‘jacana (aquatic bird)’, I take *[kír-yà]* to mean ‘bird’ rather than ‘red’, the compound as a whole then reading literally as “bird-Dimin on water” (§4.9.6).

For ‘black’ (nonfinal *bí-bî*, final/definite singular *bí-b-ó + H*), where both *b-íyà* and {L}-toned *b-iyà* are attested as diminutives, the potential confusion is with *bìy-ò + H* ‘shadow, shade’. The latter occurs in diminutive form in *kòtíy-èy bíy-y-à:* ‘skink’ (“children’s shadow-Dimin”).

For the tones of *bòŋ-[kír(-i)yá dî* with strong definite *H + dî*, see §4.1.3.3.

4.9.6 Compounds with possessor or PP plus diminutive noun

A number of flora-fauna compounds consist of a possessor plus a possessed diminutive noun (256). The possessor is normally in the final/definite singular form with *-o + H* or the definite plural form with *-ey + H*. The floating H-tone appears, if at all, on the first syllable of the possessed noun. Possession usually implies definiteness, and these compounds are most readily elicited in the final/definite singular form with *-íy-à: + H*.

(256) Possessor plus diminutive noun

gloss	compound	composition
a. fauna		
<i>noun syncopated and tonally reshaped</i>		
‘skink’	<i>kòtíy-èy bíy-y-à:</i>	“children’s shadow-Dimin”
‘scolopender’	<i>[wòy hí:j-éy] ↑?ân-déŋ-ŋ-à</i>	“[married women's] scorpion-Dimin”
<i>other</i>		
‘snake sp.’	<i>?álmán-éy ↑gônd-íy-à:</i>	“goats’ snake-Dimin”
‘barn owl’	<i>kòtíy-èy cîr-íy-à:</i>	“children’s bird-Dimin”
‘stone partridge’	<i>tónd-ó ↑gônj-íy-à:</i>	“stone’s chicken-Dimin”
‘sparrow’	<i>bèl-èy cìkír-y-à:</i>	“Bellás’ sparrow-Dimin”
	[variant <i>bèl-èy cìkír-íy-à:</i>]	
b. flora		
<i>noun syncopated and tonally reshaped</i>		
<i>Euphorbia</i> sp.	<i>čěñ-èy wá-yy-à:</i>	“mice’s milk-Dimin” (<i>wà:</i> ‘milk’)

other

Cleome viscosa fúlán-èy hùb-íy-à: “Fulbe’s *Cleome*-Dimin”

tàbèy [hà:r-íyà] ‘succulent sp. (*Caralluma adscendens*)’, a variant from Kelmi village, is “hare ?-Dimin.” However, the identification of the final, and therefore the structure of the compound, is unclear.

bùnd-íyá bìs-íy-à: denotes *Cassia mimosoides*, a slender erect herb. Both initial and final are diminutive in form: bùnd-íy-à: + *H* ‘small stick, twig, baton’, and diminutive of bìs-ò + *H* ‘acacia sp. (*Vachellia (=Acacia) tortilis* subsp. *raddiana*)’. If read as a possessive, this comes out as “twig’s acacia.”

Still other compounds involve a **locative PP** (postposition *bòŋ* ‘on’) followed by a diminutive (257).

(257) PP plus diminutive noun

gloss	compound	composition
fauna		
‘cricket’	[kúbéy-bón]-[sùtùr-íyà]	“[darkness-on]-protection-Dimin” (??)
‘grasshopper sp.’	[ʔánzél-bòŋ]-[wàrg-íyà]	“[spindle-on]-[fat-Dimin]”
‘jacana (bird)’	[[hár-ó]-bòŋ]-[kír-(i)yà]	“[water-on]-[bird-Dimin]”

The initials are locative PPs with an archaic variant of *kúb-ó + H* ‘darkness’, *ʔánzél-ò + H* ‘spindle’, and *hár-ó + H* ‘water’. Crickets are nocturnal insects that invade houses. The grasshopper in question (*Acorypha* spp.) has a robust body and femur. Jacanas are water birds, often seen standing on water lily leaves.

4.9.7 Diminutive compounds ending in agentive nominal or verb

A number of fauna terms have the structure [noun-[verb-Agentive-Dimin]], ending with an agentive nominal. The agentive suffix is nonfinal *-kôw*, becoming final/definite singular *-k-ò + H* (§4.5.7). The diminutive form is *-k-íyà* with the usual tonal variants. The verbs are *háw* ‘tie’, *dàŋ* and variants ‘put’, and *kárú* ‘hit, strike, play (instrument)’.

(258) Diminutive agentive compounds

gloss	compound	composition.
a. fauna		
‘Quelea (bird)’	ʔàlhìn(i)-[hàw-k-íyà]	“henna-tie-Agent-Dimin”
‘bunting’	[hèb-ù]-[dàŋ-k-íyà]	“market-put-Agent-Dimin”

‘warbler sp.’ [là:t-ù]-[kàr-k-íyà] “flute-[hit(=play)-Agent-Dimin]”

b. flora
[none attested]

The male of *Quelea quelea* (black-faced dioch, a millet-eating bird) has a mostly black head, hence the connection with henna, a dark substance applied by women to their exposed skin. The bunting in question, *Emberiza tahapisi*, is so-called because it is active on the ground in the morning (as weekly markets are starting to fill up).

There are also some difficult compounds where the diminutive suffix appears to be added directly to the verb, without an agentive suffix. However, it is always possible that the diminutive suffix is “really” added to a zero-derived nominal related to the verb, rather than directly to the verb itself.

(259) Compounds with apparent diminutive verb

gloss	compound	composition
‘Hibiscus sp.’	[hàr-[mà:m-ù]]-[kà:j-íyà]	“[man-scrotum]-[scratch-Dimin]” cf. <i>kà:jè</i> ‘grandparent’
‘dung beetle’	wùrì-[jìngìr-íyà]	“shit-[shape.into.ball-Dimin]”

Hibiscus longisepalus has tiny bristly hairs that embed themselves in one’s skin and cause scratching. Dung beetles (scarabs) shape bits of animal droppings into small balls and roll them along.

The best case for a verbal diminutive is *kàr-mù-hà:r-íyà* ‘shrub sp. (*Capparis corymbosa*)’, which appears to contain a form of 2Sg subjunctive *m* before the verb *há:rú* ‘laugh’. Identifying *kàr-* with verb *ká:rú* ‘hit’, the compound is interpretable as “[hit (and) you may laugh]-Dimin.” Presumably this refers to the small thorns on this shrub, which may tickle a person.

4.9.8 Intrinsically diminutive adjectives with *-(i)y-ôw*, *-íyá* ~ *-íyà*

Adjectives meaning ‘small’, ‘short’, ‘thin’, and ‘pretty’ are, not surprisingly, diminutive-like in form. To analyse them it is necessary to compare the adjectives with their related inchoative verbs (‘be[come] small/short’).

For ‘small’ the data are in (260).

(260) ‘small’

a. verb	<i>kàt-íyà</i>	‘be(come) small’
b. adjective	<i>kát-íyá</i> ~ <i>kátt-íyá</i> ~ <i>kátt-yá</i> <i>kàt-íy-ôw</i> ~ <i>kàtt-íy-ôw</i> ~ <i>kàtt-y-ôw</i>	‘small’, Fin/Def Sg ‘small’, nonfinal

There are no other forms in this word family. Syncopated *kátt-yá* etc. suggests a protoform for KS *kacca* ‘small’.

There is a suggestive similarity to, but no direct connection with, the noun ‘child’ in its various forms: *kò-t-íyà*, short forms *kô* and *kò-t-î* before some modifiers and compound finals, see §4.1.3.5.

There are two distinct adjectives meaning ‘short’. That in (261) has cognates in several other Songhay languages, while that in (262) seems to be a HS innovation.

(261) ‘short’ (1)

- | | | |
|--------------|---|--|
| a. verb | <i>dùṅgùr-ìyà</i> | ‘be(come) short’ |
| b. adjective | <i>dúṅgúr-íyá</i>
<i>dùṅgùr-íy-ôw</i> ~ <i>dùṅgùr-y-ôw</i> | ‘short’, Fin/Def Sg
‘short’, nonfinal |

(262) ‘short’ (2)

- | | | |
|--------------|--|--|
| a. verb | <i>dùcc-ìyà</i> | ‘be(come) short’ |
| b. adjective | <i>dúcc-íyá</i> ~ <i>dúcc-yá</i>
<i>dùcc-ìy-ôw</i> ~ <i>dùcc-y-ôw</i>
[also variants with <i>kk</i> , e.g. <i>dúkk-íyá</i>] | ‘short’, Fin/Def Sg
‘short’, nonfinal |

Of the two ‘short’ adjectives, *dúcc-íyá* is the more affectively laden (hypocoristic).

Comparing ‘small’ and the two ‘short’ adjectives, we observe the following: a) the verb and adjective contain *-iya* or syncopated *-ya* ; b) the nonfinal form of the adjective has the {LHL} melody observed with many nominal diminutives; c) the final/definite singular form of the adjective is {H}-toned.

For ‘thin, slender’ and ‘pretty, good’, the verb is of the shape *Cvri* (without *yà*). The adjectives have *Cvry-*, perhaps syncopated from *Cvriy-*.

(263) ‘thin, slender’

- | | | |
|--------------|----------------------------------|--|
| a. verb | <i>màrì</i> | ‘be(come) thin’ |
| b. adjective | <i>már-yá</i>
<i>màr-y-ôw</i> | ‘short’, Fin/Def Sg
‘short’, nonfinal |

(264) ‘pretty, good’ (cf. also noun *bò:r-ì* ‘beauty’)

- | | | |
|--------------|----------------------------------|--|
| a. verb | <i>bòrì</i> | ‘be(come) pretty’ |
| b. adjective | <i>bór-yá</i>
<i>bòr-y-ôw</i> | ‘short’, Fin/Def Sg
‘short’, nonfinal |

4.9.9 Synchronically opaque diminutives

In all languages with productive compounding processes there are bound to be some compounds whose initial and/or final are synchronically obscure, or whose components are identifiable but whose overall meaning is difficult to connect with the referent. Some HS examples are in (265).

(265) Obscure compounds

compound	gloss	composition
a. grasshopper terms with initial <i>hà:f-ù-</i>		
<i>[hà:f-ù]-[gùnd-íyà]</i>	<i>Kraussaria angulifera</i>	“?-[belly-Dimin]”
<i>[hà:f-ù]-lúkkíyá</i>	<i>Chrotogonus senegalensis</i>	
b. other fauna compounds		
<i>kíl-[lò:r-íyà]</i>	‘hornbill’	“bird-[?-Dimin]”
<i>bì:-[b-íy-à:]</i>	‘long-tailed starling’	cf. <i>bí-bî</i> ‘black’ (NF)
<i>gà:-[fàl-íyà]</i>	‘hawk (various spp.)’	“body-[?-Dimin]”

In (265a), the initial is not otherwise attested. *lúkkíyá* may be a variant of *dúcc-íyá* ~ *dúkk-íyá* ‘short’, in which case the “compound” is really just a noun-adjective sequence *hà:f-ù lúkk-íyá*. *Chrotogonus* (‘toad grasshopper’) is the smallest among the common grasshoppers in the zone. In *kíl-lò:r-íyà*, the initial is probably a variant of *cír-ò + H* ‘bird’, but the final is opaque. Both parts of *bì:-b-íy-à:* look like variants of *bíbí* ‘black’ and/or *bìy-ò + H* ‘shadow’. *gà:-[fàl-íyà]* ‘hawk’ closely resembles the more intelligible *gà:-[kàs-íyà]* ‘viper’ (with *kàs-ò + H* ‘rough, coarse’), but its final is obscure.

4.10 Iteration (full reduplication) of noun and adjective stems

Among the more than four hundred natural-species terms elicited, none consists of an iterated (fully reduplicated) version of a common noun or verb stem of the type observed in riverine Songhay.

An adverb *bándé-bándé* ‘(going) backward’ is derived from a word-family including the simple adverb *bándé* ‘behind, in the rear’ (cf. noun *bàndè* ‘back [of body]’ and postposition *bàndè* ‘after, following’).

5 Nominal inflection and NP syntax

5.1 Overview

This chapter covers the structure of NPs and PPs.

The noun is the lexical head of the NP. An unpossessed NP consists of either a personal pronoun or a full (i.e. noun-headed) NP whose maximal composition is noun-adjective(s)-numeral-demonstrative, in that order, plus any terminal elements such as the strong definite particle or the universal quantifier ‘all’. The **core NP** is maximally noun-adjective(s)-numeral. It is the unit to which plural, final/definite, and pronominal alienable possessor suffixation is added. However, possessor suffixes can be added directly to inalienable nouns even when nonfinal in the core NP; see §4.8.9.

A nonpronominal possessor NP or third person pronominal possessor precedes the possessed NP, except that the regular 3Sg pronominal proclitic *à* is omitted before inalienable nouns. There is also some morphological marking of the status of being possessed, alienably or inalienably, on the possessed noun, or more accurately on the final word in the core NP. 1st/2nd person pronominal possessors are marked by suffixes on the final word of the core NP, again distinguishing alienable from inalienable. HS therefore differs from all other Songhay languages in its extensive head-marking on possessed nouns. If the possessed noun is omitted, its place is filled by the default possessed noun *ɲónê* (§5.2.1.2).

If there is no head noun, an adjective or a numeral may function as head. The adjective or numeral in question must then take **absolute** form, which for normal adjectives and for most numerals (but not ‘6-9’ or terms for multiples of ten from ‘20’ to ‘90’) requires an overt absolute prefix (§4.6.3, §4.7.1).

The core NP may be followed by a demonstrative *H + wô* ‘this/that’, plural *H + w-êy* (§4.4.1), agreeing in number with the core NP. This combination has an appositional appearance, but the singular demonstrative can also contract with a preceding noun. The terminal elements that may follow the demonstrative are strong definite *dî* (§5.7.1), DF (discourse-functional) particles (chapter 8), and the universal quantifier *kûl* ‘all’ (§5.4.3), in that order. Examples of core NPs plus at least one further element are in (266).

- (266) a. *bòr-éy↑* *w-éy↑* *kûl*
 person-DefPl DemPl all
 ‘all those people’
- b. *?à-fíy-à:* *dí ...*
 Absol-one-DefSg StDef ...
 ‘the same one; the other one’ (for the tones, see §5.7.1)
- c. *háw* *bè:rì* *hínk-ó* *mô*
 cow big two-DefSg too
 ‘the two big cows too’

A NP may be followed by a postposition (§5.9), or preceded by an instrumental or comitative preposition *ńdù + H* (§5.11), to form a PP.

5.2 Possessives

5.2.1 Possession

Alienable and inalienable possession are distinguished. For **alienable** possession, the **final word of the possessed core NP** (maximally noun-adjective-numeral) is morphologically marked for a specific 1st/2nd person possessor category. With third person possessors, the possessed core NP is simply marked morphologically as being possessed. In this case, the possessor, which may be a full (noun-headed) NP or a third person pronominal category, is preposed to the possessed core NP. The morphology of alienable possession is covered in §4.2.1 above.

That the final word in the core NP takes possessor suffixes for alienables is shown by (267c) below, where the PossSg suffix is added to the numeral; another example is (516) in §9.3.6 below.

Inalienable possession applies to most kin and body-part terms and a few other nouns like ‘name’ and ‘share, portion’. The morphosyntax is partially parallel to that of alienable possession. However, a different set of 1st/2nd person possessor suffixes is used. There is also a special form for regular 3Sg possessor (morphologically the same as the unpossessed final/definite form of alienable nouns). For other third person possessor categories and for nonpronominal NP possessors, the morphosyntax is the same as for alienable possession. The morphology of inalienable possession is described in detail in §4.2.2 above.

When an inalienable like ‘uncle’ or ‘ear’ is followed by an adjective and/or a numeral, the possessed noun cannot be pluralized but it does take the correct pronominal inalienable possessor suffixes. The final word in the core NP has (alienably!) possessed form but no other possessor marking. If this final word is an adjective, it can be singular or plural depending on the referent.

Typical inalienably possessed nouns with no further modifier are *?ánzúr-âŋ* ‘your male in-law’, *hàs-êy* ‘my uncle’, and *hâŋ-êy* ‘my ear’. Examples with a modifying adjective are singular *?ánzúr-âŋ hà:r-ô* ‘your male in-law’ (§4.8.9) and plural *hàs-êy là:l-êy* ‘my evil uncles’. *hà:r-ô* is in PossSg form, and *là:l-êy* is in PossPl form, there being no plural marking on the noun. With a final numeral we have *hàs-êy hìnzâ ~ hàs-êy hìnz-ô* ‘my three uncles’ and *hâŋ-êy ’kú-kû híŋk-ò* ‘my three long ears’.

5.2.1.1 Direct juxtaposition of possessor NP and possessed noun

A nonpronominal possessor NP is directly preposed to the possessed NP. There is no intervening genitive morpheme or possessor-possessed linker. A full-NP possessor has its regular form, and may contain modifiers, plural marking, and/or a strong definite morpheme. The form taken by the possessed noun depends on its own number (singular or plural) and on whether the possessive construction is alienable or

inalienable. After a nonpronominal possessor, alienables take PossSg or PossPl form. These forms are also used with other third person possessors, and (with additional suffixes) with second person possessors (§4.2.1.5-7). If the possessor NP ends in a floating H, this can dock on the first syllable of the possessed NP (267d).

- (267) a. *tà:-k-ò* *húw-èy*
 sew-Agent-Fin/DefSg house-PossPl
 ‘the tailor’s houses’
- b. [*wòy* *hínk-ó:]* *kòyrâ*
 [woman two-Dem] village.3PossSg
 ‘the village of these two women’ (contracted demonstrative /-ô:/)
- c. [*wòy-ó↑* *dì]* *húw* *‘hínk-ò*
 [woman-Fin/DefSg StDef] house two-PossSg
 ‘the two houses of that (aforementioned) woman’
- d. *háw-éy* *↑sú‘b-ò*
 cow-DefPl grass-PossSg
 ‘the cows’ grass’ (3PossSg *sùb-ò*)

Inalienably possessed nouns have a generally parallel morphosyntax. Again third person possessors, including nonpronominal NPs, are preposed with no genitive or linking morpheme. An inalienably possessed noun takes a 3PossSg or 3PossPl form that is restricted to third person possessors (§4.2.2.5-6).

5.2.1.2 *ηόνê* in possessed NPs and possessive predicates

In HS, *ηόνê* is the default possessed noun, used when the common noun denoting the nominal type (‘dog’, ‘house’, etc.) is absent. A suitable gloss is ‘property’ or ‘possession’. It is regular in **predications of possession** (268a), see §7.1.4. The construction in this case is *A ηόνê* with *A* a noun-phrase or independent pronoun; the *A ηόνê* may precede or follow the “subject” NP. In (alienably) possessed form, *ηόνê* can also be used to fill the slot left vacant by a possessed noun in an argument position that is omitted because contextually understood (268b).

- (268) a. *háns-ò:* [*ní* *‘ηόνê]* (or: [*ní ‘ηόνê]* *háns-ò:*)
 dog-this [2Sg property]
 ‘This dog belongs to you-Sg.’
- b. [*bé:r-éy* *‘ηόν-ò]* *dìrà*
 [elder sib-1Sg property-PossSg] walk
 ‘My brother’s (possession, e.g. his dog) has gone away.’

ɲónê is not present between the possessor NP and the possessed noun within a NP: #[[A *ɲónê*] B]. In this respect HS differs from some other Songhay languages, where the cognate morpheme patterns more like a genitive postposition.

Combinations of *ɲónê* with a pronominal ('mine', 'yours', etc.) are shown in (269). The morphology is identical to that of alienably possessed nouns.

(269) Possessive adposition with pronominals

	1st	2nd	3rd	3Full
Sg	<i>ɲón-è</i>	<i>ɲón-ò-nôɲ</i>	<i>à ɲón-ò</i>	<i>ʔáɲgá 'ɲón-ò</i>
Pl	<i>ɲón-èy-ndíy-à:</i>	<i>ɲón-òn-dôɲ</i>	<i>ɲòɲ ɲón-ò</i>	<i>ɲjéy 'ɲón-ò</i>

When *ɲónê* itself is pluralized, it again follows the morphology of alienably possessed nouns: *ɲón-è-ɲòɲ + H* 'mine (plural)', etc. In addition, *ɲónê* may be followed by a numeral, in which case the possessor suffixes attach to the numeral: *ɲóné 'híɲk-ò-nôɲ* 'your two, the two (possessions) of yours'.

Since *ɲónê* is really a noun, it can be pluralized if semantically appropriate in nonpredicative function. Hence *bòr-èy ɲón-èy* 'the ones belonging to the people'. However, in predications of possession with plural subject, e.g. 'these dogs belong to you', *ɲónê* fails to agree in number (or definiteness) with the subject.

HS has no counterpart to KS *kone*, a "custodial" postposition indicating temporary possession or control.

5.2.2 Recursive possession

A possessed NP of the type [Y [Z]] with a nonpronominal possessor Y can be further expanded. Y may have its own possessor, resulting in a bracketing [[[X]Y]Z], as in [[[bà:b-èy] ^cé'râ] háns-ò] '[[[my father's] friend's] dog]'. Other examples point to the bracketing [X[Y[Z]]], but in most such cases the Y-Z sequence acts rather like a compound (cf. English *my dog-house*).

5.3 Adjectives

5.3.1 Syntax of simple adjectives

Most descriptive adjectives have a corresponding verb of adjectival quality based on the same stem (give or take a segment). The verbs are arguably the most basic forms of the relevant word-families, since they are unaffixed whereas many adjectives have a suffix (usually *-ow* in the nonfinal form). However, the relationship between verb and adjective is sometimes irregular. See §4.6.1 for the verbs, and §4.6.2 for lists of adjectives.

The verb (not the adjective) is used in predicative function ('X reds', not #'X is red'). The adjective is therefore limited to postnominal position within NPs.

Modifying adjectives immediately follow the head noun of the NP. The noun takes its nonfinal (NF) form without separate inflection for definiteness or plurality (§4.1.1). For many nouns whose final/definite singular form ends in *-o + H* or variant, the nonfinal form ends in *-u*. Any NP-level inflectional suffixes that are present (final/definite, indefinite plural, alienable pronominal possessor affixes), are attached to the final word in the core NP (maximally noun-adjective-numeral), hence to the adjective in a simple noun-adjective sequence (270a-c). If the head noun is omitted, absolute prefix *?i- + H* is added to the adjective that immediately follows the empty noun slot. One might take the prefix to be a dummy place-holder for the noun, roughly like English *one* in *the red one* or *two red ones*. The absolute prefix is used in this case even if a possessor is present (270b).

- (270) a. *háw* *bè:r-èy*
 cow big-DefPl
 ‘the big cows’
- b. *wòy-ò* \uparrow *?i-cír-ò*
 woman-Fin/DefSg Absol-red-3PossSg
 ‘the woman’s red one’
- c. *?i-bé:r-è*
 Absol-big-1SgP
 ‘my big one’

5.3.2 Adjective plus numeral

If both a descriptive adjective and an **ordinal** adjective (§4.5.6) are present, the ordinal follows the modifying adjective (271). Any suffixes to the core NP are added to the ordinal.

- (271) *wòy* \uparrow *zé:nì* \uparrow *hínk-ànt-ò + H*
 woman old two-Ord-Fin/DefSg
 ‘the second old woman’

If a **cardinal** numeral is added to an adjective, the numeral follows the adjective. If the whole NP is definite, a final/definite singular suffix is added to the numeral (272a). There is no morphological plural marking if a nonsingular numeral is present. In elicitation I have occasionally recorded an alternative construction in which the adjective and the numeral are separately inflected for definite plural, i.e. an appositional syntax (272b). I do not recall observing this in natural speech.

- (272) a. *wòy* \uparrow *zé:n-ù* *hínk-ó + H*
 woman old-NF two-DefSg
 ‘the two tall women’

- b. ?wòy ↑zé:n-èy híŋk-éy + H
 ?woman long-DefPl two-DefPl
 [=(a)] (rare, not verified in natural speech)

5.4 Numerals and other quantifiers

5.4.1 Simple numeral phrases

The forms of numerals are presented and analysed in §4.7.1-3.

When combined with a following numeral, a noun occurs in its **nonfinal (NF) form** (§4.1.1). Plural marking is not present, but a noun-numeral combination may take a definite singular suffix on the numeral if contextually appropriate. Numerals follow adjectives, resulting in a linear order noun-adjective-numeral, with definite singular marking allowed on the numeral. If a numeral directly follows an unfilled noun slot, the numeral takes its absolute form (§4.7.1); this form is also used in counting recitation. Some numerals (including ‘6-9’ and all terms for multiples of ten from ‘20’ to ‘30’) have no formal distinction between absolute and postnominal forms. Other numerals have absolute prefix allomorph ?ì- +H, except that -fó: ‘1’ has absolute allomorph ?à- +H, as does the universal quantifier *kûl* ‘all’.

5.4.2 Existential quantification

Existential ‘there is/are X’ and locational ‘X is present (somewhere)’ predications expressed by quasi-verb *H + gò:* ‘be (in a place), be present’, following the subject. This morpheme can induce a H-tone on the preceding syllable, and does not itself accept a floating H from the left. An example is (277) in §5.4.5. *H + gò:* is replaced by *cìndî* for past time reference (this verb can also mean ‘remain, stay’ in any inflectional context), by *bârâ* in the presence of a focalized constituent, and by negative *sí:* ‘not be (in a place), be absent’, see §7.1.2 for examples. A locational phrase often follows these verbs, with *nôŋ ~ nô* ‘there’ as a high-frequency default. This combination is usually heard as *gò:ʔ = nô(ŋ)* ‘be there, be present, exist (somewhere)’, where the cliticized adverb drops its tone from <HL> to L (like postpositions *sê* and *dô*) and *gò:* is then upstepped. However, this may now be lexicalized as unsegmentable *gó:nò*.

A more purely existential construction, without spatial location, is clause-initial *wôŋ* ‘there is’, borrowed from Fulfulde. An example is *wóŋ [bòrò-nòŋ gá dirà]* ‘there are some people who went’.

5.4.3 Universal quantification (*kûl* ‘all, every, each’)

kûl ‘all’ (totalizing) or ‘each’ (distributive) is of Arabic origin, but it is present in a number of Songhay languages. Like other <HL>-toned forms, its L-tone may be delinked and expressed as downstep on a following word.

In both totalizing and distributive senses, *kûl* is pronounced with emphasis. To further highlight *kûl*, the preceding word is normally lowered in pitch. In most combinations I regard this pitch drop as intonational framing rather than phonological. I therefore transcribe the word preceding *kûl* with its normal tones, though I may add a downstep mark at its right edge, as in *ñjêy˘ kûl* ‘all of them’. However, there are some high-frequency combinations where this appears to have become phonologized, as in *bòr↓ kûl* ‘everybody’ from *bòr*. In such combinations I mark the relevant tones as low and add ↓ at the right edge to index the contextual lowering process (§5.4.3.2).

In addition to its usual senses within NPs (‘all’, ‘each/every’), *kûl* can be used as a **right-edge marker** in conditional antecedents (which may contain more than one clause). For discussion and references to examples, see the end of §9.5.10.

5.4.3.1 Totalizing sense (‘all’)

In its totalizing sense, a NP ending in *kûl* denotes the totality either of a set of two or more countable entities like ‘child’, or of a mass (e.g. ‘water’). In the case of a set of two it can be translated ‘both’.

kûl occurs at the very end of the **entire NP**, after any demonstrative pronoun and/or any discourse-functional particle that may be present. By contrast, numerals precede demonstratives and discourse-functional particles (§5.1), so there is no all-purpose quantifier slot. Another difference is that whereas a numeral requires the preceding noun to take uninflected nonfinal form, in its ordinary universalizing sense (‘all, both’) *kûl* is added to an NP that already has its regular suffixes, including plurality. *kûl* may also follow an independent personal pronoun (e.g. ‘we all’, ‘all of us’). Since *kûl* is the final element in an NP, a postposition taking this NP as its complement immediately follows *kûl*. If the noun is omitted and there is no adjective or numeral, *kûl* takes its absolute form *?à-kûl*. Examples are in (273).

- (273) a. [wòy-èy kúl] ðirà
 [woman-DefPl all] walk
 ‘All of the women left’.
- b. [zá:nî˘ kúl] [zàngù híŋká]
 [day every] [100 2]
 ‘200 (riyals) every day (=per day)’
- c. [yêr˘ kúl] zàràbí
 [1Pl all] be tired
 ‘We all got tired (=all of us got tired).’
- d. ì=ŋ=ŋ ˘háru [[kò-t-íy-èy kúl] ˘sê]
 1Sg=Tr=3SgO say [[child-Dimin-DefPl all] Dat]
 ‘I said it to (=I told) all of the children.’

- e. *ʔà-kúl* *kòm-à* *s-éy*
Absol-all escape 1Sg-Dat
'I have lost everything.' (lit. "everything has escaped for me")
- f. [*háw-ó* *dí↑*]=*ɨ́* [*hèyn-ó↑* *dì*] *kúl* *ɲà:*
[cow-Fin/DefSg StDef]=Tr [millet-Fin/DefSg StDef] all eat
'The cow ate all the millet.'

5.4.3.2 Distributive sense ('each, every')

In distributive sense ('each', 'every'), *kúl* occurs with the uninflected **nonfinal** form of the noun. This construction is used when each individual is associated with another quantified entity (274a) or with a negation (274b).

- (274) a. [*kò-tíʔ kúl*] *gù* *↑hímà* *ẁ* *↑dú* [*tè:n-ù* *hínká*]
[child each] Impf ought Infīn get [date-NF two]
'Each child is supposed to get two dates (fruit).'
- b. [*wòy kúl*] *màɲ* *↑ká*
[woman all] PerfNeg come
'No woman came.' (lit. "every woman did not come")

The sense of (274b) can be emphasized by replacing *wòy kúl* with *bá:* [*wòy fó:*] 'even one woman' (*bâ:* 'even'), hence literally "[even one woman] did not come."

The high-frequency combinations in (275) are essentially distributive, and are mainly used with a following relative *gâ*, as in *bòr kúl 'gâ ...* 'everyone (=any person) who ...', likewise in 'everything that ...', 'everywhere that ...', and 'every time (when) ...'. The nouns are in nonfinal form, but drop to L-tone before *kúl* if not already L-toned.

- (275) gloss Fin/Def Sg Nonfinal with *kúl* gloss
- a. already L-toned
'thing' *hàyà* *hà:* *hà: kúl* 'every thing'
- b. audibly drop to L-tone
'person' *bòr-ò + H* *bòr* *bòr↓ kúl* 'every person'
'place' *dúw-ó + H* *dèy ~ dōy* *dèy↓ kúl* 'every place'
'day' *hán-ó + H* *hán* *hàn↓ kúl* 'every time'
- c. suppletive
'time' *wàkkát-ò + H* *wàkkátí* *mè kúl* 'every time'
(and variants)

hà: kûl can also mean ‘everything, all’ in the totalizing sense. Totalizing ‘everyone’ is expressed as *bòr-èy kûl* ‘all the people’, with the noun in definite plural form.

The nouns in (275) have similar reduced and L-toned forms when directly followed by the relative morpheme (elsewhere *gâ*), which then takes the form *kâ* (e.g. *bòr kâ* ‘a person who ...’), see (432) in §8.2.5.

5.4.4 Distributive iteration of numerals

The forms are given in §4.7.3. Distributives are used when a fixed quantity of entities in one set is associated with each member of another set. They can also be used to associate subsets (having the same cardinality) with distinct space-time coordinates in connection with a shared predication type. The distributive may be part of a NP that has a case role in the clause (276a), or it may be added at the end of the clause as an adverbial (276b).

- (276) a. [*zàngù* *hínká-hínká*] *ì* *↑bó:* *↑dúw-à*
 [100 2-2] 1SgS Impf get-3SgO
 ‘200 (riyals)[focus] is what I get (=earn) (each day).’
- b. *nòŋ* *↑ká* *?ì-hínká-hínká*
 3PIS come Absol-2-2
 ‘They came two by two (=two at a time).’

5.4.5 Complementary subsets

When a group (set of entities) has been already introduced into the discourse, and is then divided into complementary subsets (contrasting with respect to some predication), the usual construction is a parallelistic one with *jér-éy + H...*, *jér-éy + H...*. This is the definite plural of *jér-ó + H* ‘part, portion’. An example is (277).

- (277) [*kò-tí* *bò:-b-ó↑*] *gò:* [[*↑kóyrà* *kún-ò*] *↑gà*],
 [child many-DefSg] be [[town inside-3PossSg] in],
 jér-éy *↑gú* *‘kóy* *lékkòl*,
 part-DefPl Impf go school,
 jér-éy *↑gú* *‘kóy* *↑fá:r-èy*
 part-DefPl Impf go field-DefPl
 ‘There are many children in (this) town. Some go to school, (while) others go to the fields (=do farm work).’

The noun denoting the group, if not previously introduced, can be included in the parallel construction by compounding it to the first occurrence of *jér-éy + H* (278).

- (278) [wòy jér-éy] ↑nám 'kóy ↑bámàkò,
 [woman part-DefPl] Fut go Bamako,
 jér-éy ↑nám '↑cín'dí [kòyrà ↑gâ]
 part-DefPl Fut remain [town in]
 'Some women go to Bamako; others stay in town.'

In the case of a single entity or mass, final/definite singular *jér-ó + H* 'the part' is used in both of the parallel clauses (279).

- (279) *hâw* *gá* 'jér-ó ↑bô: *bí-bî*,
 cow Rel part-Fin/DefSg Impf be.black,
jér-ó *w* ↑ká:rèy
 part-Fin/DefSg Impf be white
 'A cow of which one part is black and the other part is white.'
 (= 'a black-and-white cow')

The relevant form of noun *cìnd-ò + H* 'remainder' (e.g. definite plural *cìnd-èy + H*) can also be used in the second of the parallel clauses in the constructions above. For example, (278) above would have *jér-éy + H ... , cìnd-èy + H ...*

In examples similar to those of (278-9) above, if each subset consists of a single individual, we get forms of the numeral '1': first indefinite ('one'), then definite singular ('the other') (280).

- (280) ?à-fô: tó:,
 Absol-one arrive,
 ?à-fíy-à: ↑gó: [fànd-à: ↑bój] [kù ↑kâ]
 Absol-one-DefSg be [road-Fin/DefSg on] [Infin come]
 'One (of them) has arrived; the other is still on the way here.'

5.4.6 Weak quantifiers ('many, much, few')

Weak quantifiers (those which are compatible with indefinites on first introduction) include the adjective *bò:-b-òw* 'many, much' (§4.6.2.1), distantly related to the verb *bá:* 'be much, many; abound'.

There is no adjective exactly glossed 'few, not many, not much', i.e. below a normative mean, though adjectives or verbs meaning '(be) small' can be used (§4.4.2). 'Not many, not much' is usually expressed by negating a clause containing *bò:-b-òw* or *bá:*. It can also be expressed by using a diminutive (281) or an adjective meaning 'small'.

- (281) *nò:r-íy-à:* *gá* 'bâr *s-éy*
 money-Dimin-DefSg Rel be Dat-1Sg
 'what little money I had (on me)'

For adverbial ‘(do) a lot’ or ‘(do) five times’, quantifying over instances of an event type, see §5.4.9.

5.4.7 Currency and time of day

5.4.7.1 Currency

As in other Malian languages, but not in local French, currency amounts are calculated in the riyal (real), now equivalent to 5 francs CFA.

The riyal (under various names) was the most valuable coin of the colonial era, but relentless inflation along with currency reforms have reduced it to the least valuable coin of the present era. Before 1992 the exchange rate was 50 francs CFA = 1 French franc. After the devaluation of 1992 the rate became 100 francs CFA = 1 French franc. As of 2014 it was pegged at about 650 francs CFA to the euro, so 5 francs CFA is worth about 1 U.S. cent at the time of writing.

The HS term for ‘riyal’ is *kà:tíbi* (compare *alliya:ra* in KCh, *dala* or *ka:tibi* in KS, *bu:du* in Fulfulde), but the term is often omitted when it is understood that money is involved, as when haggling over prices at the market. Thus *zàngù + H* ‘100’ would mean ‘100 riyals’ (=500 francs CFA). For large sums, French *million* is borrowed, meaning ‘million francs CFA (not riyals)’.

Definite plural *kà:tíbi-èy + H* means ‘money’, though *nò:r-ò + H* ‘money’ is also in use (cf. KS *noor-oo*).

5.4.7.2 Time

For time durations, French is commonly used when the units are hours or minutes: *trois heures de temps* ‘three hours’. *jìrbì* ‘day (as unit of time)’ plus a quantifier is used to denote periods of one or more days (especially two or more); it may be related to the verb *jìrbì* ‘sleep’. Compare *hán* ‘day’, used in time-locating expressions like ‘that day’ and relative ‘the day that ...’, and *zá:ní* ‘day, daytime (versus night)’. *zá:ní fò:* ‘one day’ also competes with *jìrbì fò:* ‘one day’ as a measure of duration.

Modern absolute clock times are also expressed in French if the speaker knows the language: *trois heures et demi*, etc. The traditional native time-of-day expressions are a mix of terms primarily denoting solar positions and others denoting the five daily Muslim prayers. The expressions in (282), arranged in approximate temporal order, are the primary ones. Forms of nouns shown are final/definite singular.

(282) Times of night and day

expression	type	gloss
a. times of day		
<i>cíjín-ó + H</i>	noun	'night' (8 PM to dawn)
<i>zàkù-[bín-ò] + H</i>	cpd noun	'in the middle of the night'
<i>?àlfázár-ò + H</i>	noun	'wee hours before dawn'
<i>mò: bów</i>	noun+verb	'day has broken'
[noun has variants <i>mùwⁿò ~ mùḡò ~ mòm</i>]		
<i>sù-súb-ò + H</i>	noun	'early morning' (6-9 AM)
<i>wòyn-ù dùnj-íyà</i>	noun+adj	'when the sun is getting warm' (7 AM)
<i>?àddúh-á: + H</i>	noun	'mid-morning' (9-10 AM)
<i>zá:níy-ó + H</i>	noun	'mid-day' (11 AM-3 PM)
<i>zá:níy-ó bín-ò</i>	loose cpd	'middle of the day' (c. 12:30 PM)
b. Muslim prayers		
<i>sàlá:tù</i>	noun	'pre-dawn prayer' (c. 4 or 5 AM)
<i>?àlú:lâ</i>	noun	'prayer around 2 PM'
<i>?àlà:sárâ</i>	noun	'prayer around 4 PM'
<i>?àlmá:r-ó</i>	noun	'late afternoon' (4-6 PM)
<i>?àlmá:rí bù:n-íyà</i>	noun + adj	'end of afternoon' (when the sun is about to set)'
<i>fùtúr-ò + H</i>	noun	'early evening' (6-7 PM)
<i>fùtúr-ò jíngár-ò</i>	loose cpd	'twilight prayer' (c. 7-7:30 PM)
<i>sá:f-ó + H</i>	noun	'evening prayer' (c. 8 PM)

Any of the nouns can be used as the subject of a clause with verb *tó:* 'arrive', as in *?àlà:sárâ 'tó:* 'the mid-afternoon prayer has arrived' (i.e., 'it's around 4 PM'). This clause kernel can be used in adverbials like *hál ?àlà:sárâ 'tó:* 'when the 4 PM prayer has/had arrived' and *zá: ?àlà:sárâ màn tó:* 'since (the time when) the 4 PM prayer had not arrived' (= 'before the 4 PM prayer'). *mò: bów* 'day has broken' is already clausal and can be directly combined with *hál* 'when ...' or *zá: ... màn ...*'.

There are also some verbs that denote leaving or returning home at a certain time of day. The main ones are: *bíyá* 'go in the early morning' (e.g. 5-6 AM), *zà:ràm* 'go in the middle of the day', *wòymèy* 'go in late afternoon' (after 4 PM), *já:jé* 'return home in the (late) afternoon'. These are often used as serial verbs with following *kóy* 'go' or other motion verb: *à bíyá [w kóy]* 'he went in the early morning'. There are some other verbs that denote passing a good part of the day (in a place, or engaged in a particular activity): *há:y* 'spend the mid-day', *wé:tê* 'spend the morning (up to noon)' (<Fulfulde), *hírtê* 'spend the (early) evening' (<Fulfulde), *hánná* 'spend the night, (do) all night'.

Greetings are also sensitive to time of day. Some of the standard greetings are *ká:ndi* 'good morning' (unsegmentable), *móté ñ kání* 'good morning' (lit. "how did you-Sg sleep?"), *wé:té bà:n-i* 'good morning' (lit. "morning peace," uttered after 10

AM), *há:y bà:n-ì* ‘good afternoon’, *móté ñ há:y* ‘good afternoon, good evening’ (lit. ‘how did you-Sg spend the mid-day?’), *wò há:y-ò* ‘good afternoon’ (plural addressee), and *hí:rê bà:n-ì* ‘good evening’ (*hí:rê* and a related form *hírtê* ‘spend the early evening’ are borrowings from Fulfulde).

Days of the week are expressed with Arabic terms. Beginning with ‘Friday’ (the Muslim sabbath) they are *?àlzúm-à: + H*, *?àsábd-ó + H*, *?àlhádd-ó + H*, *?àtinn-ò + H*, *?àtálá:t-à: + H*, *?àlà:rúb-à: + H*, *?àlkàmí:s-à: + H*.

While French terms are used for dates of the month, the stages of the lunar month are also widely used for time reference (‘I’ll go to Bamako early in the new lunar month’). *hànd-ò + H* ‘moon; month’ is the subject of clauses like *hànd-ò gâ:y* ‘the moon has stood’ (=new moon has appeared) and *hànd-ò bú:* ‘the moon has died’ (=lunar month has ended). The verbal nouns are *hànd-ò gá:y-r-ò* ‘the standing of the (new) moon’ and *hànd-ò bú:n-ò* ‘the death of the moon (=month)’. More abstract expressions like *hànd-ò sántím-ò* ‘the beginning of the month’ could refer either to lunar months or to European months.

Some people know HS terms for the twelve Muslim lunar months, but many speakers do not know or use them.

Absolute dates and years (e.g. ‘1980’) are expressed in French. The traditional native way of locating distant events in time was to relate them to an event (‘the year Hamidou got married’), to the reign of a former chief of Hombori, or to the reign of a Malian head of state (Modibo, Mousa, etc.). Example: *mú:sá ’zá:níy-ò* ‘the time (=reign) of Mousa (Traoré)’.

5.4.8 Quantification over pronouns

kûl may be added to any independent pronoun. For third person, the 3Full pronouns are used. Thus *yérí’ kûl* ‘all of us’, *wàràñ’ kûl* ‘all of you’, *ñjêy’ kûl* ‘all of them’. As elsewhere, *kûl* is pronounced emphatically, so the pronoun is (intonationally) pitch-lowered.

When a pronoun is quantified over by a cardinal numeral, the noun ‘person’ is added, as in *yérí [’bôr tá:k-ò]* ‘the four of us’. This phrase contains the nonfinal form *bôr* ‘person’ and a definite and {HL}-toned form of the numeral. These details suggest that ‘four people’ is treated morphologically as possessed, perhaps as ‘our four persons’. *tá:cí* ‘4’ and other basic numerals (‘1’ to ‘10’) are lexically {H}- or {HL}-toned and so have {HL}-toned 3PossSg forms.

However, the {HL} melody in this construction also extends to the {L}-toned numeral (*zàngù + H* ‘hundred’) and to {L}-toned adjective *mèrjè* ‘how many?’ (§8.2.2.4) as in *wàràñ [’bôr ↑mèrjè]* ‘how many of you?’ and *yérí [’bôr ↑zàngù] + H* ‘the hundred of us’. It is possible that the construction of *bôr* with a numeral is developing its own constructional tone pattern. Or perhaps ‘person’ is really L-toned *bôr* rather than downstepped <HL>-toned *’bôr* in these combinations.

5.4.9 Quantification over events

To indicate the precise cardinality of an event type, HS speakers attach an adverbial to the predication, with *cè* ‘time’ followed by a quantifier: *cè* *↑mérjè* ‘how many times?’, *cè fó:* ‘once’, *cè gú:* ‘five times’.

Most adverbial phrases meaning ‘a great deal, a lot, very’ begin with *hâl* ‘until’ (i.e., ‘to the point that’): *hâl à: bá:* (lit. “until it be.much”), *hâl ‘sánné* (“until extremely”), and *hâl màn tù móssó* (“until Neg be softly”). For the lengthening of 3Sg *à* to *à:* after *hâl*, see §3.7.5.3. Another, less common way to say ‘a great deal’ is to add the particle *zá:rí* clause-finally, without *hâl*.

5.4.10 Partitive-like constructions with quantifiers

A locative phrase can be added to specify the larger set from which the specified individuals are drawn (283a-b).

- (283) a. [*mángóró* *‘híká]* *fúmbú* [*à* *gà]*
 [mango two] be rotten [3Sg in]
 ‘two of the mangoes in it (=set) have gotten rotten’
- b. [*háns-èy-nóŋ* *gà:]* *?i-fó: =íj* *nèy* *nàmà*
 [dog-PossPl-2SgP in] Absol-one=Tr 1SgO bite
 ‘One of your dogs bit me.’ (lit. “in your dogs, one bit me”)

5.4.11 Indefinite plural *-ŋóŋ + H*

The suffix *-ŋóŋ + H* can be added to a noun stem or to a noun-adjective sequence to produce an indefinite plural (‘dogs’, ‘men’, ‘stones’). The tone of the suffix is assimilated from the stem, as with the homophonous verbal noun suffix *-ŋóŋ + H* (§4.3.1). With the few nouns that do not allow definite affixation, the form in *-ŋóŋ + H* is the only plural, and in this case it may be used even in syntactic contexts normally calling for a marked definite form (§4.2.3.2). In (284), the final/definite singular is the form used in contexts like ‘I have no ...’. The stem-shape used before *-ŋóŋ + H* is the nonfinal form of the noun.

(284) Indefinite plurals

gloss	citation	Nonfinal	IndefPl
a. citation is final/definite singular			
‘language’	<i>sénn-í</i>	<i>sénn-í</i>	<i>sénn-í-ŋóŋ + H</i>
‘grass’	<i>sùb-ò + H</i>	<i>sùb-ù</i>	<i>sùb-ù-ŋòŋ + H</i>
‘month’	<i>hànd-ò + H</i>	<i>hànd-ù</i>	<i>hànd-ù-ŋòŋ + H</i>
‘cow’	<i>háw-ó + H</i>	<i>háw</i>	<i>háw-ŋòŋ + H</i>

‘disease’	<i>dór-ó + H</i>	<i>dór-í</i>	<i>dór-í-ṅòṅ + H</i>
‘man’	<i>hà:r-ò + H</i>	<i>hàr</i>	<i>hàr-ṅòṅ + H</i>
‘house’	<i>húw-ó + H</i>	<i>hû</i>	<i>hû-ṅòṅ + H</i>
‘marabout’	<i>ʔálf-à: + H</i>	<i>ʔálfâ</i>	<i>ʔálfâ-ṅòṅ + H</i>

b. inalienables: citation is unpossessed

‘father’	<i>bà:bè</i>	<i>bà:bè</i>	<i>bà:bè-ṅòṅ + H</i>
‘mother’	<i>ṅâ</i>	<i>ṅâ</i>	<i>ṅâ-ṅòṅ + H</i>
‘aunt’	<i>hàwê</i>	<i>hàwê</i>	<i>hàwê-ṅòṅ + H</i>
‘ear’	<i>hâṅê</i>	<i>hâṅê</i>	<i>hâṅê-ṅòṅ + H</i>
‘heart’	<i>bìnè</i>	<i>bìnè</i>	<i>bìnè-ṅòṅ + H</i>
‘foot’	<i>cè:</i>	<i>cè:</i>	<i>cè:-ṅòṅ + H</i>
‘mouth’	<i>mê</i>	<i>mê</i>	<i>mê-ṅòṅ + H</i>
‘hand’	<i>kàmbè</i>	<i>kàmbè</i>	<i>kàmbè-ṅòṅ + H</i>

c. inalienable: citation is 3Sg possessor form

‘liver’	<i>tás-ó + H</i>	<i>tásâ</i>	<i>tásâ-ṅòṅ + H</i>
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Pl *-ṅòṅ + H* is used with interrogative nouns: *méy-ṅòṅ + H* ‘who?-Pl’, *mihín-ṅòṅ + H* ~ *mĩn-ṅòṅ + H* ‘what?-Pl’. These explicitly plural forms are not common, since most ‘who?’ and ‘what?’ interrogatives are open-ended, allowing singular as well as plural responses. Plural *-ṅòṅ + H* is not attested after relative *gâ*, since plurality is expressed directly on the head NP.

-ṅòṅ + H can be added to a noun with definite singular reference, such as a personal name or a suffixed final/definite singular noun like *kò-kòy-ò + H* ‘the chief’, to form an **associative plural**. This denotes a collectivity consisting of that referent plus his or her family, hang-out group, or other associates (rough English parallels are *the Joneses*, *the Capone gang*, and *X and company*):

(285)	<i>ʔá:mádù-ṅòṅ</i>	<i>↑ká = [w̃</i>	<i>↑néy</i>	<i>‘cé:]</i>
	Amadou-Pl	come=[Infin	1SgO	call]
	‘Amadou and company came to call on me.’			

From final/definite singular *kò-kòy-ò + H* ‘the chief’ we likewise get *kò-kòy-ò-ṅòṅ + H* ‘the chief and family (or associates)’.

5.5 Final/definite singular and definite plural

As explained in §4.1.1, many nouns and adjectives have generalized the originally definite singular suffix *-o + H* ~ *-a: + H* to final position within the phrasal unit consisting maximally of noun, adjective, and numeral. For other nouns, the *-o + H* ~ *-a: + H* ending is more restricted, for example being coerced only by a following strong definite particle *H + dî*, in which case it can still be labeled definite singular (§4.2.3.4). Almost all nouns denoting countable entities continue to distinguish the definite plural *-ey + H* from the indefinite plural *-ṅòṅ + H*.

5.6 Demonstrative pronouns

The usual demonstrative pronoun is singular *H+wô* (with short vowel) ‘this/that’, plural *H+w-êy*. After a noun, the singular demonstrative may be reduced to a suffix -*ô*: (with long vowel), and in this case a further *H+wô* may be added. See §4.4.1 for more on the forms.

Demonstrative pronouns can be used absolutely, i.e. in the absence of a noun: *H+wô* ‘this/that’, *H+w-êy* ‘these, those’. Alternatively the demonstrative may follow an already fully-formed (and inflected) core NP, which has its own number and final/definiteness and possessor marking and may include a numeral (§5.1). For example, *H+wô* can follow final/definite singular *sùb-ò+H* ‘grass’ to form *sùb-ó wô* ‘this/that grass’ or a possessed form like *sùb-ê* ‘my grass’ to form *sùb-é wô* ‘this/that grass of mine’. Plural demonstrative *H+w-êy* may likewise follow definite plural *sùb-èy+H* to form *sùb-éy w-êy* ‘these/those grasses’. A demonstrative follows adjectives and numerals: *tóndí bè:r-ó↑ wô* ‘this/that big stone (=mountain)’, *tóndí hínk-éy w-êy* ‘these/those two stones’.

A preceding {L}-toned word within the NP **raises the tone** of its final syllable before these demonstratives (§3.9.6.1). Examples: *bè:* ‘borassus palm’, *bé:↑ wô* ‘this/that borassus palm’, *wòy-ò+H* ‘woman’, *wòy-ó↑ wô* ‘this/that woman’, *wòy-èy+H* ‘the women’, *wòy-éy↑ w-êy* ‘these/those women’, *kòyrà+H* ‘village’, *kòyrá↑ wô* ‘this/that village’. A similar tone-raising occurs before strong definite *H+dì* (§5.7.1) and before *H+gò:* ‘be (somewhere)’ (§7.1.2).

An independent personal pronoun counts as a core NP, so a demonstrative can be added to it: *ní wô* ‘you-Sg there’ (*ní* ‘you-Sg’), *wàràŋ w-êy* ‘you-Pl there’, *ʔáy wô* ‘me here’, *yérí wô* ‘we here’, *ʔángá wô* ‘him/her there’, *ñjéy wô* ‘them there’. These combinations are often found in topicalizing function, preposed to a clause. Especially in *ní wô*, *wô* is heard as L-toned *wò*, as is the case with some other monomoraic <HL>-toned functional elements such as postpositions (*sê*, *dô*) when they are phrased with a preceding word.

To make it explicit that discourse-anaphoric rather than ostensive reference is involved, strong definite *H+dì* (§5.7.1) **follows** the demonstrative: *wó dì* ‘that one (of whom we were talking)’. To specify nonproximate deictic location more precisely, a deictic adverb may be added (§4.4.3). No adverb is needed for proximal reference since a manual gesture suffices to specify exact location in this case. A putative *#wó nè:* ‘this here’ was therefore rejected. However, *wó héndí* ‘that over there’ is common. A demonstrative can also be followed by *kúl* ‘all’ (*wô^t kúl* ‘all this/that’), and/or by discourse-functional morphemes (*wó mô* ‘this/that too’).

Locative adverb *nè:* ‘here’ is often expanded as *né:↑-wò*. Likewise, the usual form for ‘today’ is *hóⁿ↑-wô* or perhaps *hóⁿ↑-wò*, cf. *hál hòⁿ* ‘up to today/now, still’.

5.7 Independent definite particles

5.7.1 Strong definite $H + d\grave{i}$ (or $H + d\grave{i} + H$)

This morpheme (abbreviation StDef) is a marker of discourse definiteness. It may follow pronouns, demonstratives, and noun-headed NPs. Almost all nouns, adjectives, and numerals take the suffixed final/definite singular in $-o + H \sim -a: + H$ or the suffixed definite plural $-ey + H$ before $H + d\grave{i}$. However, some nouns resist suffixal definite marking, especially in the singular, and they can be directly followed by $H + d\grave{i}$ in appropriate discourse contexts. This would apply to some abstractive nouns, nouns (including some diminutives) that idiosyncratically do not allow final/definite marking, and to personal names, for example.

$H + d\grave{i}$ raising of a preceding final syllable in {L}-toned words to H-tone. This process also applies before demonstrative pronoun $H + w\hat{o}$ (plural $H + w\text{-}\acute{e}y$) and before $H + g\hat{o}$: ‘be’.

Examples of $H + d\grave{i}$ with nouns are in (286). Note especially the final-syllable tone-raising in (286d).

(286)	gloss	without $H + d\grave{i}$	with $H + d\grave{i}$
a.	{H}-toned		
	‘cow’	<i>h\acute{a}w-ó + H</i>	<i>h\acute{a}w-ó d\grave{i}</i>
	‘cows’	<i>h\acute{a}w-éy + H</i>	<i>h\acute{a}w-éy d\grave{i}</i>
	‘courtyard’	<i>t\acute{a}r-ó + H</i>	<i>t\acute{a}r-ó d\grave{i}</i>
	‘his/her hair’	<i>h\acute{a}mb\acute{u}r-ó + H</i>	<i>h\acute{a}mb\acute{u}r-ó d\grave{i}</i>
b.	{HL}-toned		
	‘bird’	<i>c\acute{i}r-ò + H</i>	<i>c\acute{i}r-ò d\grave{i}</i>
	‘macari spice’	<i>m\acute{a}:r-ò + H</i>	<i>m\acute{a}:r-ò d\grave{i}</i>
	‘his/her best’	<i>\`a z\acute{a}k-ò + H</i>	<i>\`a z\acute{a}k-ò d\grave{i}</i>
c.	{LHL}-toned		
	‘fatigue’	<i>z\`a r\acute{a}b-ò + H</i>	<i>z\`a r\acute{a}b-ò d\grave{i}</i>
	‘pigeon sp.’	<i>g\`u n\acute{t}a s-ò + H</i>	<i>g\`u n\acute{t}a s-ò d\grave{i}</i>
	‘his mortar’	<i>\`a \`n g\`a h\`u m b\`u r-ô</i>	<i>\`a \`n g\`a h\`u m b\`u r-ó d\grave{i}</i>
d.	{L}-toned		
	‘borassus palm’	<i>b\`e:</i>	<i>b\`e: \acute{\uparrow} d\grave{i}</i>
	‘man’	<i>h\`a :r-ò + H</i>	<i>h\`a :r-ó \acute{\uparrow} d\grave{i}</i>
	‘woman’	<i>w\`o y-ò + H</i>	<i>w\`o y-ó \acute{\uparrow} d\grave{i}</i>
	‘women’	<i>w\`o y-éy + H</i>	<i>w\`o y-éy \acute{\uparrow} d\grave{i}</i>
	‘millet’	<i>h\`e y n-ò + H</i>	<i>h\`e y n-ó \acute{\uparrow} d\grave{i}</i>
	‘mortar’	<i>h\`u m b\`u r-ò + H</i>	<i>h\`u m b\`u r-ó \acute{\uparrow} d\grave{i}</i>
	‘village’	<i>k\`o y r\`a + H</i>	<i>k\`o y r\`a \acute{\uparrow} d\grave{i}</i>

‘rain’	<i>cìŋŋà + H</i>	<i>cìŋŋá↑ dî</i>
‘Hombori’	<i>hùmbùrì</i>	<i>hùmbùrí↑ dî</i>

The tones in these combinations can vary and may depend on the following word. Especially after nouns ending in final/definite singular variant *-à: + H*, I have also heard pronunciations with the H-tone realized on *dî* (becoming *dí*) before a L-toned word, as in (287).

(287)	<i>hál</i>	<i>[kòtíy-à:</i>	<i>dí]</i>	<i>kà</i>	<i>tán</i>
	until	[child-Fin/DefSg	StDef]	come	only
	‘as soon as the child came/comes’				

I do not ascribe a **following** floating H to *H + dî*, which combined with the preceding floating H would require a representation *H + dî + H* with a unique flanking-H pattern. However, further study is needed. In (288a), for example, I did not hear a H-tone on *màn*. However, in some other cases my transcription did point to a second floating H after *H + dî*. For example, the first syllable of */dirà/* ‘walk’ in (288b) was raised, and this has no other explanation. I will generally represent the strong definite morpheme as *H + dî* but a variant *H + dî + H* may also turn out to be justified.

(288)	a.	<i>[wòy-ó↑</i>	<i>dî]</i>	<i>màn</i>	<i>↑dírà</i>
		<i>/[wòy-ò + H</i>	<i>H + dî]</i>	<i>màn + H</i>	<i>dìrà/</i>
		[woman-Fin/DefSg	StDef]	PerfNeg	walk
		‘That (same) woman did not walk/travel.’			
	b.	<i>[bòr-ó</i>	<i>dî]</i>	<i>↑dírà</i>	
		<i>/[bòr-ò + H</i>	<i>H + dî + H]</i>	<i>dìrà/</i>	
		‘That (same) person walked/traveled.’			

H + dî is combinable with pronouns (uncommon), demonstrative pronouns (common), and spatiotemporal adverbs (289).

(289)	gloss	without <i>H + dî</i>	with <i>H + dî</i>	comment
	a. pronoun			
	2Sg	<i>nî</i>	<i>ní dî</i>	‘you (there)’
	b. demonstrative pronoun			
	‘this/that’	<i>H + wô</i>	<i>H + wó dî</i>	‘that (same) one’
	‘these/those’	<i>H + w-êy</i>	<i>H + w-éy dî</i>	‘those (same) ones’
	c. locative adverb			
	‘here’	<i>nè:</i>	<i>né:↑ dî</i>	uncommon
	‘over there’	<i>héndî</i>	<i>héndí dî</i>	
	‘there (def.)’	<i>nón-dî</i>	<i>nón-‘dí↑ dî</i>	
		[clitic form = <i>nôŋ</i> etc.]		

In (289c), *héndî* (perhaps) and *nón-dì* (definitely) already contain a more or less fused *H+dì* (or variant). The fact that another *H+dì* can be added shows that *héndî* and to some extent *nón-dì* are no longer transparently segmentable.

The sense of the particle is rather fluid but it has a strong discourse-definite function ‘that (same) X’, more like KS strong definite *din* than like KCh simple definite *dì*.

H+dì also occurs at the end of relative clauses (§8.3) and factive clauses (‘the fact that’, §9.5.9). In these constructions, it functions (in part) as a **right-edge marker** (§9.5.10), specifying the right boundary of the subordinated clause(s). In this function it often directly follows a verb.

5.7.2 Adverbs with *dìn* or *dìn dì*

There are also three adverbial expressions that contain a morpheme *dìn*. This can be directly compared to KS strong definite *din* (cf. also KCh definite *dì*). For the (historical) phonology, note HS *dìn* ~ *dì* ‘catch’ and *dìn* ~ *dì* ‘be ignited’.

The three HS combinations with *dìn* in (290) are rather frozen, and (another) strong definite *dì* is usually present in the temporal adverbials (290a), though not in the manner adverbial (290b). The fact that *dìn* does not raise its tones after a floating H (suffix *-o+H*) or after a H-toned word (*yá:*) suggests a continuing synchronic connection with strong definite *H+dì*, which likewise fails to raise its tone.

(290) Combinations with *-dìn* (all known examples)

gloss	without <i>dìn</i>	with <i>dìn</i>	gloss
a. temporal			
‘day’	<i>hán-ó+H</i>	<i>hán-ó dìn↑ dì</i>	‘on that day’
‘moment’	<i>wá:t-ó+H</i>	<i>wótí dìn↑ dì</i>	‘at that time’
		[for other variants see §5.13.2]	
b. manner			
‘that, there’	<i>yá:-</i>	<i>yá:-dìn (dì)</i>	‘in that way’

5.8 Discourse-function (DF) markers

The discourse-function particles in the following subsections come at the end of the NP, after a demonstrative pronoun if present. Within a full NP only *kûl* ‘all’ can follow these particles, e.g. [*wòy-èy mô⁴ kûl*] *kà* ‘all the women too came’ with particle *mô* ‘too’ preceding *kûl*.

5.8.1 Focus particle (*gâ*)

One of the NP constituents of a clause, including adverbial phrases, is often singled out for focal status. It is placed at the beginning of the clause (the movement is vacuous in the case of the subject NP), and is followed by focus particle *gâ*. This particle is used for subject and nonsubject focalization (many Songhay languages have distinct particles for subject and nonsubject focus). The examples in (291) suffice for now; the syntax is treated in §8.1. There is a partial convergence in HS between focalization and relativization, these being the two major **extraction** processes. In particular, the focus particle *gâ* is homophonous to the usual relative particle *gâ*. Both constructions require a special extraction-indexing form of the imperfective positive inflection (XImpf), see §7.2.4.2. Subject and object focus are exemplified in (291a-b), respectively.

- (291) a. *wòy-ò* *gá* *bò:* $\hat{\uparrow}$ *kâ*
 woman-Fin/DefSg Focus XImpf.Infin come
 ‘It’s the woman [focus] who will come.’
- b. *hám-ó* *gá* *ì* $\hat{\uparrow}$ *bô:* *bá:g-à*
 meat-Fin/DefSg Focus 1SgS XImpf.Infin want-3SgO
 ‘Meat [focus] is what I like/want.’

5.8.2 Topic particles

The topic particles are in (291). For examples and discussion see the sections cross-referenced.

(292) Topic particles

- a. *mínê* (§8.4.1)
 b. *kèy+H ~ kày+H* (§8.4.3)

There is interspeaker variation between *kèy+H* and *kày+H*. That *kày+H* might be the older form is suggested by the fact that the velar in *kèy+H* is not ordinarily palatalized; contrast the verb *cèy* ‘weave’ and cf. §3.6.4.

5.8.3 Other DF particles (*mô* ‘also, too’, *tán* ‘only’, emphatics)

The remaining DF particles are listed in (293). All are NP- or clause-final. Examples and discussion are in the respective sections of §8.5.

(293) Other discourse-functional particles

form	label or gloss	comments
a. <i>mô</i>	‘also, too’	§8.5.3
b. <i>tán</i>	‘only’	< Fulfulde, §8.5.2.1
c. <i>yá</i>	Emphatic	insistence (challenging listener’s doubt), §8.5.5.5
<i>dâ</i>	Emphatic	precise identity, §8.5.1.1
<i>dèy</i>	Emphatic	admonition, §8.5.5.1
<i>kòy</i>	Emphatic	propositional confirmation, §8.5.5.3
<i>láy</i>	Emphatic	propositional emphasis, §8.5.5.4
<i>mê</i>	Emphatic	insistent command, §8.5.5.2
<i>sà</i>	Emphatic	insistent command, §8.5.5.2
<i>já:tîŋ</i>	Emphatic	confirmation (‘exactly’), §8.5.1.2

Tonal behavior with preceding H, L, and <HL> tones is shown in (294). Illustrated are the nouns *háw-ó+H* ‘the cow’ and *wòy-ò+H* ‘the woman’, and the demonstrative *H+wô* ‘this/that’. There is no raising of a L-tone in the final syllable of a preceding {L}-toned word before any of these DF particles. Compare e.g. *wòy-ò mô* ‘the woman too’ with demonstrative *wòy-ó↑ wô* ‘this/that woman’.

(294) Tonal behavior of DF particles

after H tone	after L tone	after <HL> tone
<i>háw-ó mô</i>	<i>wòy-ò mô</i>	<i>wó ‘mô</i>
<i>háw-ó dâ</i>	<i>wòy-ò dâ</i>	<i>wó ‘dâ</i>
<i>háw-ó yá</i>	<i>wòy-ò yá</i>	<i>wó ‘yá</i>
<i>háw-ó tán</i>	<i>wòy-ò tán</i>	<i>wó ‘tán</i>
<i>háw-ó já:tîŋ</i>	<i>wòy-ò já:tîŋ</i>	<i>wô já:tîŋ</i>

5.9 Adpositions and case

5.9.1 Unmarked case versus adpositions

I distinguish the following grammatical relations not expressed by adpositions: subject, preverbal direct object (of ordinary transitives), postverbal direct object (of VO verb), predicate of copula verb, and complement of identificational *nôŋ* ‘it is ...’. In comprehension, these categories can be determined by constituent order and the nature of the predicators in the clause. Subjects and direct objects can be focalized. A “topicalized” NP is often preposed to the clause and if so it is outside the framework of clause-internal grammatical relations. However, under some conditions a NP marked with a topic particle can function within the clause, usually as subject.

As in many languages, common temporal and spatial adverbs like ‘yesterday’ and ‘here’, as well as place names, can be considered specialized nouns that can function adverbially without the adpositions that other nouns need to acquire adverbial function.

I now consider in turn the basic postpositions beginning in §5.9.2. The instrumental-comitative preposition *n̄dù* + *H* is covered in §5.11.

All adpositional phrases normally follow the verb except when focalized (or topicalized). If there are two or more postverbal constituents, their order is flexible. However, combinations of an adposition with a pronominal normally cliticize to the verb, preceding other elements.

Adpositions have pronominal paradigms, since 1st/2nd pronominal suffixes (like those used to express inalienable possession with nouns) can be added directly to them (third person counterparts are expressed as proclitics). When a pronominal postpositional phrase is focalized, it is fronted to clause-initial position and cannot take its postverbal clitic form. Instead, we get an independent pronominal form followed by the postposition. This is illustrated in the following section for the dative, but is equally true for other postpositions.

5.9.2 Dative *sê*

The dative is used for the recipient of an asymmetrical transaction (‘give’, ‘send’, ‘show’), for the addressee of a speech event, for an indirect beneficiary, and for a motivation or goal. Though phonologically <HL>-toned, it is frequently realized with L-tone, as with *dô* ‘chez’ and the verb *nê* ‘say’. A preceding 3Sg *à* can be upstepped before any of these elements in their L-toned realizations, hence *à sê* varying with *àʔ sê* ‘to/for him/her’. Examples are in (295).

- (295) a. $i\uparrow = \eta\uparrow = \eta$ ⁴*wí:* [*ká:n-í* *sê*]
 1SgS=Tr=3SgO kill [pleasure Dat]
 ‘I killed it for pleasure.’
- b. *?ây* *nê* [*àʔ* *sê*] [*áʔ = m* *kà*]
 1SgS say [3Sg Dat] [3SgS=Subju come]
 ‘I said to him that he should come.’ (=‘I told him to come.’)
- c. *ì* \uparrow *nám* ⁴ \uparrow *nó:r-ò* \uparrow *sám̀bà* *s-âη*
 1SgS Fut money-Fin/DefSg send 2Sg-Dat
 ‘I will send the money to you-Sg.’

The pronominal paradigm is shown in (296). These are the forms used in postverbal position, immediately following the verb, and they are very common. As with other inflected postpositions, the morphology is identical to that of those inalienably possessed nouns that do not have a special suffixal 3Sg possessor form for phonological reasons (e.g. *gá:* ‘body’). That is, we get suffixes for 1st/2nd person categories but preposed third person pronouns, including 3Sg *à*.

(296) Dative pronominals

	1st	2nd	3rd	3Full
Sg	<i>s-éy</i>	<i>s-âŋ</i>	<i>à sê ~ à' sè</i>	<i>ʔáŋgá 'sê</i>
Pl	<i>s-éy-ndi</i>	<i>s-án-dòŋ</i>	<i>ŋòŋ sê</i>	<i>̀̀jéy 'sê</i>

When a dative pronominal is focalized (and therefore fronted to clause-initial position), the independent pronominal forms must be used (1st/2nd or 3Full). It is followed in all cases by the postposition. The simple clause (297a) therefore corresponds to the focalized clause (297b). See §8.1.1.3 for the syntax.

- (297) a. $\acute{a}\hat{=}ij=ij$ *'háru* *s-éy*
 3SgS=Tr=3SgO say **1Sg-Dat**
 'He/She told it to me.'
- b. [*ʔáy 'sê*] *gá* $\acute{a}\hat{=}ij=ij$ *'háru*
[1Sg Dat] Focus 3SgS=Tr=3SgO say
 'It was to me [focus] that he told it.'

Note also *mí:n sè ~ mí:n 'sê* 'why?' (lit. "for what?" §8.2.3.2) and the common clause-initial *wó 'sê gâ ...* 'that is why ...' (with focalized "for that").

5.9.3 Possessive *ŋónê*

In HS *ŋónê* is not used as a possessive marker in a construction [*X ŋónê*] *Y* 'the Y of X', where it could have been analysed as a kind of postposition. Instead, *ŋónê* is used when the possessed noun is absent (§5.2.1.2), and in predicates of possession (§7.1.4).

5.9.4 Locative *gà: ~ gâ*

The most general locative postposition is *gà: ~ gâ*, which is perhaps distantly related to *gá:* 'body'. HS has no trace of **ra* or **la* (still common in KS and KCh).

Prepausally the postposition is usually heard with a short vowel. Since PPs are often clause-final, this pronunciation is common. The long-voweled form, which is probably lexically basic, is heard when the postposition is closely followed by another word.

Often the best translation is 'in', but the sense 'inside, in the interior of' can be more explicitly expressed by the complex postposition [*X kún-ò*] *gâ* (§5.9.7.2). Moreover, since verbs normally carry the load of expressing container boundary crossing (entering, departing), clauses containing *gà: ~ gâ* (or any other spatial adverbial) can be glossed 'into' (allative) or 'out of' (ablative) as well as 'in'

5.9.5 *bòŋ* ‘on’

The postposition *bòŋ* ‘on, on top of’ is historically related to *bòŋ* ‘head’. Examples are in (301).

- (301) a. [*bàry-ò* \uparrow *bòŋ*] *gá* *à'* *cìndí*
 [horse-Fin/DefSg on] Focus 3SgS be.Past/stay
 ‘He/She was (or: stayed) on horse(-back) [focus].’
- b. *ì* *zígí* [\uparrow *mó'bíl-ò* \uparrow *bòŋ*]
 1SgS enter [vehicle-Fin/DefSg on]
 ‘I got up on (the back of) the truck.’

The pronominal paradigm is (302).

- (302) Pronominal paradigm of *bòŋ* ‘on’

	1st	2nd	3rd	3Full
Sg	<i>bùŋ-èy</i>	<i>bùwⁿ-àŋ</i> ~ <i>bw-à:ŋ</i>	<i>à' bòŋ</i>	<i>?ángá bòŋ</i>
Pl	<i>bùŋ-èy-ndí</i>	<i>bùwⁿ-àn-dòŋ</i> ~ <i>bw-à:n-dòŋ</i>	<i>ŋòŋ</i> \uparrow <i>bòŋ</i>	<i>̀̀jéy bòŋ</i>

For the 1st/2nd persons the postpositional forms in (302) are identical to the (inalienable) possessive forms of ‘head’, e.g. *bùŋ-èy + H* ‘my head’ or ‘on me’, except that I have not observed a systematic floating H in the adpositional case. In the third person, the postposition is still just *bòŋ* while the (inalienably) possessed noun has a suffix and the 3Sg proclitic *à* is not used (*bùwⁿ-ò + H* ‘his head’).

In the second person forms (both as postposition and as possessed noun), pronunciations approaching *bw-à:ŋ* and *bw-à:n-dòŋ* are fairly common (note the compensatory lengthening).

5.9.6 *dô* ‘chez, at the place of’

Postposition *dô* denotes location in a space defined by the (normally human) referent, usually the person’s home but sometimes just the person’s presence (as defined contextually, e.g. while walking around in the market). There is an intrinsic social element in the locational sense, and in some examples location as such is less significant than socially recognized presence. The postposition is historically related to the noun ‘place’ (nonfinal *dêy* ~ *dôy*, final/definite singular *dúw-ó + H*), cf. the KS cognate *do*: ‘place’ (definite singular *dog-o*). Examples are in (303).

- (303) a. [wòy-m-èy dó] ì ↑bô: ↑zúmbù
 [sister-1SgP chez] 1SgS XImpf.Infin go down
 ‘At my sister’s home [focus] is where I lodge (=am staying).’
- b. [bór ‘fó:] ↑ká [w̄ ↑sélèŋ dúw-èy]
 [person one] come [Infin speak chez-1Sg]
 ‘Somebody came up to speak with me.’
- c. ì ↑nám ‘↑nó:r-ò há:ⁿ [↑bá:b-èy dō]
 1SgS Fut money-Fin/DefSg ask [father-1Sg chez]
 ‘I will ask for money from my father.’

The pronominal paradigm is (304).

- (304) Pronominal paradigm of *dô* ‘chez’

	1st	2nd	3rd	3Full
Sg	<i>dúw-èy</i> ~ <i>dw-é(:)y</i>	<i>dúw-âŋ</i> ~ <i>dw-â:ŋ</i>	<i>à dô ~ à' dō</i>	<i>ʔángá 'dō</i>
Pl	<i>dúw-éy-ndì</i> ~ <i>dw-é(:)y-ndì</i>	<i>dúw-án-dòŋ</i> ~ <i>dw-á:ŋ-dòŋ</i>	<i>nòŋ dô</i>	<i>ñjéy 'dō</i>

In its tendency to convert segmental *duwV* to *dwV*: in the first and second person forms, *dô* resembles postposition *bòŋ* ‘on’. Tonally, *dô* is parallel to dative *sê*. Unsuffixed *dô* in 3Sg *à dô* is optionally pronounced as L-toned, allowing variable upstep on the 3Sg morpheme (*à' dō*).

5.9.7 Simple and complex postpositions of spatial position

5.9.7.1 Simple spatial postpositions (‘behind’, ‘in front of’, ‘under’)

For ‘behind, after’ and ‘in front of, before’ (in spatial or temporal senses), there are postpositions that are identical to bare stems of semantically related orientational paronyms (305).

- (305) Uncompounded orientational postpositions

noun	gloss	postposition	gloss
<i>bàndè</i>	‘back (of body)’	<i>bàndè</i>	‘behind; following; after’
<i>jìné</i>	‘front’	<i>jìné</i>	‘in front of; before’

The postposition for ‘under’ is *cìrè*, but it has no nominal counterpart. It can also mean ‘at the base of (a hill)’, which is very relevant to the mountainous local topography. To translate ‘underside’, forms of the noun *kòr-ò + H* ‘rear, bottom’ are used.

The pronominal forms of these simple postpositions are given in (306).

(306) Pronominal paradigms of ‘behind’, ‘in front of’, and ‘under’

	1st	2nd	3rd	3Full
a. ‘behind, after’				
Sg	<i>bànd-èy</i>	<i>bànd-àŋ</i>	<i>à' bàndè</i>	<i>?áŋgá bàndè</i>
Pl	<i>bànd-èy-ndì</i>	<i>bànd-àn-dòŋ</i>	<i>ŋòŋ ↑bàndè</i>	<i>̀̀jéy bàndè</i>
b. ‘in front of’				
Sg	<i>jìn-èy</i>	<i>jìn-àŋ</i>	<i>à' jìnè</i>	<i>?áŋgá jìnè</i>
Pl	<i>jìn-èy-ndì</i>	<i>jìn-àn-dòŋ</i>	<i>ŋòŋ ↑jìnè</i>	<i>̀̀jéy jìnè</i>
c. ‘under’				
Sg	<i>cìr-èy</i>	<i>cìr-àŋ</i>	<i>à' cìrè</i>	<i>?áŋgá cìrè</i>
Pl	<i>cìr-èy-ndì</i>	<i>cìr-àn-dòŋ</i>	<i>ŋòŋ ↑cìrè</i>	<i>̀̀jéy cìrè</i>

For ‘behind’ and ‘in front of’ (306a-b), the 1st/2nd forms of the postposition are identical to the (inalienably) possessed forms of the corresponding noun. ‘Under’ has similar morphology.

In the same word-family as *bàndè* both as noun ‘back’ and postposition ‘behind; following; after’ are the spatiotemporal adverb *bándé* ‘behind, in the rear; afterwards’, see (322c) in §5.13.1, and the temporal postposition *bándé* ‘after’.

There is no postposition for ‘facing A’ (French *en face de A*). Instead, circumlocations including a verb like *gándé* ‘face, be broadside to’ are used.

To say ‘above X, over X’ one can use the noun or adverb *bé:né* ‘top; above’ after a dative phrase denoting the landmark (307).

(307) *cikíríy-à:* *gò:* *[[tù:r-ò sé] 'bé:né]*
 sparrow-Fin/DefSg be *[[tree-Fin/DefSg Dat] above]*
 ‘The sparrow is above the tree.’

5.9.7.2 Complex spatial postpositions (‘behind’, ‘inside’, ‘in front of’, ‘under’)

Complex (or compound) postpositions are of the type ‘at [the mouth of A]’, with an orientational paronym or the like (‘side’) that itself has a spatial postposition (*gà:* or *bòŋ*). The referent A functions grammatically as the “possessor” of the noun. Although the nouns that form part of the complex postposition, like ‘mouth’, are elsewhere inalienable, in this construction they can have **alienable morphosyntax**.

The base nouns (shown in 3PossSg form) and the corresponding complex postpositions, as used with nonpronominal or preposed third person pronominal complements, are shown in (308). A and B are NPs.

(308) Complex orientational postpositions with *-o* suffix

noun (3Poss)	gloss	postposition	gloss
<i>jér-ò</i>	‘part, half’	A <i>jér-ò bòŋ</i>	‘at the side of A’
<i>míyⁿ-ò</i>	‘mouth’	A <i>míyⁿ-ò gà(:)</i>	‘at the entrance to A’
<i>kún-ò</i>	‘interior’	A <i>kún-ò gà(:)</i>	‘inside A’
<i>bìn-ò</i>	‘heart’	A <i>bìn-ó gà(:)</i>	‘in the center/midst of A’
<i>gám-ò</i>	‘middle’	A&B <i>gám-ò gà(:)</i>	‘between A and B’
		A <i>gám-ò gà(:)</i>	‘in the middle of A’

{L}-toned *bìnè* ‘heart’ has a 3Sg possessor form as body-part term: *bìn-ò + H* ‘his/her heart’. In this sense it can be easily pluralized, as in *ɲòŋ ʔbíⁿ-èy* ‘their hearts’, usually heard as *ɲòŋ ʔbín-èy* because of the sharpness of downstep. However, the complex spatial postposition is based on alienable morphology: *à bìn-ó gà* ‘in the center/midst of it’, contrast this with the literal *bìn-ò ʔgá* ‘in his/her heart’. In the complex postposition, the noun also does not pluralize when the complement is plural: *ɲòŋ ʔbíⁿ-ò gà* ‘in the midst of them’. 1st/2nd person inflected forms likewise have alienable morphology, e.g. *bìn-éy-ndì-yá: gà* ‘in the midst of us’, contrast this with literal *bìn-èy-ndì ʔgá* ‘in our heart’ or its plural-noun form *bìn-éy-ndì-yéy gà* ‘in our hearts’.

Except for the restriction to singular form in the complex postposition, the distinction between alienable and inalienable morphology (‘heart’ versus ‘midst’) is neutralized when the complement is a nonpronominal NP, or a third person pronoun other than regular 3Sg *à*, among other categories. This reflects the overall merger of alienable and inalienable for these possessors.

Except for ‘between’ and ‘in the midst of’, which normally denote a single location or area even when the noun is plural (‘between/in the midst of the houses’), the postpositions in (308) can denote **multiple locations** when the referent NP (A) is nonsingular. If multiple locations are denoted, the noun in the complex postposition takes **plural** form: *húw-éy kún-èy gà(:)* ‘inside the houses’ (lit. ‘in the interiors of the houses’). Given that the noun and the possessor are both plural, there is effectively no distinction between alienable and inalienable here (even 1Pl and 2Pl possessors fail to make this distinction for a plural possessed noun).

An alternative to the form *X gám-ò gà(:)* in the sense ‘between X’ is to omit the final postposition *gà(:)* and use the 3PossPl form *gám-èy* ‘middles’ as a postposition. This is optional with nonpronominal complements, as in [*bòr-éy ʔ = ndù ʔcér*] *gám-èy* ‘among the people’. 1Pl and 2Pl complements require a version of this construction, but with the singular form of the possessed noun: *gám-éy-ndì* ‘among/between us’ (lit. ‘our middle’), *gám-án-dòŋ* ‘among/between you-Pl’.

Another complex postposition, not involving suffix *-o* on the medial noun, is ‘beside, next to’ (309). Possible sources are *cérá*: ‘flank of body (at ribs)’ and/or *cèrè*

‘friend, companion’. The 1st/2nd person forms are clearly based on inalienable possessive morphology. The third person forms can be alienable or inalienable (the distinction is overt in the 3Sg possessor form, and both possibilities occur). A is any NP.

(309) ‘Beside, next to’

a. 1st/2nd persons

1Sg	<i>cèr-éy gâ(:)</i>
1Pl	<i>cèr-éy-ndi gâ(:)</i>
2Sg	<i>cèr-áŋ gâ(:)</i>
2Pl	<i>cèr-áŋ-dòŋ gâ(:)</i>

b. Third persons

3Sg	<i>àʳ cèr ʔgâ(:) ~ cèr-ò ʔgâ</i>
3Pl	<i>nòŋ cèr gâ(:)</i>
NP	<i>A cèr ʔgâ</i>

5.9.8 *zá*: ‘since’ and *hâl* ‘until’

The particles *zá*: ‘since’ and *hâl* ‘until’ are used in a range of functions. Both occur in most other Songhay languages, and *hâl* (or variant) is common in non-Songhay languages of Mali. They are often clause-initial temporal-adverbial subordinators (‘when ...’, ‘since ...’), see §9.5.6. As (apparent) prepositions with following NPs as complements, they presuppose a temporal and/or spatial trajectory with defined boundaries. *zá*: takes as complement a NP denoting a starting point (‘since X, starting from X’), while *hâl* takes as complement a NP denoting an endpoint (‘until X, all the way to X’). Either may be used separately, or the two may be combined into a parallelistic bookend sequence specifying both starting and ending points.

In spatial trajectories, a starting point is regularly indicated in a different way, with a verb *hùn* ‘leave, go from’. Therefore *zá*: is not common in spatial contexts, except with deictics like ‘here’ as in ‘from here (to over there)’. It is much more common with temporal expressions (‘since yesterday’), where it has no competition.

In spatial contexts, *hâl* is rather emphatic: ‘all the way to A’. Again, it is quite common with temporal expressions (‘until next year’). The distinction between temporal and spatial trajectories is somewhat artificial, since in context many spatial trajectories refer to motion events. Examples in (310).

- (310) a. [*zá*: ʔné:] *ì* ʔbô: ʔzúrù [*hâl* ʔhúw-éy]
 [from here] 1SgS XImpf.Infin run [until house-DefPl]
 ‘I will run all the way from here to home.’
- b. [*zá*: ʔbí:] ʔgâ *ì* sí: séllê [*hâl* ʔhóʳ-wô]
 [since yesterday] Focus 1SgS ProgrNeg be well [until today]
 ‘I have been sick since yesterday [focus] right up to today.’

5.9.9 ‘Without’

HS has no counterpart to KS preposition *bila*: ‘without’, which is borrowed from Arabic. Circumlocutions including a negated clause are used as functional equivalents, as in (311).

- (311) [î ↑nám †↑bít-ò ↑hâŋ]
 [1Sg Fut porridge-Fin/DefSg drink]
 [bá: †súkkár-ò sí: [â† gâ]]
 [even sugar-Fin/DefSg be-not [3Sg in]]
 ‘I (will/do) drink porridge without sugar.’
 (lit. ‘... even if sugar is absent in it’)

5.9.10 Temporal postpositions (*hán-ê*, *wát-ê*, *bándé*)

From the noun *hán* ‘day’ we get a derivative *hán-ê* that is used as a postposition with a preceding expression that denotes a day or an event associated with a particular day. The phrase in (312a) is particularly common, since there is one market day a week in Hombori (Tuesday). *hán-ê* may also be used, rather redundantly, after a day-of-the-week term (312b).

- (312) a. *héb-ó* *hán-ê*
 market-Fin/DefSg day-Postp
 ‘(on) market day’
- b. *?àsábd-ó* *hán-ê*
 Saturday-Fin/DefSg day-Postp
 ‘(on) Saturday’

These PPs are normally adverbial, but they occasionally function as NPs and can take a further postposition in this case, as in *héb-ó hán-é bándè* ‘after (the next) market day’, though this is more often expressed more simply as *héb-ó †bándè*.

Parallel to *hán-ê* is *wát-ê* ‘at the time (season, era) of’. This is related to a set of forms used in languages of the region derived from Arabic *waqt*- ‘time’, of which HS has more than one (*?àlwàkkát-ò* seems most common). Examples are *kónn-ó wát-ê* ‘in the time of heat (=hot season)’ and *[kò-kòy]-[târ-ò] wát-ê* ‘the era of the (tribal) kings’.

Postposition *bándé* ‘after’ differs tonally and in part semantically from the spatial or temporal postposition *bàndè* ‘behind; following; after’, cf. noun *bàndè* ‘back (body part)’ and spatial or temporal adverb *bándé* ‘in the rear; afterwards’.

5.10 Apposition

Since HS, unlike other Songhay languages, has special suffixes for 1st/2nd person pronominal possessors, there is no ambiguity between e.g. possessive ‘our chiefs’ (313a) and appositional ‘we (the) chiefs’ (313b). The appositional construction consists of an independent personal pronoun followed by the relevant definite noun.

- (313) a. *kò-kòy-éy-ndìy-êy* ‘our chiefs’
 b. *yérí kò-kòy-èy + H* ‘we (the) chiefs’

However, there may be ambiguity in specific constructions involving the noun ‘person’ and a quantifier, e.g. ‘our four people’ versus ‘we four’, since the latter is structured as ‘we person four’ (§5.4.8).

5.11 Instrumental, comitative, and conjoined NPs

This section treats various constructions involving *ńdù + H* ‘with’ (or ‘and’). It is a preposition, not a postposition. The following complement may be a nonpronominal NP or a pronoun.

For suffixed *-ńdù + H* transitivity certain intransitive verbs, especially motion verbs, see §6.1.6.

With a pronominal complement, the endings are identical to those of VO verbs (§6.1.7, cf. §4.3.6.1). The forms are therefore those in (314).

- (314) Pronominal paradigm of instrumental-comitative *ńdù + H* ‘with; and’

1st	2nd	3rd	3Full
Sg <i>ńdù ?ây</i>	<i>ńdù ní</i>	<i>ńd-à</i>	<i>ńdù ?áŋgá</i>
Pl <i>ńdù yérí</i>	<i>ńdù ↑wá'râŋ</i>	<i>ńdù nóŋ</i>	<i>ńdù ñjêy</i>

ńdù + H is a rare example of a nasal-cluster onset. The *ń* is syllabic after a pause. After a vowel, and in most cases after word-final consonants (i.e. sonorants), the *ń* syllabifies with the final syllable of the preceding word. In such examples it is transcribed as a clitic =*ńdù + H*. This cliticization is low-level (not syntactic), and I bracket *ńdù + H* with the following complement.

When this resyllabification occurs, the tonal outputs are summarized in (315). A preceding floating H-tone has no effect since *ń* is already H-toned.

- (315) preceding word with [*ńdù + H X*] gloss
- a. preceding H-tone merges with H-tone of *ń*
háns-ó + H *háns-ó = [ńdù + H X]* ‘a/the dog and/with ...’

- b. preceding L-tone creates illegal <LH> that is leveled to H
penult of preceding word is L-toned
sùb-ò + H sùb-ó↑ = [ńdù + H X] ‘a/the grass and/with ...’
penult of preceding word is H-toned (result is two adjacent H-tones)
cír-ò + H cír-ó↑ = [ńdù + H X] ‘a/the bird and/with ...’
à háns-ò à háns-ó↑ = [ńdù + H X] ‘his/her dog and/with ...’

- c. preceding <HL>-tone creates illegal <HLH> that is leveled to H
penult of preceding word is L-toned
à sùb-ò à sùb-ó = [ńdù + H X] ‘his/her grass and/with ...’
penult of preceding word is H-toned (result is two adjacent H-tones)
bé:r-éy bé:r-éy = [ńdù + H X] ‘my elder sib and/with ...’

↑ in (315b) indicates that the final syllable has shifted from L to H rather than being an underlying H. In cases like *cír-ó↑ = [ńdù + H X]* and *à háns-ó↑ = [ńdù + H X]*, the result is two adjacent, but phonologically unrelated, H-tones. Such H-tone sequences do not necessarily form flat pitch terraces in the fashion of lexical H.H sequences analysable as a single H spread over two syllables, as in *háns-ó = [ńdù + H X]* in (315a).

5.11.1 Instrumental and comitative functions.

The basic sense of *[ńdù + H A]* is ‘with A’, including instrumental (‘by means of’) and comitative (‘along with, in the company of’) senses. It is a preposition in a language that otherwise favors postpositions. The morpheme is also used in nominal conjunctions of the type *[B [ńdù + H A]]* ‘B and A’ (lit. “B with A”). It is not used in VP or clause coordination. In interlinears I will gloss it noncommittally as ‘with’.

In instrumental function, *ńdù + H* has no real competition from other constructions; there is no high-frequency alternative to *ńdù + H* in expressions like *í↑ = íj = íj ‘kárú [ńdù ↑búnd-ò]* ‘I hit it with a stick (*búnd-ò + H*)’.

The *ńdù + H* construction is also common in comitative sense, as in (316).

- (316) *ì sù ↑bá [w̃ góy = ńd-à]*
 1SgS ImpfNeg want [Infin work=with-3SgO]
 ‘I don’t want (or like) to work with him/her.’

There are also other ways to express the comitative. For example, one can conjoin the two referents: (see §5.11.3 below). An example would be ‘I don’t want that [I and he/she] work together’. One can also phrase ‘in the presence of X’ with a postposition *bàndè* ‘after, behind’ (suggesting subordination) or *jìnè* ‘beside, next to’.

ńdù + H is compatible with preceding *bâ*: ‘even’: *bá: = [ńdù sémb-ó] + H* ‘even with a knife’.

5.11.2 Extraction of complement of instrumental or comitative *ńdù + H*

When the complement of *ńdù + H* is extracted, the preposition is stranded in postverbal (usually clause-final) position, with 3Sg resumptive pronominal regardless of number or pronominal category. The fixed 3Sg resumptive pronoun strategy is typical of HS extraction phenomena (focalization, relativization). So 3Sg *ńd-à* is coindexed with a fronted (extracted) plural NP in (317).

- (317) *bá:* *ʼsémb-éy* *gá*
 even knife-DefPl Focus
yò *sù* *húŋ* [*kú*↑ = *íj* = *íj* *ʼdúmbú = ńd-à*]
 1PlS ImpfNeg can [Infin=Tr=3SgO cut=with-3SgO]
 ‘Even with knives [focus] we can’t cut it’
 (lit. “Even knives_x we can’t cut it with it_x”)

Because *ńdù + H* remains in postverbal position in the 3Sg form *ńd-à* when its complement is fronted, it is difficult to distinguish cases bracketed as VERB [*ńdù + H X*] from cases where *-ńdù + H* has fused to the verb as a derivational suffix, i.e. *VERB-ńdù + H X*. In some of the clearest cases of fusion, e.g. in *kà:-ńdù + H* ‘bring’, the meaning focuses on conveyance (of an object or person) rather than accompaniment (§6.2.5). Further doubts about the integrity of [*ńdù + H X*] as a constituent on a par with NP, PP, or infinitival VP are raised by the inability of instrumental [*ńdù + H X*] to occur after an ‘except’ expression like *kàl + H*. In §8.5.2.2 I show that a logical *kàl* [*ńdù + H X*] is realized as [*kàl + H X*].

For manner adverbials of the type *ńdù + H* plus noun, see §5.11.6.

5.11.3 Conjunction [*A* [*ńdù + H B*]]

True NP conjunctions of the type [*A* [*ńdù + H B*]] ‘A and B’ function as syntactic units. A and B may be nonpronominal NPs, pronouns, or one of each. If B (right conjunct) is a pronoun, it has the same form as it has after *ńdù + H* in instrumental and comitative functions, see the paradigm in §5.11.1 above.

- (318) a. *wòy-éy*↑ = *ńdù* ↑*há:r-èy*
 woman-DefPl=and man-DefPl
 ‘(the) women and (the) men’
 b. *?á:mádú*↑ = *ńdù* *séydú*
 ‘Amadou and Seydou’ (*?á:mádù, séydù*)

When an NP A is conjoined to a pronominal, the latter appears preferentially (but not obligatorily) as left conjunct: *?áy = [ńdù ↑kó-kòy-ò] + H* ‘I/me and the chief’.

If the left conjunct A is a pronoun, it takes its **independent pronominal form**. In particular, if the left conjunct is a 3Sg or 3Pl pronominal it must appear as 3FullSg *?ángá* or 3FullPl *ńjéy*, never as a proclitic 3Sg *à* or 3Pl *nòŋ + H*. This rule must be

slightly qualified for 1Pl, whose independent form *yérî* can contract with *ndù + H*, by Syncope (*yêr*) and loss of /r/ before *n* (*yê*) plus minor tonal adjustments. So the full form *yérî* = [*ndù + H B*] contracts to *yé* = [*ndù + H B*] or even (with rounding assimilation to the *u*) *yó* = [*ndù + H B*]. It is possible that these contracted variants are subject to reinterpretation as the 1Pl clitic (specifically, subject proclitic) *yò + H*, which would make the transcription *yó*↑ = [*ndù + H B*] with an arrow to indicate tone raising. For 2Pl, however, independent pronoun *wàràŋ* is regular in *wàràŋ* = [*ndù + H B*], heard after minor phonological adjustments as *wàrá* = [*ndù + H B*]. This is clearly distinct from subject proclitic *wò + H* in the incorrect #*wó*↑ = [*ndù + H B*].

- (319) a. *?áy = ndù* [*↑hár fâr-ò*]
 1Sg=with [man farming-Fin/DefSg]
 ‘I and the farmer’
- b. *wàráŋ = ndù* *ŋànd-éy-ndòŋ*
 2Pl=with wife-DefPl-2PIP
 ‘you-Pl and your wives’

In (320a) we see a simple VO transitive ‘I saw 3Sg’. (320b) elaborates this by adding a syntactically separate, basically adverbial ‘with’ phrase (‘him with his dog’), hence literally ‘I saw 3Sg [3Sg with 3Sg’s dog]’, to express something like ‘I saw him along with his dog’ or ‘I saw him while he was with his dog’. (320c) has a pure conjoined NP and is translatable as ‘I saw him and (I saw) his dog’, though it takes the literal form ‘I saw [3FullSg with 3Sg’s dog]’. (320b) is more idiomatic. Because 3Sg *à* is phrased with the following possessed noun, it does not contract with *ndù + H* into *nd-à* in either example.

- (320) a. *ì* *díy-à*
 1SgS see-3SgO
 ‘I saw him/her.’
- b. *ì* *díy-à* [*?áŋgá = [ndù* [*à* *háns-ò*]]]
 1Sg see-3SgO [3FullSg=[with [3SgP dog-3PossSg]]]
 ‘I saw him along with his dog.’
- c. *ì* *dí:* [*?áŋgá = [ndù* [*à* *háns-ò*]]]
 1Sg see [3FullSg=[with [3SgP dog-3PossSg]]]
 ‘I saw him and his dog.’

5.11.4 Conjunction of two personal pronouns

When both conjuncts are pronominal, the preference is to linearize according to a hierarchy 1st>2nd>3rd persons, thus *?áy = [ndù ní]* ‘I and you-Sg’, *ní = [nd-à]* ‘you-Sg and he/she’. However, this is not a hard-and-fast rule.

The left conjunct does not express the summed-up number category of the conjoined set ('I and 3Sg' expressed as "we and 3Sg"). The effect is that singular left conjuncts are quite acceptable. In general, pronominal conjunction is more transparent and regular than in KS. *yé(r) = ndù* *↑wá'râŋ* means 'we and you-PI', not 'I and you-PI'. For the reduction of 1Pl left conjunct *yérî* to *yê(r)*-, see the preceding section.

For e.g. 'we (by) ourselves' expressed as a conjunction 'we and [our heads]', with possessed 'head' as in reflexive objects, see §10.2.1.

5.11.5 Comparative *ndù + H* 'than'

See (573c) in §9.7.7.1 for the use of *ndù + H* as a 'than' conjunction in certain types of comparatives.

5.11.6 Idioms and adverbial phrases with and without *ndù + H*

ndù + H is not quite so common in spatial adverbials as is its KS cognate, and it is generally absent from such adverbials as *gándá* 'down below', *jínáŋ* 'forward, ahead', and *bándé* 'in the rear; afterwards'. However, where there is an instrumental sense we do get *ndù + H* in high-frequency adverbials, as in *ndù gá:bì* 'by force, forcibly'.

gà:-kó:n or *gà:-[kó:n-ò] + H* 'body naked' is used as an adverbial "small clause" without *ndù + H*, as in *à jìrbí gà:-kó:n* 'he/she slept naked'. *gá:* 'body' becomes L-toned *gà:* in this construction. With first or second person subject, *gà:* optionally takes possessed form in this construction: *ì ↑jír'bî [gà:-y kó:n]* alongside *ì ↑jír'bî [gà:kó:n-ò]* 'I slept naked'.

5.12 NP disjunction (*wàlà* 'or')

Like most other languages of the zone, HS has an 'or' disjunction based on Arabic (cf. Maghrebi *awlla* 'or'). It is inserted between the two disjuncts.

In (321a), *wàlà* is clearly grouped prosodically with the following NP. In (321b), it occurs between two NPs; if uttered fluently there is no obvious prosodic grouping with left or right disjunct, but in deliberate speech style *wàlà* is grouped with the right disjunct.

- (321) a. *hám-ó* *ŋ* *↑bô:* *bá:g-à*
 meat-Fin/DefSg 2SgS XImpf.Infin want-3SgO
wàlà *kà:tíb-èy*
 or riyal-DefPl
 'Is meat [focus] what you-Sg want, or (is it) money?'

- b. *nèy nò:-ŋ [ʔi-híŋká [wàlà ʔi-fó:]]*
 1SgO give-Imprt [Absol-two [or Absol-one]]
 ‘Give me two or (give me) one’.

wàlà is also used at the end of a clause (or a reduced form thereof) as a yes-no interrogative particle. In this function its final vowel is often prolonged and/or raised in pitch. It has the flavor of a tag question, cf. German *oder?* in this function. The merger of ‘or’ with polar interrogative marker is common in Malian languages of the zone (e.g. *ma* in several Dogon languages).

5.13 Spatiotemporal adverbs and phrases

5.13.1 Spatial adverbs

Since directionality (‘to’, ‘from’) is expressed by verbs, the only nominal formations needed are all-purpose locative expressions that denote a location or zone. The prototypical locational phrase is a postpositional phrase of the type [NP in] with one of the spatial postpositions, often locative *gâ*. However, place names and many high-frequency locational expressions generally occur without an overt postposition, as in *ì díy-à hùmbùrì* ‘I saw him/her in Hombori’. HS does not follow KS in frequently adding a redundant locative postposition to e.g. deictic adverbials (‘here’) and temporal adverbs (‘then’).

For the deictic adverbials, see the subsections of §4.4. Some other single-word locationals are given in (322). They are primarily spatial, but those in (322c) also have temporal senses. Note the {H} tone melodies in (322c), contrasting with the {L} melody of the related nouns.

(322) Spatial adverbs

form	gloss	related noun
a. <i>gándâ</i> <i>bé:né</i>	‘down below; on the ground’ ‘up above, on top; in the sky’	<i>gándâ</i> ‘ground’ <i>bé:né</i> ‘top; sky’
b. <i>tárey</i>	‘outside’	<i>tár-ó + H</i> ‘courtyard’
c. <i>jínáŋ</i> <i>bándé</i>	‘forward, ahead; previously’ ‘behind; afterwards’	<i>jìnè</i> ‘forehead’ <i>bàndè</i> ‘back (of body)’

Postpositional phrases are normal in the cases of *kòyrà* \uparrow *gâ* ‘in (the) town’, *héb-ó* \uparrow *gâ* ‘at the market’, and *gân-ò* \uparrow *gâ* ‘in the bush (wilderness)’.

5.13.2 Temporal adverbs

Some basic single-word temporal adverbs are in (323).

(323) Temporal adverbs

form	gloss
a. <i>mà-sán-dâ</i>	‘now’ (most common form)
~ <i>mâr-sán-dâ</i>	
<i>mà-sán-dá sà:tíyò</i>	‘right now’ (§4.4.5)
<i>mà-sáj</i>	‘now’ (less common than <i>mà-sáj</i> ↑ <i>kây</i>)
<i>mà-sáj</i> ↑ <i>kây</i>	‘now’ (with topic morpheme)
<i>sáj</i>	‘now’ (only in <i>hál</i> ‘ <i>sáj</i> ‘until now, to this day’)
b. <i>hóⁿ↑-wô</i>	‘today; nowadays’ (cf. <i>hán</i> ‘day’)
<i>hòⁿ ~ hòŋ</i>	‘now’ (in <i>hál</i> <i>hòⁿ</i> ‘until now, to this day’)
<i>bì:</i>	‘yesterday’
<i>bì:-fò</i>	‘the day before yesterday; the other day, a couple of days ago’
<i>súbâ</i>	‘tomorrow’ (< Arabic via Fulfulde)
<i>súbâ-‘sí:</i>	‘the day after tomorrow; in a couple of days’
c. <i>hàràŋ</i>	‘this year’
<i>mánná</i>	‘last year’
<i>mánná-fò</i>	‘the year before last; a couple of years ago’
<i>yé:síŋ</i>	‘next year’

Another common temporal has several variants including *wótí dín* ↑ *dî*, *wótí dîn*, *wótín dîn*, *wótín dín* ↑ *dî*, and *wótó dîn*. The meaning is ‘at that time, then’. It is one of the HS forms ultimately from Arabic *waqt-* ‘time’. For *dîn*, an archaic variant of strong definite *H + dî* (which now follows it in some of the variants), see §5.7.2.

5.14 Vocatives

Variant kin terms used chiefly in direct address are *?áyyâ* ‘mom!’ and *?ábbâ* ‘dad!’ These can also be used with appropriate endings as referential kin terms (*?áyy-è:* ‘my mom’, *?áyy-à:-nôŋ* ‘your-Sg mom’), but this is not typical of adult speech. Other kin terms take the appropriate possessed form even when used as vocatives: *bé:r-êy* ‘my elder brother!’.

6 Verbal voice (valency) and verb derivation

6.1 Subcategorization for objects and adpositional phrases

6.1.1 Verbs, quasi-verbs, and the referentiality of subject NPs

In this section I pull together from other sections in the grammar a number of possible counterexamples to the generalization that a clause minimally has a referential subject and a verb. Since the MAN (mood-aspect-negation) complex intervening between subject and verb may be zero (interpreted as perfective indicative positive), and since intransitive verbs require no further complements, the subject and verb are the only candidates for obligatory status.

As in other Songhay languages, it is possible to interpret the existential-locational quasi-verb *H+gò*: ‘be (somewhere)’ and its negation *sí*: ‘be absent, not be (somewhere)’ as special cases of the corresponding imperfective morphemes in the MAN (mood-aspect-negation) complex, with the following verb slot empty (see §7.1.2). This is probably a sound analysis but I will use ‘be’ and ‘not be’ or the like in interlinear glosses for practical reasons.

The construction [*X nôη*] ‘it is X’, with identificational quasi-verb *nôη* (or variant), is a nonverbal construction and does not permit MAN marking between the NP (*X*) and the quasi-verb. Moreover, since the construction presupposes a topical referent (‘it’ in ‘it is X’), it is questionable whether *X* in *X nôη* is a syntactic subject. For more on this construction see §7.1.1.

In sequences of the type ‘he doesn’t sing, he doesn’t dance, (in fact) he doesn’t (do) anything’, I have not recorded HS examples with the ‘do’ verb omitted in the final part, and an informant rejected proposed examples. While KS allows such omission, HS examples either complete the last phrase with *té*: ‘do’ or use a postpositional phrase with *gà(:)* ‘in’ (324a-b).

- (324) a. ... à *sí*: *bá:y-à*: *té*:
 ... 3SgS ImpfNeg.Infin anything do
 ‘... he doesn’t do anything’
- b. ... à *sí*: [*bá:y-à*: ↑*gâ*]
 ... 3SgS not.be [anything in]
 ‘... he isn’t (involved) in anything’

One candidate for a subject-less predicator is *kâl+H* ‘must’ (§9.6.2), which is used like French *il faut* with a subordinated subjunctive clause: *ká↑=[m̄ ‘kóy]* ‘you-Sg must go’. Since *kâl+H* appears to constitute a matrix clause by itself, it can be analysed as a subjectless predicator that takes a clausal complement.

‘It rained’ is *cjpnâ ↑kâ* or *cjpn-ô ↑kâ* ‘the rain came’ (i.e. ‘it rained’), with referential subject. Other terms for weather, time of day, and other ambient circumstances likewise have referential (rather than expletive or “dummy”) subjects.

Like its cognates in KS and other Songhay languages, *gàrù* ‘find’ can be used abstractly with 3Sg subject (of dubious referentiality) and a clausal complement, often in the form *àʔ kà w̄ ʔgàrù [...]* ‘it happened (to be the case that) [...], literally ‘it came and found (that) [...]. The complement may be any normal indicative clause. One could argue that the 3Sg subject is not a true expletive, rather that it coindexes the situation as left be the preceding discourse.

Another case where a 3Sg subject of questionable referentiality may occur with a verb and a following complement is with verb *cìndí* ‘remain’, as in (325).

- (325) *àʔ cìndí ʔs-êy [zàŋgù híŋká]*
 3SgS remain Dat-1Sg [hundred two]
 ‘I have 200 (riyals) left.’ (lit. “it remains for me 200”)

Such examples were elicitable, but they coexist with more straightforward constructions with the amount NP in subject position (“200 remain for me”).

6.1.2 Underived simple intransitives

Examples are motion verbs (*kóy* ‘go’), stance verbs (*gòrò* ‘sit’), verbs of adjectival quality (see the list in §4.6.1), and experiential verbs (*hèrêy* ‘be hungry’). For verbs used either intransitively or transitively without overt derivational affixation, see §6.2.1. Derived intransitives from transitive bases are resultative passive and unspecified object *-à*, and potential passive *-éyndí* (§6.2.3-4). *-éyndí* also derives causatives, especially from intransitive but sometimes also from transitive input verbs.

6.1.3 Underived simple transitives

The majority of transitive verbs are preceded by their direct object, the sequence being [subject + MAN + object + verb + ...], with transitive *ŋ* inserted if the MAN sequence would otherwise be phonologically null. These canonical transitives are here called **OV verbs**. They include verbs that impact the entity denoted by the direct object: *dúmbú* ‘cut’, *káru* ‘hit’, *túru* ‘braid (the hair of)’, *té*: ‘do, make’, and *ŋà*: ‘eat’. Contrast the VO verbs (§6.1.7) which do not involve physical impact, and are followed by their direct objects.

Derived transitives are those in causative *-éyndí* (§6.2.2).

6.1.4 Ditransitives and other verbs with dative complement

While a dative postpositional phrase is optionally added to any clause denoting a purposeful activity, for example to indicate an indirect beneficiary, a few verbs require a dative as part of their basic case frame. The ditransitives *nó*: ‘give’, *còwrù* ‘show’, and *háru* ‘tell, say’ all occur in constructions of the type [subject + MAN +

object + verb + dative]. For alternative constructions applicable to ‘give’ and ‘show’ see §9.1.2. The ‘say’ verb used with a quotative clausal (rather than NP) complement is *nê*, which therefore occurs in a construction [subject + MAN + verb + dative + quotation].

‘Bless (someone)’ is expressed with the verb *dúwê* (<Arabic, perhaps via Fulfulde) or *gà:rà* (old Songhay item), plus a dative PP: *ì dúwé [àʔ sè]* ‘I blessed him’. ‘Pardon, forgive’ is *yà:fà* (<Arabic) plus dative: *àʔ yà:fà s-êy* ‘he/she pardoned me’. *fàhàm* ‘understand’ is often intransitive, but when it has a complement the latter is expressed as a dative (or locative) postpositional phrase: *à w̄ ʔfáhàm s-êy* ‘he/she understands me’ (dative; substitute *gà:-y* for *s-êy* to get the locative version). The dative version is used to indicate comprehension of what someone has said, while the locative version indicates a more abstract understanding. Examples involving emotional responses are *zàhà* ‘get angry’ (*àʔ zàhà s-êy* ‘he got angry at me’) and *húyé* ‘be happy, joyful’ (*ì húyé [à sê]* ‘I am happy with him’). *ká:n* ‘be sweet, good’ is an intransitive, but can take a dative complement in the sense ‘be pleasing to’, hence *à w̄ ká:n s-êy* ‘it pleases me’ (=‘I like it’). ‘A lose B’ is expressed as ‘B be lost [to A]’ with *déré* ‘become lost’ plus dative, as ‘[A’s B] be lost’ with a possessive, or combining these as ‘[A’s B] be lost [to A]’. The last construction is exemplified by *fè:j-é* ‘*déré s-êy* ‘I lost a (lit. “my”) sheep’, with *fè:j-ê* ‘my sheep-Sg’.

6.1.5 Verbs with nondative adverbial complements

dàm ‘put (in something)’ normally takes a locational phrase as well as a direct object, though it can be elicited without the locational. An example with a locational is *íʔ = ɲ = ɲ dàm [fò:l-ò ʔgâ]* ‘I put it [in the sack]’.

A number of intransitive verbs take optional locational complements. *bisà* ‘go past, pass (by)’: *àʔ bisà gà:-y* ‘he went past me’; *cénsé* ‘be jealous’: *à w̄ cénsé gà:-y* ‘he is jealous of me’. Both of these involve postposition *gà:* ‘on’.

6.1.6 Verbs with instrumental complement (*ndù + H*)

It is difficult to distinguish between verbs that commonly take an instrumental complement, as in *VERB [ndù + H NP]*, and cases where *-ndù + H* has come to function as a derivational suffix, the derivative behaving syntactically like a VO verb: *VERB-ndù + H NP*, see §6.2.5 for examples. The only way to test for syntactic structure is to see whether other material, such as postverbal enclitic pronominal PPs, can intervene between the verb and *ndù + H*.

(326a) shows an example where such intervening material is possible. If a pronominal dative *à sê* ‘for him/her’ is added, it can appear either at the tail end or inserted between *bárú* and the instrumental phrase. Phonologically, *ndù + H* usually cliticizes to the preceding word (symbol =), as the *ń* syllabifies with the preceding syllable, but in more deliberate speech style *ndù + H* can be pronounced separately in examples like these.

- (326) a. $i\hat{\uparrow}=\acute{\eta}$ *màṅgór-ò* *bárú*=[*ńdù* $\hat{\uparrow}t\acute{e}:n-\grave{e}y$]
 1Sg=Tr mango-Fin/DefSg exchange=[with date-DefPl]
 ‘I exchanged a mango for some dates.’
- b. $i\hat{\uparrow}=\acute{\eta}$ *màṅgór-ò* *bárú* [*à sé*]=[*ńdù* $\hat{\uparrow}t\acute{e}:n-\grave{e}y$]
 1Sg=Tr mango-Fin/DefSg exchange [3Sg Dat]=[with date-DefPl]
 ‘I exchanged a mango with him/her for some dates.’
- c. $i\hat{\uparrow}=\acute{\eta}$ *màṅgór-ò* *bárú*=[*ńdù* $\hat{\uparrow}t\acute{e}:n-\grave{e}y$] [*à sê*]
 1Sg=Tr mango-Fin/DefSg exchange=[with date-DefPl] [3Sg Dat]
 [= (b)]

6.1.7 VO verbs

These are a small number of low-transitivity, non-impact transitive verbs whose direct object follows rather than precedes them. More accurately, the direct object is part of the postverbal complex, and if it is a nonpronominal NP it is possible to have e.g. a dative pronominal between verb and object. To distinguish VO verbs from other verbs that may be followed by an NP that is not a direct object (**unmarked postverbal NP**, §6.1.8), the formal criterion for identifying a stem as a VO verb is its ability to take the 3Sg object suffix *-a* (which gets its tones from Tonal Rhythm, §3.9.4.1) and 3Pl object *ńóṅ* (cf. §4.3.4.2). A fairly complete list is (327). The 3Pl clitic has no phonological effect on the stem, e.g. *à hámbúró ńóṅ* ‘he was afraid of them’.

(327) VO verbs

gloss	stem	3Sg object	comment
a. monosyllabic			
<i>{H}-toned</i>			
‘divorce’	<i>féy</i>	<i>féy-à</i>	
‘be stronger than’	<i>hín</i>	<i>hín-à</i>	
‘hate’	<i>kôn</i>	<i>kón-à</i>	
‘know’	<i>ṅá:n</i>	<i>ṅá:n-à</i>	
‘be older than’	<i>zé:n</i>	<i>zé:n-à</i>	
<i>{HL}-toned</i>			
‘approach’	<i>mân</i>	<i>mán-à</i>	
<i>{L}-toned</i>			
‘be better than’	<i>bà:</i>	<i>bà:-Ø</i>	
b. bisyllabic or longer			
<i>bisyllabic, {H}-toned</i>			
‘be used to’	<i>dó:néy</i>	<i>dó:n-à</i>	
‘learn’	<i>gó:rú</i>	<i>gó:r-à</i>	

‘touch’	<i>lábú</i>	<i>láb-à</i>	
‘trust’	<i>ná:néy</i>	<i>ná:n-à</i>	
<i>bisyllabic, {L}-toned</i>			
‘surpass’	<i>bisà</i>	<i>bis-â</i>	
‘forget’	<i>dìnòw</i>	<i>dìŋŋ-â</i>	
‘follow’	<i>hàngà</i>	<i>hàng-â</i>	
‘remember’	<i>hòŋù</i>	<i>hòŋ-â</i>	
‘have seen’	<i>kò:rù</i>	<i>kò:r-â</i>	
<i>bisyllabic, {HL}-toned</i>			
‘accomplish’	<i>gáynê</i>	<i>gáyn-â</i>	< Fulfulde
‘need’	<i>há:jê</i>	<i>há:j-à</i>	< Fulfulde
‘marry, wed’	<i>hí:jî</i>	<i>hí:g-à</i>	
‘trust’	<i>hó:lê</i>	<i>hó:l-à</i>	< Fulfulde
‘be worth less than’	<i>já:sê</i>	<i>já:s-à</i>	
‘go far from’	<i>mó:rû</i>	<i>mó:r-â</i>	
‘feel like’	<i>mú:ŋê</i>	<i>mú:ŋ-â</i>	< Fulfulde
‘waste, lose’	<i>múrsû</i>	<i>múrs-â</i>	< Fulfulde (?)
‘refuse’	<i>wúnjî</i>	<i>wúnj-â</i>	
<i>trisyllabic, {H}-toned</i>			
‘fear’	<i>hámburú</i>	<i>hámbur-à</i>	

c. Cv and Cv:

high vowel adding a homorganic semivowel

‘see’	<i>dí:</i>	<i>díy-à</i>
‘get’	<i>dù</i>	<i>dùw-â</i>

e shifting to i and adding a homorganic semivowel

‘become (adverb)’	<i>tè</i>	—
‘become (noun)’	<i>té:</i>	<i>tíy-à</i>

a or o, with irregular extended presuffixal Cv:C-form

‘want’	<i>bà</i>	<i>bá:g-à</i>
‘hear’	<i>má:</i>	<i>má:r-à</i>
‘reach, arrive’	<i>tó:</i>	<i>tó:r-à</i>

a with irregular extended presuffixal Cvŋ-form

‘receipt, accept’	<i>tà</i>	<i>tàŋ-â</i>
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d. invariant in form, no distinct 3Sg object form or imperative

‘bring’	<i>kàtè</i>	<i>kàtè</i>	Imprt <i>kàtè</i>
			3PIO <i>kàtè ɲóŋ</i>
			(no VblN # <i>kàtè-ɲòŋ + H</i>)

The contractions of stem-final vowel or diphthong *ow* before 3Sg *-a* (327b) are regular. So is the phonological treatment of monosyllabic *Cu* ‘get’ and *Ci*: ‘see’ in (327c). The alternation of *té:* and *tíy-à* ‘become’ has parallels in monosyllabic inalienable nouns, e.g. *mê* ‘mouth’, *míy-ó + H* ‘his/her mouth’. See §3.7.1.5 for the phonology.

The prevocalic *Cv:C-* stem allomorphs for ‘want’, ‘hear’, and ‘reach, arrive’ in (327c) are archaic; compare KS *bag-aa*, *maar-aa*, *toor-aa*.

kâtè ‘bring’ (327d) is irregular in not having an overt 3Sg object suffix.

6.1.8 Verbs taking unmarked postverbal NPs

Unmarked postverbal NPs are NPs other than obvious adverbials that occur without adpositions in the postverbal complex. They can be mistaken for NPs functioning as direct objects of VO verbs. The key difference is that only VO objects can be pronominalized as 3Sg object suffix *-a* on the verb. In addition, 3Pl pronominal object clitic *ḡóŋ* can follow a VO verb (as direct object) but cannot occur as an unmarked postverbal NP.

Unmarked postverbal NPs occur with the verb ‘be full’ and causative ‘fill’ (328).

- (328) a. *hùmbár-ò* *tó:* *pét!* *hár-ó*
 waterskin-Fin/DefSg be.full Intens water-Fin/DefSg
 ‘The waterskin is full of water.’
- b. *í↑=ŋ* *hùmbár-ò* *tó:-y-éyndí* *hár-ó*
 1Sg=Tr waterskin-Fin/DefSg be.full-Caus water-Fin/DefSg
 ‘I filled the waterskin with water.’

When such a NP is extracted, as in WH-question formation, an alternative syntax must be used in order to give the extracted NP a genuine syntactic position, normally as an instrumental (329). One could use this to argue that the unmarked postverbal NPs in (328) above are covert instrumentals.

- (329) *mí:ŋ* ‘*gá=ŋ=ŋ* *hùmbár-ò* *tó:-y-éyndí=[ńd-à]*
what? Focus=2SgS=Tr waterbag-Fin/DefSg be.full-Caus=[with-3SgO]
 ‘What did you fill the waterbag with?’

With ‘give’ and ‘show’, in the alternative construction where the recipient appears as preverbal direct object (instead of as postverbal dative), if the theme NP appears on the surface it is no longer direct object and so must appear as an unmarked postverbal NP (examples in §9.1.2). Extraction of the theme NP can always be done but this must be based on the unmarked construction with preverbal direct object and postverbal dative.

6.1.9 Verbs of saying/telling (*nê*, *cì*, *hárú*)

hárú ‘say (something), tell (something, to someone)’ is a transitive verb used with a NP or more often 3Sg pronominal complement: *á↑=ŋ=ŋ* ‘*hárú* ‘he/she said it’. It is not used with a quotative clause as complement.

cì is a morphologically regular intransitive verb ‘say, speak’. It can occur by itself or it can be juxtaposed to a quotation.

nê is a defective verb-like element which always accompanies a quotation. It has no verbal noun or other suffixal derivatives, and it is not used in the imperative where *cì* is required. It is “conjugated” by either a third person subject proclitic such as 3Sg *à* or, oddly, by an immediately preceding first or second person **independent** (not subject proclitic) pronoun (1Sg *?ây*, 2Sg *ní*, 1Pl *yérí*, 2Pl *wàràŋ*). Thus *à nê* ‘he/she said’ and *?ây nê* ‘I said’ (not *#i nê*). Morphosyntactically, one can compare the defective verb *nê* with the defective noun *môy* ‘namesake, person with the same name’, which has a similar split between third and first/second person possessors (§4.2.3.1). If a MAN morpheme intervenes between a subject pronominal and *nê*, the subject pronominal takes its regular proclitic form: *ì nám nê* ‘I will say ...’.

If not followed by a pause, *nê* ‘say’ is often treated as L-toned. A consequence of this is that 3Sg subject *à nê...* ‘he/she said...’ is often heard as [ãnè...] with higher pitch on the 3Sg clitic than on the verb by Pronominal-Clitic Upstep (§3.9.4.3).

All saying/telling verbs combine readily with dative PPs denoting the recipient: *á↑=íj=íj hárú [à sê]* ‘he told it to her’, *?ây nê [à sê]* ‘I said to him: ...’. 3Sg *à* in dative *à sê* is also subject to Pronominal-Clitic Upstep, and in addition it often contracts with the verb-final vowel. The examples just given can therefore be pronounced [ãhãrà:sè] and [?ãjná:sè].

6.2 Derived voice (valency) forms

6.2.1 Zero derivation and derivation by tone shift

Some verbs may be used either transitively or intransitively without overt derivational modification. The most open-ended case is that of verbs that are basically transitive but that can omit an explicit direct object, e.g. *ŋà*: ‘eat’ and *béy* ‘know’. Many other verb stems take an overt unspecified-object derivational suffix *-à* in this context, but not all verbs can take this suffix (§6.2.3).

In other cases a verb may be used as a transitive or as a middle intransitive (cf. English *I broke it* and *it broke*). Again, many verbs mark a similar voice shift with overt derivational suffixes, having either a) an unmarked transitive and marked passive derivatives, or b) an unmarked intransitive and a marked causative (see subsections below). Examples of verbs that do not require overt derivational marking, with the transitive gloss preceding the intransitive, are *hàsàrà* ‘ruin’ and ‘be ruined, malfunction’.

HS, perhaps uniquely among Songhay languages, also has a number of bisyllabic verbs ending in a high vowel that distinguish the transitive and intransitive functions by tone shift. All cases known to me are in (330).

(330) Tone shift in intransitive/transitive pairs (all known examples)

intrans.	gloss	transitive	gloss
a. {L}-toned intransitive, {H}-toned transitive			
<i>fèrì</i>	‘be untied’	<i>férí</i>	‘untie, open’
<i>zùmtì</i>	‘nod (head)’	<i>zúmtí</i>	‘put on its head’
[<i>zùmtì</i> versus <i>zúmtí</i> from one speaker, not confirmed by others]			
b. {H}-toned transitive, {L}-toned transitive			
<i>bééré</i>	‘go around; be changed’	<i>bèrè</i>	‘flip, transform (it)’
<i>cé:cí</i>	‘conduct a search’	<i>cè:cì</i>	‘look for (it)’
<i>céyrí</i>	‘become broken’	<i>cèyri</i>	‘break (it)’
<i>dáwrí</i>	‘go across’	<i>dàwri</i>	‘cross (it)’
<i>fúnsú</i>	‘swell up’	<i>fùnsù</i>	‘inflate (it)’
<i>né:sí</i>	‘be measured, weighed’	<i>nè:sì</i>	‘measure, weigh’
<i>wársí</i>	‘burst’	<i>wàrsì</i>	‘shatter (it)’
<i>yá:rí</i>	‘take sth for oneself’	<i>yà:rì</i>	‘take (it) for oneself’

The forms shown can be modified by the usual tone sandhi rules. The underlying tone distinction can be seen, for example, in differences in the surface tones of the imperative singular: *né:sí-ŋ* ‘be measured!’, *à’ nè:sí-ŋ* ‘measure/weigh it!’.

6.2.2 Causative *-éyndí*

The suffix *-éyndí*, here labeled “causative” (Caus), is used to make factitive transitives from stative intransitive verbs or their associated adjectives, and ordinary causatives from active intransitive verbs. When added to an already transitive stem, *-éyndí* intransitivized it as a potential passive (§6.2.4).

A final vowel of the input stem is lost before this V-initial suffix, unless the stem is monosyllabic. A final diphthong *ey* (but not *ow*) is also lost under the same conditions. The word-level **{H} tone overlay** erases the lexical tones. Examples of factitive and causative function are in (331).

(331) Causatives

simple stem	gloss	causative	gloss
a. <i>dî(n)</i>	‘(fire) be lit’	<i>dín-éyndí</i>	‘light (fire)’
<i>dírà</i>	‘walk, travel’	<i>dír-éyndí</i>	‘send away’
<i>mân</i>	‘approach’	<i>mân-éyndí</i>	‘bring near’
<i>tísôw</i>	‘sneeze’	<i>tísôw-éyndí</i>	‘cause to sneeze’
<i>tùfêy</i>	‘spit’	<i>tùf-éyndí</i>	‘cause to spit’
<i>zígí</i>	‘go up’	<i>zíg-éyndí</i>	‘take up’

b.	<i>ɲà:</i>	‘eat’	<i>ɲá:-y-éyndí</i>	‘feed’
	<i>tó:</i>	‘become full’	<i>tó:-y-éyndí</i>	‘fill’
	<i>zé:</i>	‘swear’	<i>zé:-y-éyndí</i>	‘cause to swear’
c.	<i>hàŋ</i>	‘drink’	<i>hájŋ-éyndí</i>	‘give drink to’
d.	<i>zùmbù</i>	‘go down’	<i>zúm-éyndí</i>	‘take down’
e.	<i>hìnèŋ</i>	‘be clean’	<i>hín-éyndí</i>	‘clean’
			~ <i>hínw-éyndí</i>	
	<i>hínéŋ</i>	‘suckle’	<i>hínw-éyndí</i>	‘let suckle’

The cases in (331a) are phonologically unproblematic. In (331b), a mid or low vowel adds an epenthetic *-y-* to separate the stem vowel from the suffix-initial vowel (§3.7.1.9). No *Ci:* or *Cu:* stem happens to have a causative form. An informant gave *bú:-y-éyndí* ‘cause to die’ as the optimal pronunciation of a putative causative of *bú:* ‘die’, but this should be taken with salt. In (331c) a stem-final velar nasal is palatalized before the *e* vowel of the suffix. However, palatalization of *k* to *c* and of *g* to *j* (IPA [j]) is not consistently applied before *-éyndí* (as other examples in the list show). (331d) shows that *zùmbù* ‘go down’ irregularly loses its *b* in the derivation. This verb has irregular causatives in several Songhay languages, but the irregularities do not always match. The two verbs in (331e), which may have interacted with each other, allow a *w*-final stem allomorph, cf. participle *hínw-ànt-ò* ‘clean’ (§4.5.6).

For the factitives, it is frequently impossible to determine whether the input stem is the verb of adjectival quality or the associated adjective itself: *ká:n-éyndí* ‘sweeten’ could be from the verb *kâ:n* ‘become sweet’ or the adjective *kâ:n-òw*. This is because the adjective and the verb are usually differentiated formally by tone and by presence/absence of adjectival suffix *-ow*, both of which are obliterated in the *-éyndí* derivative. In the examples in (332), the verb and adjective are distinguished by consonantism (§4.6.2.2), and it could be argued that the *-éyndí* form is added to the adjective (not the verb). However, one could alternatively claim that the verb is basic, but has a special allomorph used before any V-initial suffix (adjectival *-ow* or causative *-éyndí*). This argument might not account for ‘lengthen’, since here the adjective does not have *-ow*.

(332) Factitives added to a special presuffixal form of verb

verb	gloss	adjective	factitive	gloss	
a. reduplicative					
	<i>bá:</i>	‘be numerous’	<i>bò:-b-òw</i>	<i>bó:-b-éyndí</i>	‘make numerous’
	<i>kú:, kú-kú</i>	‘be long’	<i>kú-kú</i>	<i>kú-k-éyndí</i>	‘lengthen’
b. syncopating					
	<i>kórónj</i>	‘get hot’	<i>kònn-òw</i>	<i>kónn-éyndí</i>	‘make hot’

- c. stem-final *n* added
yéy ‘be cool’ *yèyn-òw* *yéyn-éyndí* ‘make cool’
- d. diminutive (§4.9.8)
bòrì ‘be pretty’ *bòr-y-òw* *bóry-éyndí* ‘make pretty’
màrì ‘be slender’ *màr-y-òw* *máry-éyndí* ‘make slender’

For “adjectives” that are in fact adverbial nouns (usually borrowed from Fulfulde), it is difficult to elicit *-éyndí* factitives. A factitive phrase can be constructed using *té:* ‘do, make’ with the “adjective” as an unmarked postverbal NP. The inchoative can likewise be expressed with *tè* ‘become (adverbial)’. Thus *à tè túrì* ‘it became yellow’, factitive *í↑=ǰ=ǰ* ‘*té:* *túrì* ‘I made it yellow’. For *tè* ‘become (adverb)’ and *té:* ‘do, make’ or ‘become (noun)’ see §7.1.1.1.

Since causatives (including factitives) are normally from intransitive bases, while potential passive *-éyndí* is from transitive bases, there is little risk of confusion between causative and passive. However, a few verbs like *ǰà:* ‘eat’ allow both derivatives: causative *í↑=ǰ* *ǰòǰ* *ǰá:-y-éyndí* ‘I had them eat, I fed them’, potential passive *à sù ǰá:-y-éyndí* ‘it is not edible’.

6.2.3 Intransitivizing (resultative passive or unspecified object) *-à*

Many transitive verbs, including a fairly large number of bisyllabics ending in a high vowel, have a derivative in suffix *-à* with word-level {L} **tone overlay**. The derivation is rarely possible with *Cv(:)* verbs, except that two *Ce(:)* verbs adopt the prevocalic form *Ciy-* and can take V-initial suffixes.

For most verbs, this derivative can be used either as a **resultative passive**, with the agent omitted, or as an **unspecified-object** antipassive, the theme NP (patient) being omitted. The same derivational forms occur in KS (*-a*), and in the Wogo varieties of riverine Kaado dialects of Niger. Since the Wogo people represent a relatively late migration from the KS-speaking area, it appears that the *-a* suffix(es) were originally confined to KS and HS, and are possible evidence for a genetic subgrouping. Preliminary data on Wogo indicate a possible tonal difference between resultative and unspecified-object functions, but in HS there is no tonal difference (KS is nontonal). (“Resultative passive” is a terminological revision of “mediopassive” in my writings on KS.)

Some HS examples of *-à* are in (333).

(333) Resultative passive and unspecified object derivatives

gloss	stem	<i>-à</i> form	gloss (ResultPass)	gloss (UnspecO)
a. <i>Cv(:)</i> stems (all known cases); see §3.7.1.5				
‘call’	<i>cé:</i>	<i>cìy-à</i>	—	‘call’
‘do, make’	<i>té:</i>	<i>tìy-à</i>	‘be done’	—

b. longer stems (sample)

‘sweep’	<i>fí:sí</i>	<i>fí:s-à</i>	‘be swept’	‘sweep’
‘hit’	<i>kárú</i>	<i>kâr-à</i>	‘be hit’	‘hit’
‘build’	<i>cín</i>	<i>cín-à</i>	‘be built’	‘build’

Resultative passives denote a state resulting from the completion of the activity denoted by the transitive verb: ‘the courtyard has (already) been swept’; ‘the gold bracelet has (already) been hit (=hammered into shape by the metalsmith)’, ‘the house has (already) been built’. Unspecified-object derivatives focus on the activity itself, either because the theme is obvious (e.g. part of a daily routine) or because the theme is indeterminate or multiple: ‘I am sweeping’, ‘the rain hit (=it rained)’, ‘I plan to build (sc. a home) in Hombori’.

Agentive nominals in *-k-ò + H* (§4.5.7) from these transitive verbs are normally built on the intransitive *-à* derivative, most likely in unspecified-object function. However, if a theme (direct object) is included in the agentive as a compound initial, the transitive form is used: *kâr-à-k-ò + H* ‘hitter, one prone to hitting’, *bât-kâr-k-ò + H* ‘[(calabash-)tomtom]-beater’.

While KS does not allow *-a* to be added to causatives, this combination is common in HS, the result being of the form L-toned stem plus *-ànd-à*. However, some *-ànd-à* forms seem to be lexicalized. A particularly common combination is *bèn-ànd-à* ‘(sb) be finished (with sth or with an activity)’, cf. *bén-éyndí* ‘finish (sth), cause to end’, itself from *bén* ‘(sth) end, come to an end’. Another, more lexicalized, is *bât-ànd-à* ‘wait, be waiting’, which functions as a kind of unspecified-object form of transitive *bâtù* ‘wait for (sb)’, and is not semantically based on causative *bát-éyndí* ‘cause to wait’ (or potential passive ‘be waited for’).

The intransitivizing *-à* suffix(es) should not be confused with **3Sg object** *-à*, which is suffixed to VO verbs like *dí*: ‘see’ (§6.1.7). The tonal behavior of VO verbs with 3Sg object *-à* is different from that of the intransitivizing *-à* derivatives. To my knowledge, no VO verb allows the intransitivizing *-à* derivation so there is no real ambiguity.

6.2.4 Potential passive *-éyndí*

The potential passive (in earlier writings on KS called “mediopassive” and therefore not terminologically differentiated from what I now call the “resultative passive”) is expressed by adding suffix *-éyndí* to a transitive base. The suffix is phonologically identical to the causative (§6.2.2), and one could therefore think of *-éyndí* as a valency-polarizing derivation. However, for a few verbs like ‘eat’ that can be used either intransitively or transitively, both a causative (‘feed’) and a homophonous potential passive (‘be eaten, be edible’) can be formed.

The most common sense of the potential passive is ‘be VERB-able’ or ‘be habitually VERB-ed’, indicating a special propensity to be the object of the activity. However, a more general passive function is also possible. Some examples are in (334).

(334) Potential passive forms

	stem	gloss	potential passive	gloss
a.	<i>hárú</i>	‘say, tell’	<i>hár-éyndí</i>	‘be sayable’
	<i>hây</i>	‘open’	<i>hây-éyndí</i>	‘be openable’
	<i>zèmnà</i>	‘share’	<i>zèmn-éyndí</i>	‘be shared’
b.	<i>dù:</i>	‘get’	<i>dúw-éyndí</i>	‘be available’
	<i>dí:</i>	‘see’	<i>díy-éyndí</i>	‘be visible, seen’
	<i>nó:</i>	‘give’	<i>nó:-y-éyndí</i>	‘(e.g. gifts) be given’

The phonological (including tonal) behavior is the same as for the causatives.

6.2.5 Verb plus cliticized = *ndù + H* or suffixed *-ndù + H* ‘with’

In a number of cases *ndù + H* ‘with’ appears not as a postverbal preposition but as something like a verbal suffix. In either case, there is a complement NP (such as 3Sg object suffix *-a*) that follows. The usual test for prepositional versus suffixal status is whether any intervening material can occur, such as the pronominal dative enclitic *à sê* ‘for 3Sg’, e.g. [*VERB [à sê] [ndù + H NP]*] versus [*VERB-ndù + H [à sê] NP*].

The *ń* of *-ndù + H* syllabifies with the preceding stem-final syllable. There being no rising tones in HS, the syllable in question is flattened to H-tone, except in *kà:-ndù + H* ‘bring’, on which see below. The suffix-like cases are those in (335).

(335) Verbs with suffix *-ndù + H*

	stem	gloss	<i>-ndù + H</i> derivative	gloss
a.	existential, locational			
	<i>H + gò:</i>	‘be’	<i>H + gò:↑-ndù + H</i>	‘have’
	<i>bárâ</i>	‘X.be’ (§7.1.2)	<i>bá-ndù + H</i>	‘X.have’ (< /bâr-ndù + H/)
	<i>sí:</i>	‘not be’	<i>sí:-ndù + H</i>	‘not have, lack’
	<i>cîndî</i>	‘remain; was’	<i>cîndî-ndù + H</i>	‘used to have’
b.	motion			
	<i>kóy</i>	‘go’	<i>kóy-ndù + H</i>	‘convey, go with’
	<i>yé ‘kóy</i>	‘go back’	<i>yé ‘kóy-ndù + H</i>	‘take back’
	<i>yê</i>	‘return’	<i>yê-ndù + H</i>	‘take back’
	<i>yèkâ</i>	‘come back’	<i>yèkâ↑-ndù + H</i>	‘bring back’
	<i>irregular (no H-tone, vowel lengthened)</i>			
	<i>kâ</i>	‘come’	<i>kâ:-ndù + H</i>	‘bring’ (3SgO <i>kâ:-nd-â</i>)

c. abstract			
<i>sábâ</i>	‘coincide’	<i>sábâ-ńdù + H</i>	‘coincide with’ (§9.5.9.2)
~ <i>sáwâ</i>		~ <i>sáwâ-ńdù + H</i>	
<i>fěy</i>	‘be separate’	<i>fěy-ńdù + H</i>	‘separate from’
<i>jèy</i>	‘be long time’	<i>jéy[↑]-ńdù + H</i>	‘go long time with(out), not see for a long time’
<i>hìmà</i>	‘be similar’	<i>hìmá[↑]-ńdù + H</i>	‘resemble’

The one clearly suffixal case is *kà:-ńdù + H* ‘bring, come with’, which also differs from all the others phonologically. The vowel of *kà* ‘come’ is lengthened, and there is no H-tone. The 3Sg object form is *kà:-ńd-â*. Imperative *-ŋ* cannot be added directly to *kà:-ńdù + H*, but it can be added to *kà:-ńd-â*. So the functionally imperative *kà:-ńdù ?á[↑]ttê:* ‘bring the tea!’ (*?á[↑]ttê:*) has no imperative suffix, but the pronominal-object imperative form is *kà:-ńd-â-ŋ* ‘bring it!’.

kà:-ńdù + H ‘bring’ differs from the combination of *kà* ‘come’ and instrumental-comitative *ńdù + H* by vowel-length. In (336a), *ńdù ká:r-ò + H* ‘with the bus’ is a separate constituent. Because *ńdù* begins with a nasal, it cliticizes to *kà* as it would with any verb, and *kà* must therefore raise its tone to H to avoid a rising-toned syllable (§3.9.6.3). The vowel is not lengthened. The corresponding imperative is with *tê*, the regular suppletive imperative of *kà*, hence *té = ńdù ká:r-ò* ‘come with the bus!’ In (336b), *kà:-ńdù + H* behaves like a VO transitive verb. The vowel of the first syllable is lengthened, but there is no sign of a H-tone element. The imperative is unsuffixed *kà:-ńdù + H*, as in *kà:-ńdù[↑] ?á[↑]ttê:* ‘bring (some/the) tea!’. The verbal noun is *kà:-ńdù-ŋòŋ + H*.

- (336) a. *à* *ká[↑] = [ńdù ká:r-ò]*
 3SgS come=[with bus-Fin/DefSg]
 ‘He/She came with (=on) the bus.’
- b. *à* *kà:-ńdù [↑]?á[↑]ttê:*
 3SgS come-with tea
 ‘He/She brought some tea.’

For instrumental-comitative *kà [ńdù + H X]*, see also (598a-b) in §10.4.3.

In all the other cases in (335) above, the suffixal status of *-ńdù + H* is less clear. I have not been able to elicit any verbal derivational suffix (e.g. causative, passive) after *-ńdù*, including verbal noun *-ŋòŋ + H*. Imperative *-ŋ* is not allowed even after the 3Sg object form *-ńd-â*, as seen in e.g. *kóy-ńd-â* ‘take it (there)!’. (One cannot tell whether imperative *-ŋ* follows the verb stem, since the two nasals would fuse and since the H-tone in *-ńdù* would erase the tonal effects of the imperative suffix. So we have to rely on syntax to distinguish [*VERB-ńdù X*] from [*VERB [ńdù X]*].

Extraction tests (relativization, focalization) come to mind, but they do not help in this case, since even clearly prepositional *ńdù* is stranded when its complement is extracted. However, there is some evidence from linear order that the cases in (335) involve some kind of fusion between *ńdù + H* and the verb. If a pronominal postposition like 3Sg dative *à sê* (variant *à[↑] sê*) is added, the combinations in (335)

allow (but do not require) it to intervene between *ndù* and its NP complement NP (337), following the general tendency for pronominal PPs to occur in immediate postverbal position. This separation is not possible when *ndù + H X* is a distinct (instrumental-comitativie) constituent.

- (337) *ì kóy-ndù [à sê] ?àtté:*
 1SgS go-with [3Sg Dat] tea
 ‘I took some tea (there) for him/her.’

Based on this, I regard cases like *kóy-ndù* ‘take (there), deliver, convey’ as suffixal.

The ‘than X’ part of certain comparative constructions may also be a case of suffixal *-ndù + H*, see (573c) in §9.7.7.1, but for semantic reasons it is difficult to insert e.g. dative pronominals to test whether a suffix or a preposition is at hand.

há:ⁿ [ndù X] ‘ask about X’ seems to be a prepositional rather than a suffixal case in HS.

6.3 Compound verbs

6.3.1 N-V and verbalized N-N compounds

A number of mostly frozen compound verbs appear to include an “incorporated” noun stem.

- | (338) | compound | gloss | related forms |
|-------|---------------------------------------|--|---|
| a. | paronym initial | | |
| | <i>háṅṅá-zó:rú</i> | ‘sit up on one’s elbow’ | <i>hàṅṅé ~ hàṅṅá</i> ‘ear’,
<i>zó:rú</i> ‘clear (field)’ |
| | ~ <i>háṅṅé-zó:rú</i> | | |
| | <i>[kàmb-ù]-ṅzâ</i> | ‘give assistance to’ | “hand-take,” VblN
<i>[kàmb-ù]-[zá:-r-ò] + H</i> |
| | <i>bóṅ-gúm</i> | ‘(woman) veil herself’ | <i>bòṅ</i> ‘head’, <i>gúm</i> ‘cover’ |
| b. | ‘wind, air’ (<i>hèw</i>) as initial | | |
| | <i>hèw-gúfâ</i> | ‘smother; be smothered’ | <i>gúfâ</i> ‘be hairy’ |
| | | [also ‘(bad smell) be disgusting to (sb)’] | |
| | <i>hèw-dâm</i> | ‘rest, relax’ | <i>dâm</i> ‘put’ |
| c. | other | | |
| | <i>má:-gísí (~ -jísí)</i> | ‘baptise (give name to)’ | <i>mâ:</i> ‘name’, <i>gìsì ~ jìsì</i> ‘put’ |
| | <i>[só:g-ù]-mèy</i> | ‘(boy) chase girls’ | <i>sò:g-ò + H</i> ‘young man’,
<i>mèy</i> ‘own’ |

Prosodically, *háṅṅé-zó:rú* (or variant) is two words, though it functions as a single stem. In (339b), the downstep on *háṅṅé-* is conspicuous, but it has no effect on *-zó:rú*.

háṅṅé- and variant *háṅṅá-* look like slight variations on the unpossessed and nonfinal form of ‘ear’ (*hàṅṅé* ~ *hàṅṅá*), but the tones as well as the geminate nasal are irregular.

- (339) a. *ì* *↑nô:* *háṅṅé-zó:rú*
 1SgS Progr.Infin
 ‘I am sitting up on my elbow.’
- b. *ì* *↑máṅ* *‘háṅṅé-zó:rú*
 1SgS PerfNeg
 ‘I didn’t sit up on my elbow.’

[kàmb-ù]-zà is similar. *kàmb-ù* ‘hand’ is here in a nonfinal form and cannot be modified. The verb *zà* ‘take’ has an unexplained falling tone. *kàmb-ù* does, however, behave as the direct object, so we get the transitive morpheme in (340a).

- (340) a. *í↑=íṅ* *[kàmb-ù]-zá* *[àˀ sè]*
 1SgS=Tr give.assistance [3Sg Dat]
 ‘I gave him/her some assistance.’
- b. *ì* *↑máṅ* *[kàmb-ù]-zá* *[nòṅ sè]*
 1SgS PerfNeg give.assistance [3Pl Dat]
 ‘I didn’t give them any assistance.’

bòṅ-gúm is a compound of *bòṅ* ‘head’ (here unpossessed and unmodifiable). It has a specific sense (341a), in comparison to the more variable sense of the non-compound counterpart (341b). The associated noun is *bòṅ-gúm-ó + H* ‘veil’.

- (341) a. *à* *bòṅ-gúm*
 3SgS cover.head
 ‘She veiled herself (with a veil covering head and chest).’
- b. *á↑=íṅ* *‘?áṅṅá* *bùwⁿ-ò* *gúm*
 3SgS=Tr 3ReflSgP head-3PossSg cover
 ‘She covered her head (with anything, e.g. a shawl).’

hèw-gùfâ ‘smother’ takes a separate direct object, so *hèw* ‘wind’ (nonfinal form) is not treated as an object. It can also mean ‘(bad smell) bother (sb)’. It can also be intransitive (342b)

- (342) a. *á↑=íṅ* *nèy* *hèw-gùfâ*
 3SgS=Tr 1SgO smother
 ‘He/She smothered me.’ or ‘It (=bad smell) was disgusting to me.’
- b. *à* *hèw-gùfâ*
 3SgS be.smothered
 ‘He was smothered.’ or ‘He was disgusted (e.g. by a bad smell).’

hèw-dâm is somewhat obscure and is not in current use among my informants. In the sense ‘rest’ it differs from a more transparent collocation of *hèw* ‘wind’ (as object) and *dâm* ‘put’, with two quite distinct senses. The collocation in (343a) is itself irregular insofar as *hèw-ò + H* ‘wind’ takes its nonfinal form *hèw*. (343b) is fully regular, with *hèw-ò + H* in the sense ‘odor’.

- (343) a. $\acute{a}\hat{=}ij$ *hèw* $\hat{=}dâm$
 3SgS=Tr wind put
 ‘He/She raced (ran fast).’
- b. $\acute{a}\hat{=}ij$ *hèw-ò* $\hat{=}dâm$
 3SgS=Tr wind-Fin/DefSg put
 ‘It smelled bad’ (‘It put out a (bad) smell.’)

Example (343a) with *hèw* $\hat{=}dâm$ has an antonym *hèw* $\hat{=}kâ$ ‘slow down (in a race)’ with the same syntax. It can also mean ‘break wind, fart’.

‘Baptise, christen, bestow a name on (week-old newborn)’ is illustrated in (344a), along with an uncompounded version of the same elements (344b). There is also a semantically unusual passive *má:-gís-éyndí* ‘be baptised’.

- (344) a. $jónj\hat{=}ij$ *nèy* *má:-gísí*
 3PIS=Tr 1SgS baptise
 ‘They baptised me.’
- b. $jónj\hat{=}ij$ *má:-y* *gìsì*
 3PIS=Tr name-1SgP put
 ‘They put (=determined) my name.’

For compounds with noun (denoting a generic object NP) plus agentive nominal, see §4.8.2.

6.3.2 Verb-verb compounds with infinitival linker

HS readily combines two verbs with infinitival *kù + H* ~ *ŵ + H* as the linker. Examples of idiomatic combinations are in (345).

- (345) a. \acute{a} $ŵ$ $\hat{=}jónj$ $\acute{d}éy$ [*kù* *né:rê*]
 3SgS Impf 3PIO buy [Infinitive sell]
 ‘He/She buys and sells them (=deals in them).’
- b. \acute{a} *kání* [$ŵ$ *gûm*]
 3SgS lie.down [Infinitive cover]
 ‘He/She lay down on his/her belly.’

- c. *á'* *wù:rú* [*w* *ká:tí*]
 3SgS scream [Infin shout]
 'He/She screamed and hollered.' (*wù:rú*)

Idiomatic verb-verb compounds like these often have their own verbal nouns: *kání* [*w* *gúm*]-*pòŋ* + *H* 'lying on one's belly', *wù:rú* [*w* *ká:tí*]-*póŋ* + *H* 'screaming and hollering'.

6.3.3 Compound verbs with noun or adverb as final

háw-mê 'fast, be fasting' contains verb *háw* 'tie (up)' and noun *mê* 'mouth'. The antonym is a regular transitive object-verb construction *míyⁿ-ó féri*, lit. 'untie one's mouth' = 'break one's fast'. The isolated status of *háw-mê*, and the existence of a verbal noun *háw-mé-pòŋ* + *H*, suggest that native speakers treat it as a unit, similar to many verbs borrowed from Fulfulde (bisyllabic, H.<HL> tones, final e).

góy-[*fút-éy*] 'mistreat' contains the noun or verb *góy* 'work' plus a nominalization of adjective *fùtù* 'bad, nasty'. Similar ingredients occur in the noun-adjective combination *góy* *↑fùtù* 'lousy work' and in the bahuvrihi *gòy*-[*fùt-òw*] 'non-good worker'.

A verb stem consisting of apparent stem-iteration of a noun is *gàndè-gándè* '(e.g. fighters) confront each other, square off' from *gàndè* 'chest (of body)'.

[*kò-kòrù*]-*bándé* 'come/arrive in last position, bring up the rear' has an initial from the word-family containing adjective *kò-kòr-ò* + *H* 'last, final' and verb *kò-kòrù* 'be last'. The final is related to adverb *bándé* 'behind, in the rear; afterwards', temporal postposition *bándé* 'after', spatial postposition *bàndè* '(following) behind', and the noun *bàndè* 'back (of body)'.

A related final occurs in [*gàr-èy*]-*bàndè* 'go defecate (at the edge of the village)'. It is based on a putative PP *gàr-èy* *↑bándè* 'behind the houses'.

6.3.4 *yèkà* 'come back' and related forms

There is no centripetal suffix in HS. For 'come back' the common form is *yèkà*. This looks like a tonally irregular compound of *yê* 'go back, return' and *kà* 'come'. Some other Songhay languages have forms like KCh *yee-kate* 'come back' with a centripetal suffix *-kate*, but in HS *yé kàtè* is just the combination of *yê* 'go back' and transitive *kàtè* 'bring', hence 'bring (sth) back' rather than 'come back'.

Other related HS forms are *yò* [*w* ...] 'do again' (from **yè* but now divergent), and transitive *yè:tí* 'give back, return (sth borrowed)'.

6.3.5 Frozen combinations of verb and negation (absent)

No examples of this pattern (attested in KS) have turned up in HS.

6.3.6 Verb-stem iteration and (partial) reduplication

Verbs can be iterated (fully reduplicated) to indicate distributivity ('here and there', 'from time to time'). If the stem is {L}-toned, the first syllable of the second half of the reduplication is raised to H. Examples: *dìrà-dírà* 'walk around (a little, from time to time)', *ɲà:-ɲâ:* 'eat (a little) from time to time', and *sèlèŋ-sélèŋ* 'speak from time to time', from verbs *dìrà*, *ɲà:*, and *sèlèŋ*. No tonal changes occur with other tone melodies: {LHL} *wù:rû* in *wù:rú-wù:rû* 'go around shouting', {HL} *fítí* in *fítí'-fítí* 'jump around', and {H} in *béré-béré* 'turn (from time to time)', by extension 'speak hesitantly and evasively'.

There is also a more archaic stratum consisting of a handful of $C_1V-C_1VC_2V$ forms that may have evolved out of earlier full verb-stem iterations but that are synchronically single-syllable reduplications: *bè-bèrè* 'take a walk' (compare *béré* 'go around') and *mí-mísí* 'drizzle'.

7 VP structure

This chapter describes the structure of ordinary inflected VPs, i.e. what remains of a clause when the subject NP is removed. I begin with discussion of predicators other than ordinary intransitive, transitive, and ditransitive verbs. I then describe the inflectional system for main and subjunctive clauses, focusing on MAN (mood-aspect-negation) morphemes and their interactions with adjoining pronominal clitics. The chapter concludes with a section on imperatives.

For subjectless infinitival VPs beginning with infinitive morpheme *kù + H ~ w̃ + H*, used chiefly as complements of other verbs, see §9.7.

7.1 Types of predicates

7.1.1 Equational and identificational predicates

7.1.1.1 Inchoative verb *té:* ‘become’ (VO) or ‘be done’ (intransitive)

Transitive *té:* ‘X become Y’, or intransitive stative ‘X be Y’ or inchoative ‘Y be done’ (X and Y being NPs), is related to transitive *té:* ‘Z do/make Y’ but not to suppletive imperative *tê* ‘come!’ (§7.3.3). *té:* has no clear relationships to existential *tê* ‘(Y) happen, exist’ (§7.1.1.2 below) or to *tè* ‘(X) become (ADV)’ with adverbs such as adjectival intensifiers (§7.1.1.3 below).

In HS, *té:* can be glossed contextually as inchoative (‘Y become X’) or as a simple equational copula (‘Y be X’), where X in both cases is a NP. The inchoative sense is primary. The simple equational sense is often expressed by equational-identificational *nôŋ* (§7.1.1.4), but in this case the “subject” is topic-like and is often omitted. *té:* is used in equational constructions (“Y is X”) where both NPs are overt and clause internal. Both *nôŋ* and *té:* are illustrated in (418a-b) in §8.2.2.1.

In **inchoative** (as well as copular) sense, *té:* is used before a noun-headed NP, generally indefinite if there is a formal difference between (independent) definite and indefinite forms. Most adjectival inchoatives are expressed directly by verbs of adjectival quality (§4.6.1) rather than by a *té:* construction. However, a few “adjectives” like ‘green’ are syntactically nouns and do not have a corresponding verb form, so as predicates (‘be green’) they require *té:*. (346a) is a canonical case of inchoative use with following noun, and (346b) involves an “adjective” that is formally a noun and lacks a correlated verb.

- (346) a. *à té: hánsî*
3SgS become dog
‘He/She became (=turned into) a dog.’
- b. *à té: [sùb-ù ↑tá:y-ò]*
3SgS become [grass-NF fresh-Fin/DefSg]
‘It became (=turned) green.’

The imperative is *tê:-ŋ*, as in *tê:-ŋ hàrù* ‘be a man!’.

Formally, *té:* is a VO verb, although example (346c) stretches the usual syntax of this verb category. In (346a-b), the “predicate nominal” following *té:* has the same syntactic status as the postverbal direct object of other VO verbs like *dí:* ‘see’. The key diagnostic for status as VO verb is ability to take 3Sg object suffix *-à*. With *té:*, the relevant form is *tíy-à* ‘be it’, which in practice occurs in cases involving extraction (focalization, relativization), as in (347). For the vocalic alternation see §3.7.1.5.

- (347) *mí:ŋ* ⁴*gâ* *à* *tíy-à*
 what? Focus 3SgS become-3SgO
 ‘What did he/she become?’

This *tíy-à* differs in tone from {L}-toned *tíy-à*, resultative passive of transitive *té:* ‘do, make’.

In the sense ‘become’, *té:* has normal verb-like properties. A verbal noun *té:-nóŋ + H* was elicitable (though unidiomatic), as in *té:-nóŋ hánsî* ‘becoming a dog’. There is no causative, but this is because transitive *té:* ‘make’ as in *í↑ = íj = íj* *té:* *hánsî* ‘I made him/her into a dog’ already expresses the relevant sense.

té: in the sense ‘become’ can be preceded by any of the regular MAN particles: imperfective, negative, subjunctive. An imperfective positive example is (475) in §8.5.4.1. The perfective negative is *mân té: X* ‘did not become X’. However, the great majority of examples heard in everyday discourse are perfective positive and therefore unmarked.

In **copular** (noninchoative) sense, *X té: Y* ‘X be Y’ is required in certain contexts where *Y nôŋ* ‘it is Y’ is disallowed, viz., when the X constituent is overtly focalized, as in WH-interrogatives (348). A focalized constituent must be an integral part of the clause, which is doubtfully true of topical X functioning as “subject” of *Y nôŋ*. In *X té: Y*, the X is clearly part of the clause (rather than being a preclausal topic) and it can be focalized.

- (348) *mí:ŋ* ⁴*gâ* *té:* *?ánníy-à:-nôŋ*
 what? Focus be intention-PossSg-2SgP
 ‘What is your-Sg intention?’ (copular)

As (348) shows, focus morpheme *gâ* can be used. However, it is often omitted before *té:* (unlike other perfective verbs), especially after a WH-word *mí:ŋ* ‘what?’ or *méy* ‘who?’; see example (418b) in §8.2.2.1.

In copular function, *té:* is stative and **does not allow the usual range of MAN** preverbal particles. *té:* has present (or timeless) reference without an imperfective marker. It would therefore be misleading to take its clause as aspectually perfective, even though it occurs in the unmarked MAN form that for other verbs is perfective positive. See, for example, ‘what is your-Sg name?’, example (425) in §8.2.3.1, which has timeless reference. To specify past time reference (‘what was your intention?’), the verb *cindî* ‘be-Past’ (elsewhere also ‘remain’) can replace *té:* in

(348), the result being *mí:ŋ* ‘*gâ cindí [w̄ té: ?ánníy-à:-nôŋ]* ‘what was your intention?’ *cindí* ‘be-Past’ also supplies a past-tense form for *H + gò*: ‘be’.

It is difficult to say whether copular *té:* (as opposed to inchoative *té:*) can occur in the subjunctive mood. In examples like subjunctive *ì ↑nô: ↑bâ [á↑ = m̄ ‘té: háns-ó]* ‘I want [that he be a dog]’, the sense is probably inchoative, the distance between the currently real and the desired modal worlds suggesting a transitional event. A similar point might be made about infinitival complements, as in *ì ↑nô: ↑bá [w̄ té: háns-ó]* ‘I want [to be a dog]’, but if the serial verb coerces a durative (and therefore copular rather than inchoative) reading we do get copular *té:*, as in *à hánáná [w̄ té: háns-ó]* ‘he/she spent the night being a dog’.

In equational/copular function, the irregular perfective negative construction *màn tù + H X* ‘(it) is not X’ is used, replacing both *té:* and *nôŋ* (§7.1.1.5 below).

7.1.1.2 Inchoative verb *tè* ‘become’ with adverbial complement

tè occurs instead of *té:* ‘become’ in inchoative predicates based on adjectival intensifiers and similar adverbial elements, as opposed to NPs (which require *té:*).

- (349) a. *àʔ* *tè* *fás!*
 3SgS become clean[intensifier]
 ‘It became sparkling (clean).’
- b. *àʔ* *tè* *dús!*
 3SgS become rotten[intensifier]
 ‘It became putrid (very rotten).’
- c. *àʔ* *tè* *rók!*
 3SgS become bitter[intensifier]
 ‘It became (very) bitter.’
- d. *àʔ* *tè* *nám!*
 3SgS become sweet[intensifier]
 ‘It became scrumptious.’

tè may be an archaic form related to *tù ~ tì* in the irregular combination *màn tù + H ~ màn tì + H* ‘not be’ (§7.1.1.5).

7.1.1.3 Existential *tê* ‘happen, take place’

This intransitive verb usually functions as a one-word predicate, though it can be elaborated by adding a spatiotemporal adverbial. The subject may denote a punctual or extended event (weekly market, wedding, accident, death), or an ambient situation (season, cold or hot weather, famine). The unmarked perfective can be interpreted as referring only to past time, or to a situation continuing into the present.

- (350) a. *màsí:bâ* *tê*
trouble happen
'There is (or: has been) trouble.'
- b. *déy-ò* $\hat{m}ân$ *tê*
purchase[noun]-Fin/DefSg PerfNeg happen
'There was (or: has been) no buying (e.g. at a market).'
- c. *hàrg-ò* *té* *kòy*
cold[noun]-Fin/DefSg happen Emph
'It (=weather) sure is cold.'
- d. *zùr-ò* $\hat{n}âm$ *té* *'súbá*
running-Fin/DefSg Fut happen tomorrow
'A race will be held tomorrow.'

Other nouns attested as subjects of *tê* include *bònê* 'misfortune', *kónn-ó + H* 'hot weather', *wòyn-ò + H* 'sun' (i.e. oppressive heat), *bú:* 'dying, (a) death', *jíngár-ó + H* 'holy day', *hèb-ò + H* '(weekly) market', *hì:g-ò + H* '(religious) marriage', *zùr-ò + H* '(a) race', *hàsàrá-r-ò + H* 'damage', *sènd-éy* 'difficulty, expensiveness, inflation', and *bòŋ-[ká:n-éy]* 'good fortune'.

This verb is not used in spatial existential sense in contexts like 'there is some sugar (in the box)'. Such predications require locational *H + gò:* (§7.1.2).

7.1.1.4 Identificational 'it is (not) X' (*nôŋ, màn tù + H*)

A simple clause can be formed by simply adding *nôŋ* 'it is' to a single NP. I refer to *nôŋ* in this function as the **identificational quasi-verb**, and to the obligatory NP as its "complement." *nôŋ* is historically identical to the 'there' enclitic of the same form (§4.4.3). There is an overt or covert topical NP, about whom the predication is made. The topic is covert in (351a), but a specific referent is understood and may have been established in previous discourse or by ostension. In cases like (351b) the topical NP appears to be preposed to the identificational clause.

- (351) a. *hánsí* *'nôŋ*
dog it.is
'it is a dog' (alternatively: *háns-ó nôŋ*)
- b. *dòktór-ò,* [*wòy* *nóŋ*] [*wàlà* *hàr* *nôŋ*]
doctor-Fin/DefSg, [woman it.is] [or man it.is]
'(As for) the doctor, is it a woman or a man?'

The complement NP may be relativized on (352a); see also (436h-i) in §8.3.1. The complement may be interrogated, but there is no overt focus particle (352b), so the construction is not formally distinct from the ordinary *Y nôŋ*. When the topical NP or

some other nonpredicative constituent is focalized, *nôŋ* is replaced by intransitive *té:* ‘become, be’ (352c), contrast (352d) with a different structure.

- (352) a. [*hà: kûl*] *gá* *‘nôŋ*
 [thing all] Rel it.is
 ‘whatever it is’
- b. *mí:ŋ* *‘nôŋ*
 what? it.is
 ‘What is it?’ (also ‘What’s the matter?’, etc.)
- c. *méy* *té:* *hánsî*
 who? become dog
 ‘Who [focus] is (or: has become) a dog?’
- d. [*méy háns-ò*] *nôŋ*
 [who? dog-PossSg] it.is
 ‘It is whose dog?’

Identificational *nôŋ* does not co-occur with nonzero MAN marking (imperfective, negative, subjunctive). It cannot take verbal suffixes (VbIN, causative), cannot be the basis of an infinitival VP, and in general has no morphosyntactic verb-like properties. If the complement is a pronoun, it takes independent form: *ní ‘nôŋ* ‘it is you-Sg’, *ʔáŋgá ‘nôŋ* ‘it is he/she’.

A presentative counterpart (‘here is ...’) with *nè:* ‘here’ instead of *nôŋ* is also possible; see §7.2.3.3.

7.1.1.5 ‘It is (not) X’ (*màn tù + H ~ màn tì*)

The negative counterpart of *Y nôŋ* ‘it is Y’ and copular *X té: Y* ‘X be Y’ is *màn tù + H Y*, with optional preposed topic NP. There is an archaic variant *màn tì + H Y*. Here *màn* is clearly the perfective negative morpheme. *tù ~ tì* is obscure, but is arguably irregularly related to the pair *té:* ‘become (noun)’ and *té* ‘become (adverb)’. (KS still has *tì* as a positive copula.) *màn tù + H* is now a highly fused combination.

This construction is distinct from the regular (perfective) negative of *té:* ‘become’, as in *à màn té: hánsî* ‘he/she did not become a dog’. However, under extraction, negative copula *màn tù + H* ‘is not’ and negative inchoative *màn té:* ‘did not become’ fall together as *màn tíy-à* (with 3Sg object suffix), as in (353).

- (353) *mí:ŋ* *‘gâ* *à* *màn* *tíy-à*
 what? Focus 3SgS PerfNeg become-3SgO
 ‘What is he/she not?’
 ‘What did he/she not become?’

màn tù + H is also commonly used, with no overt subject, as a **higher-level negation** taking a following complete sentence (usually but not necessarily positive in form) in its scope: *màn tù + H [...]* ‘it is not (the case that) [...]’ (§9.3.2). Any clause can be embedded in this construction, but of particular relevance here is the case where the embedded clause is a [*Y nôη*] identificational predication (354). This is the only way to negate such a predication, and is quite common. The floating H is seen in action in (354a), raising the tone of ‘sheep’.

- (354) a. *màn* *tù* [[↑]*fě:g-ò* *nôη*]
 PerfNeg be [sheep-Fin/DefSg it.is]
 ‘It isn’t a sheep.’ (*fě:g-ò + H*)
- b. *màn* *tù* [*háns-ó* *nôη*]
 PerfNeg be [dog-Fin/DefSg it.is]
 ‘It isn’t a dog.’ (lit. “it is not (that) [it is a dog]”)

In practice, *màn tù + H [Y nôη]* ‘it’s not that [it is Y]’ and simple *màn tù + H Y* ‘it’s not Y’ have more or less merged into a construction *màn tù + H Y (nôη)* ‘it’s not Y’ with optional *nôη*.

7.1.2 Locational ‘be’ (*H + gò:*, *sí:*, *bárâ*, *cìndî*)

The construction for ‘X is (in) LP’, where LP is some **locational phrase** (§5.13.1), is *X H + gò: LP*. The negative counterpart, ‘X is not (in) LP’, is expressed as *X sí: LP*. This negative construction is distinct from one where *sí:* functions as progressive negative (§7.2.4.6). I treat *H + gò:* and *sí:* as **stative quasi-verbs** since they do not take normal MAN inflections.

The LP can be omitted, for example when the location is undefined or obvious (cf. English *Is your mother in?*, said after a child answers the door). The type with empty LP slot sometimes puts so little emphasis on the location that it can be glossed as an **existential** predication (‘there is some X’). The difference between locational and existential is particularly tenuous in the negative case, since absence is generally predicated of a broader space than presence.

As in some other Songhay languages, the locational quasi-verbs can be interpreted as special, stressed forms of the imperfective (positive) morpheme *gù + H ~ w + H*, reconstruction **gò* or **gà*) and of the imperfective negative morpheme *sù + H* (reconstruction **sí*). If this is accepted, *X H + gò: LP* can be represented syntactically as *X IMPF ∅ LP* where ∅ is an unfilled verb position (or a phonologically zero ‘be’ verb). This accounts directly for the fact that the locational quasi-verbs are not compatible with (other) overt MAN morphemes. They are intrinsically imperfective and so are not subject to a further aspectual split. For example, *H + gò:* does not co-occur with (perfective) negative *màn + H*. They also notably fail to co-occur with subjunctive *m̂*. Cues like ‘I don’t want him to be here’ are rendered by informants with another verb like *gár-éyndí* ‘be found’. The analysis also accounts for the absence of verbal derivatives (causative, verbal noun) based on *H + gò:* or *sí:*.

On the other hand, HS does not use *H+gò:* and *sí:* clause-finally in truncated ‘yes’ and ‘no’ answers to polar questions. Such answers do occur in the riverine Songhay languages KCh and KS, where they are further evidence for the equation of these quasi-verbs with imperfective MAN morphemes. This piece of evidence is lacking in HS, but one can still make a good argument for the analysis based on other evidence. Nevertheless, as a practical matter, in interlinears I will gloss *H+gò:* simply as ‘be’, not as “Impf,” and will not indicate the putative \emptyset verb slot.

Predications with *H+gò:* or *sí:* can be used for either present or past time contexts. However, *cindí* ‘remain’ (or its negation *màn* $\hat{c}ín^dî$) can be used to specify past time ‘was/were’ (355c).

- (355) a. \grave{a} $g\grave{o}:^{\uparrow}n\grave{e}:$
 3SgS be-here
 ‘It is/was here.’
- b. *hár-ó* *sí:*
 water-Fin/DefSg not.be
 ‘There is/was no water.’
- c. *ì* $\hat{c}ín^dî$ *bàmàkò*
 1SgS remain Bamako
 ‘I was (or: used to be) in Bamako.’

Prepausally or before an ordinary locational expression, *H+gò:* raises the tone of the final syllable of a preceding {L}-toned word. This applies to L-toned subject pronominals other than 3Sg \grave{a} , which does not rise to (phonological) H-tone though it is variably upstepped by a low-level process before L-toned *gò:* (when the latter is not itself upstepped). When *H+gò:* follows a {...HL}-toned noun like ‘bird’ in (356b), I hear no tone-raising on the final syllable of the noun, so the raising appears to be limited to {L}-toned words (and subject pronominals).

- (356) a. $i^{\uparrow} / p\acute{o}\eta^{\uparrow} / \eta^{\uparrow} / \grave{a}^{\uparrow}$ $g\grave{o}:$ *bàmàkò*
 1Sg / 3Pl / 2Sg / 3Sg be B
 ‘He/She is in Bamako (city).’
- b. *sùb-ó[↑]* / *cír-ò* $g\grave{o}:$ *fà:r-èy*
 grass-Fin/DefSg / bird-Fin/DefSg be field-DefPl
 ‘The grass/The bird is in the fields.’ (*sùb-ò+H*)

The combinations of *H+gò:* with cliticized (clitic boundary symbol =) *nè(:)* ‘here’ and *nòη* ‘there’, are pronounced $H+g\grave{o}:^{\uparrow}=n\grave{e}(:)$, $H+g\grave{o}:^{\uparrow}=n\grave{o}(\eta)$, $H+g\grave{o}:^{\uparrow}=n\grave{e}/n\grave{o}(\eta)$, with the second element cliticized (and usually reduced and tone-dropped) and with *gò:* upstepped. A preceding {L}-toned word shows the same tone-raising as before. Because of the upstepped $g\grave{o}:^{\uparrow}$, a preceding 3Sg subject \grave{a} is not upstepped.

- (357) a. $i\uparrow / j\acute{o}\eta\uparrow / \eta\uparrow / \grave{a}$ $g\grave{o}:^{\uparrow}$ = $n\grave{e} / =n\grave{o}$
 1Sg / 3Pl / 2Sg / 3Sg be =here / =there
 ‘I am/they are (etc.) here/there.’ ($i + H, j\acute{o}\eta + H, \eta + H, \grave{a}$)
- b. $s\grave{u}b\text{-}\acute{o}\uparrow$ / $c\acute{i}r\text{-}\grave{o}$ $g\grave{o}:^{\uparrow}$ = $n\grave{e} / =n\grave{o}$
 grass-Fin/DefSg / bird-Fin/DefSg be =here / =there
 ‘The grass/the bird is here/there.’ ($s\grave{u}b\text{-}\grave{o} + H, c\acute{i}r\text{-}\grave{o} + H$)

In $H + g\acute{o}:^{\uparrow} = \acute{n}d\grave{u} + H$ ‘be with’, i.e. ‘have’, the H-toned nasal of $\acute{n}d\grave{u} + H$ forces $H + g\grave{o}:^{\uparrow}$ to raise to H-tone to avoid an illicit rising tone. For $H + g\acute{o}:^{\uparrow} = \acute{n}d\grave{u} + H$ ‘have’ see §6.2.5.

A fundamental syntactic fact about $H + g\grave{o}:^{\uparrow}$ (unlike $s\acute{i}:$) is that it **cannot occur in a clause that has undergone extraction** (whether focalization or relativization), regardless of whether the clause subject or the locational has been extracted. Instead, $H + g\grave{o}:^{\uparrow}$ is systematically replaced by $b\acute{a}r\acute{a}$, which I therefore gloss in interlinears as **X.be** (i.e. extraction ‘be’). The latter often reduces to $b\acute{a}r$ when nonfinal in a phrase. In the high-frequency combinations with following $n\acute{o}\eta$ ‘there’ and $n\grave{e}$: ‘here’, the r often assimilates to the n . (358a) is a subject relative, (358b) is a locational relative, (358c) shows subject focalization, and (358d) shows locational focalization. (358e), parallel to (358b), shows that $s\acute{i}:$ is permitted in extraction constructions.

- (358) a. $h\grave{a}:r\text{-}\grave{o}$ $g\acute{a}$ ‘ $b\acute{a}r$ [$f\grave{a}:r\text{-}\grave{o}$ $\uparrow g\acute{a}$]
 man-Fin/DefSg Rel X.be [field-Fin/DefSg in]
 ‘the man who is in the field’
- b. $k\grave{o}y\grave{r}\grave{a}$ $g\acute{a}$ [$^{\uparrow}k\acute{u}n\text{-}\grave{o}$ $\uparrow g\acute{a}$] \grave{i} $b\acute{a}r\acute{a}$
 town Rel [interior-Fin/DefSg in] 1SgS X.be
 ‘the town in which I am’
- c. $m\acute{e}y$ $b\acute{a}r$ [$k\grave{o}y\grave{r}\grave{a}$ $\uparrow g\acute{a}$]
 who? X.be [town in]
 ‘Who is in town?’
- d. $m\acute{a}n$ $j\acute{o}\eta$ $b\acute{a}r\acute{a}$
 where? 3PIS X.be
 ‘Where are they?’
- e. $k\grave{o}y\grave{r}\grave{a}$ $g\acute{a}$ [$^{\uparrow}k\acute{u}n\text{-}\grave{o}$ $\uparrow g\acute{a}$] \grave{i} $s\acute{i}:$
 town Rel [inside-3PossSg in] 1SgS not.be
 ‘the town in which I am not’

In KS, by contrast, the replacement of $g\acute{o}:$ by $b\acute{a}r\acute{a}$ is limited to subject focalization, and it is part of larger complex of phenomena specifically affecting focalized imperfective positive clauses. KS allows $g\acute{o}:$ in relative clauses and in clauses with nonsubject focalization.

bárâ does not show up in HS in other functions familiar from KS and other Songhay languages: a) as an independent ‘exist’ verb, b) in narrative in clauses with singsong intonation specifying prolongation of a backgrounded activity, or c) in oaths following *wállá:hì* ‘by God’.

The substitution of these other verbs for *H+gò:* also applies to *H+gó:↑-ńdù+H* ‘have’, which is replaced by *bá-ńdù+H* ‘Xhave’ if extraction has occurred), by *cìndí-ńdù+H* ‘had, used to have’ for past time, and *sí:-ńdù+H* ‘lack’ for negation, see §6.2.5.

For *H+gò:*, *bárâ*, *cìndí*, and *sí:* in progressive constructions of the type ‘we are at work (=working)’, see §7.2.4.3. For *H+gò:* in presentatives, see §7.2.3.1.

7.1.3 Obligational *kâl+H*

kâl+H occurs as an impersonal obligational predicator (cf. French *il faut*, Spanish *hay que*), with a following embedded subjunctive clause. It is another defective stative quasi-verb. It does not allow suffixal derivation (e.g. causative, verbal noun). It has no overt subject NP (and therefore cannot be imperative), and it allows no overt MAN marking. However, it does function as a predicator.

kâl+H in obligational sense is followed by a subjunctive complement (§9.6.2). A following 2Sg or 1Sg subjunctive subject pronominal cliticizes to *kâl+H*, whose *l* disappears, initially producing 2Sg /kà-rî/ and 1Sg /kà-î/. These initially become *ká↑=rî* and *ká↑=y* since rising tones are not allowed within a syllable. Then the final L-tone usually delinks to yield *ká↑=rî+L* (variant *ká↑=rî+L*) and *ká↑=y+L*, respectively, and the floating L downsteps a following H- or <HL>-tone.

- (359) a. *súbâ* *ká↑=[rî* *tùn* *tàmbà]*
 tomorrow must=[2SgSubju arise early]
 ‘Tomorrow, you-Sg must get up early.’ (2SgSubju *rî*)
- b. *súbâ* *ká↑=[y* *tùn* *tàmbà]*
 tomorrow must=[1SgSubju arise early]
 ‘Tomorrow, I must get up early.’ (1SgSubju *î*)
- c. *súbâ* *kâl* [*nó↑=rî* *tùn* *tàmbà]*
 tomorrow must [3Pl=Subju arise early]
 ‘Tomorrow, they must get up early.’

7.1.4 Possessive predicates

For ordinary possessor plus possessum sequences functioning as NPs, see §5.2.

There are several possessive predication types. First we take the possessum Y as topical, and predicate a possessor or owner of it. One construction is with a possessed form of *ńónê* ‘property, possession’ with X as possessor, followed by *nôŋ* ‘it is’,

while Y is omitted or appears as a preposed topical NP. This construction is maximally of the type ‘Y (or: it) is [X’s possession]’ (360).

- (360) a. *[nò:r-ó↑ di] [ηόν-è nôη]*
 [money-Fin/DefSg StDef] [Poss-1Sg it.is]
 ‘That money is mine.’
- b. *húw-ô: [↑tá:-k-ò ηόν-ò] nôη*
 house-Dem [sew-Agent-Fin/DefSg Poss-3PossSg] it.is
 ‘This house belongs to the tailor.’
- c. *húw-ô: màn tù*
 house-Dem PerfNeg be
[↑tá:-k-ò ηόν-ò] nôη
 [sew-Agent-Fin/DefSg Poss-3PossSg] it.is
 ‘This house doesn’t belong to the tailor.’

A variation on this is to omit *nôη*. In this case, *ηόνê* is not suffixally marked, and even a pronominal possessor is preposed to it. This construction occurs when the possessor is focalized (361).

- (361) a. *húw-ô: [↑tá:-k-ò ηόνê]*
 house-Dem [sew-Agent-Fin/DefSg Poss]
 ‘This house is the tailor’s [focus].’
- b. *màn tù [ní ‘ηόνê] ηà:-r-ô:*
 PerfNeg be [2SgS Poss] eat-VblN-Dem
 ‘This food is not yours-Sg [focus].’
- c. *[méy ηόνέ] kà:tíb-ô:*
 [who? Poss] riyal-this
 ‘This money belongs to whom [focus]?’
- d. *háns-ó [ʔáy ‘ηόνê]*
 dog-Fin/DefSg [1Sg Poss]
 ‘The dog is mine [focus].’

Another construction uses *té:* ‘be’ in copular function instead of *nôη*. This is the construction when the topical (possessed) NP, or some other nonpredicative constituent, is focalized (362).

- (362) a. *[hú ‘fô] gá ‘té: ηόν-ò-nôη*
 [house which?] Focus be Poss-PossSg-2SgP
 ‘Which house [focus] is yours-Sg?’

- b. *zá:* [[↑]*mé* 'fó] *gá húw-ô:* *té:* *ḡón-ò-nôḡ*
 since [when] Focus house-Dem be Poss-PossSg-2SgP
 'Since when [focus] is this house yours-Sg?'

Another construction is of the type 'Y be [for X]' with a locational-existential 'be' verb (§7.1.2 above) plus a dative phrase. The 'be' verb is *H+gò:* 'be' (imperfective, usually present or timeless), *bárâ* 'be' (replacing *H+gò:* if extraction has occurred), *cìndî* 'was, used to be' (replacing *H+gò:* to specify past time), or negative *sí:* 'not be'. This type of construction is used when the possessed NP is **indefinite** (363), so that the emphasis is on its existence.

- (363) a. *hár-ó* *sí:* [*ḡòḡ* *sê*]
 water-Fin/DefSg not.be [3Pl Dat]
 'They don't have any water.'
- b. *hâns-ó* [↑]*cín'dî* *s-êy*
 dog-Fin/DefSg remain Dat-1Sg
 'I used to have a dog.'

When the possessor X is the subject, a 'have' verb, consisting of a locational 'be' verb (see above) plus suffixed *-ńdù+H* 'with', is used. The unmarked verb is *H+gò:* [↑]*-ńdù+H* 'have' or its negative counterpart *sí:* [↑]*-ńdù+H* 'not have, lack' (§6.2.5). As usual, *H+gò:* is replaced by *bárâ* when extraction (focalization or relativization) has occurred, and by *cìndî* when past time reference is specified, hence *bá-ńdù+H* and *cìndî-ńdù*. An example is (364).

- (364) *ì* *sí:-ńdù* *nò:r-ò*
 1SgS not.be-with money-Fin/DefSg
 'I have no money.'

Other verbs in the same general semantic area are the very common VO verb *dù* 'get, obtain' and the transitive *mèy* 'own, possess (land, slaves, cattle)'.
 7.1.5 Verbless predicates with missing 'do' verb (absent)

KS-type constructions of this KS type do not occur in HS.

7.2 Mood-aspect-negation (MAN) morphemes

MAN morphemes follow the subject NP and precede the VP (which begins with a direct object NP if present, otherwise with a verb). A zero MAN slot is interpreted as positive perfective indicative. Other values for the respective categories have nonzero markers: negative, imperfective, and subjunctive. The combination of imperfective and negative is expressed syncretically by a portmanteau. There is no aspect marking

within the subjunctive. There are also “strong” versions of some MAN categories. Focalization has an effect on imperfective positive forms. There are some special presentative forms within the imperfective positive subsystem (§7.2.3). If there is a preverbal direct object and the MAN slot would otherwise be empty (positive perfective indicative), a transitive (Tr) morpheme, really a bidirectional case-marker, is inserted between the subject and object NPs (§7.2.6). There are some special progressive constructions that fall outside of the core MAN system (§7.2.4.-6). The imperative (positive) has special features and is considered separately (§7.3).

7.2.1 Primary MAN morphemes and sequences

7.2.1.1 Unmarked MAN morphemes

For each of the categories mood (indicative-subjunctive), aspect (perfective-imperfective), and polarity (positive-negative), there is an unmarked and a marked value. The marked values are subjunctive, imperfective, and negative. In isolation (i.e. when combined with unmarked values of other categories), the relevant morphemes are those in (365).

(365) Unmarked MAN morphemes

MAN morpheme	category	abbreviation
<i>m̂ ~ ñ̂</i>	subjunctive	Subju
<i>gù + H ~ ŵ + H</i>	imperfective	Impf
<i>màn + H ~ màṅ + H</i>	(perfective) negative	PerfNeg

The subjunctive mood does not make aspectual distinctions, so there is no combination of imperfective and subjunctive categories.

7.2.1.2 Perfective negative (*màn + H ~ màṅ + H*)

It is possible to interpret *màn + H ~ màṅ + H* as a straight negative morpheme, but since there is a special imperfective negative portmanteau *sù + H*, in practice *màn + H ~ màṅ + H* is always perfective negative.

The segmental form is always *màn* before (lengthened) 3Sg object allomorph =à:, resulting in *màn = ʔà:*, as in *àʔ màn = ʔá:* ‘*kárú* ‘3Sg did not hit 3Sg’. The 3Sg morpheme is the only V-initial morpheme that can follow the Neg morpheme within the preverbal clitic complex. For the long *a:* see §3.7.5.3. Elsewhere (i.e., before a consonant, since even apparently V-initial nouns and verbs grow an initial glottal stop), there is interspeaker variation between segmental forms *màn* (not subject to assimilation) and *màṅ* (the nasal being subject to point-of-articulation assimilation).

màn ~ màṅ is associated with a floating H-tone that is realized (if at all) on a following L-toned morpheme or word, as in the example just given. A further

example is $\grave{a}^{\uparrow} \text{màn} \uparrow\text{zùrù}$ ‘3Sg did not run’, with zùrù ‘run’. When preceded by a NP or subject pronoun that ends in a floating H, $\text{màn} \sim \text{màn}\eta$ itself initially becomes <HL>-toned. The L-tone usually delinks (and is then realized, if at all, as downstep on a following H-toned syllable, including one that has been raised by the floating H associated with the negative morpheme itself). For example, ‘I did not run’ starts out as $/\grave{i} + H \text{màn} + H \text{zùrù}/$, which initially becomes $\grave{i} \uparrow\text{màn} \uparrow\text{zùrù}$ and then, optionally (but often), $\grave{i} \uparrow\text{mán} \uparrow\text{zùrù}$.

2Sg subject $\eta + H$ is usually omitted segmentally before $\text{màn} + H$, but its tonal effect, raising a following L-tone, remains: $\emptyset \uparrow\text{mán} \uparrow\text{zùrù}$ ‘you-Sg did not run’. If not lost, η assimilates and we hear a long [m:], as in $\grave{m} \uparrow\text{mán} \uparrow\text{zùrù}$. 3Pl subject $\text{pò}\eta + H$ likewise loses its final nasal before the initial nasal of $\text{màn} + H$, as in $\text{pò} \uparrow\text{mán} \uparrow\text{zùrù}$ ‘you-Sg did not run’.

7.2.1.3 Imperfective negative ($\text{sù} + H$) and subjunctive negative ($\text{m} \text{sù} + H$)

The two combinations of marked MAN categories are negative plus either imperfective or subjunctive. The forms are shown in (366).

(366) Negative plus imperfective or subjunctive

- | | |
|---|-------------------------------------|
| a. $\text{sù} + H$ | Imperfective negative (portmanteau) |
| b. $\text{m} \text{sù} + H \sim \eta \text{sù} + H$ | Subjunctive negative |

Imperfective negative portmanteau $\text{sù} + H$ has no irregular interactions with adjoining pronominals, except that a preceding floating H-tone has no effect on $\text{sù} + H$. Examples are $\grave{i}^{\uparrow} \text{sù} \uparrow\text{zùrù}$ ‘I do not run’ (zùrù ‘run’), $\grave{a}^{\uparrow} \text{sù} \uparrow\text{néy} \uparrow\text{káru}$ ‘3Sg does not hit me’, and $\eta \text{sù} \uparrow = \eta \uparrow \text{káru}$ ‘you-Sg don’t hit him/her’.

Irregularly, $\text{sù} + H$ is unaffected by a preceding floating H. For example, in $\grave{i} \text{sù} \text{ká}$ ‘I don’t/won’t come’ from $/\grave{i} + H \text{sù} + H \text{kà}/$, the floating H after 1Sg \grave{i} has no effect.

The subjunctive negative is transparently composed of subjunctive $\text{m} \sim \eta$ plus this $\text{sù} + H$ morpheme. The combination will be glossed Subju plus Neg (not ImpfNeg) in interlinears. Thus $\acute{a} \uparrow = \text{m} \text{sù} \uparrow\text{ká}$ or variant $\acute{a} \uparrow = \eta \text{sù} \uparrow\text{ká}$ ‘that he/she not come’.

7.2.1.4 Subjunctive ($\text{m} \sim \eta$)

Subjunctive clauses denote event types whose actual realization is not asserted or presupposed. Representative contexts are ‘I want [3SgS Subjunctive go]’, ‘3Sg say [2SgS Subjunctive come]’ (=‘he/she told you to come’), and the construction with impersonal obligational kál (§7.1.3). Sometimes a subjunctive clause is used with no overt framing device, but some kind of irrealis frame is presupposed. For a fuller discussion of the syntax and semantics see §9.6. Here I focus on the morphophonology.

The subjunctive (abbreviation Subju) morpheme phonologically cliticizes to the preceding subject NP or pronoun. In the usual situation where it is followed by a

C-initial word or clitic, it is variably $m̂$ or $ŋ̂$, normally pronounced $m̂ + L \sim \etâ + L$ with the delinked L realized, if at all, as downstep on a following H-tone. Of the two variants, $m̂$ is archaic, cf. *ma* (e.g. TSK *mà*) in several other Songhay languages. The lax articulation $\etâ$ (itself often reduced to vowel nasalization) is favored by many younger speakers, although it can lead to confusion with transitive $\etâ$. The one situation where the subjunctive morpheme precedes a vowel (with no intervening glottal stop) is the combination $m̂ = \grave{a}$: (never $\# \etâ = \grave{a}$.) with 3Sg object allomorph \grave{a} :. For the long vowel see §3.7.5.3.

For the (morpho-)phonology of combinations of $m̂ \sim \etâ$ with preceding subject pronouns, including the irregular 1Sg subjunctive portmanteau \acute{i} without a nasal consonant, see §4.3.4.5. For more on the combination $m̂ = \grave{a}$: with following 3Sg object clitic \grave{a} :, see §4.3.4.6.

After a nonpronominal NP, we get the same $m̂ \sim \etâ$ before a consonant and $m̂ = \grave{a}$: with the 3Sg object clitic. The preconsonantal $m̂ \sim \etâ$ variant is again realized as $m̂ + L \sim \etâ + L$ after delinking of the L-tone element. The nasal in preconsonantal $m̂ + L \sim \etâ + L$ generally resyllabifies, becoming the coda of the final syllable of the preceding word or morpheme. After this resyllabification, the syllable in question becomes H-toned if not already so, since rising <LH> and <HLH> syllables are not allowed in HS (§3.9.6.3).

Examples illustrating the phonology are in (367).

- (367) a. $\acute{a}\hat{\uparrow} = m = \grave{a}$: *káru*
 3SgS=Subju=3SgO hit
 ‘that she (might) hit him’
- b. $\acute{p}\acute{o}\hat{\uparrow} = m/\etâ$ *nèy* *gàrù*
 3PIS=Subju 1SgO meet
 ‘that they (might) encounter me’
- c. $\acute{h}\acute{a}:r\text{-}\acute{e}y\hat{\uparrow} = m/\etâ$ *wòy-èy* $\hat{\uparrow}\acute{s}\acute{a}f\acute{a}r\acute{i}$
 man-DefPl=Subju woman-DefPl treat
 ‘that the men (might) medically treat the women’ ($\acute{h}\acute{a}:r\text{-}\acute{e}y + H$)
- d. $\acute{b}\acute{a}:b\text{-}\acute{e}y\hat{\uparrow} = m/\etâ$ *gòrò* *né:\hat{\uparrow}\text{-}wò*
 father-1SgP=Subju sit here
 ‘that my father (might) sit here’ ($\acute{b}\acute{a}:b\text{-}\acute{e}y$)
- e. \acute{i} *kà*
 1SgSubju come
 ‘that I (might) come’

The dialectal variation between segmental $m̂$ and $\etâ$, as well as the tendency to merge future $n\grave{a}m + H \sim n\grave{a}\eta + H$ with perfect $n\grave{a}\eta$, seems to have led to an interesting mutation in the speech of at least one younger informant. For him, 2Sg object pronominal $n\grave{a}\eta$ has grown a subjunctive form $n\grave{a}m$, as in $\acute{i} n\grave{a}m k\acute{a}r\acute{u}$ ‘that I (might) hit you-Sg’ for the usual $\acute{i} n\grave{a}\eta k\acute{a}r\acute{u}$. In effect, a subjunctive element m is added here

after the object pronominal instead of before it. However, *í* is already marked as 1Sg subjunctive.

7.2.1.5 Imperfective positive ($gù + H \sim \hat{w} + H$)

The imperfective (Impf) morpheme used in ordinary main clauses not containing a focused constituent has two basic allomorphs, $gù + H$ and $\hat{w} + H$. $gù + H$ is obligatory, regardless of what precedes it, before 3Sg object clitic = $\hat{\eta}$, the pronunciation being $gú\hat{\uparrow} = \hat{\eta} + L$ (where L is realized, if at all, as downstep on a following H-tone). Before any other element (a verb, an object NP or pronoun), we generally get $\hat{w} + H$ after a vowel (pronounced as a *w*-final syllable), and $gù + H$ after a consonant. However, $\hat{w} + H$ is occasionally used after a final sonorant if the subject is a nonpronominal NP. In this case the *w* may still be audible (e.g. after an *ey* diphthong), or it may disappear segmentally (e.g. after a nasal) but leave a tonal trace. This is generally limited to allegro speech and it is often rejected by informants in elicitation. Conversely, $gù + H$ is acceptable (though uncommon) after a vowel.

The allomorph $\hat{w} + H$ is homophonous with the $\hat{w} + H$ allomorph of the infinitival morpheme (whose other variant is $kù + H$).

The morphophonology of combinations involving preceding pronominal subjects is described in §4.3.4.3. Many subject NPs and pronouns end in a floating H that docks on the imperfective morpheme (§3.9.5.2), leading to delinking of the latter's L-tone, which is heard, if at all, as downstep (§3.9.5.8). In this case, the imperfective morpheme appears as $\hat{\uparrow}w + L + H \sim \hat{\uparrow}gù + L + H$. The combination of floating L+H is realized as a downstepped H-tone on the following syllable. Moreover, in $\hat{\uparrow}w + L + H$ the semivowel is phonologically cliticized to the preceding word, creating a syllable that must be flattened to H-tone if not already H-toned (§3.9.6.3). So we get tonologically complex outputs like $yó\hat{\uparrow} = \hat{\uparrow}w \text{ } ^\uparrow\hat{d}í\hat{r}\hat{a}$ 'we do/will travel' from / $y\hat{o} + H \hat{w} + H \hat{d}í\hat{r}\hat{a}$ /, via intermediate / $y\hat{o} \hat{\uparrow}w \hat{\uparrow}d\hat{í}\hat{r}\hat{a}$ / after Rightward Floating-H Docking.

Some examples to show the forms are in (368).

- (368) a. $b\hat{o}r\text{-}\hat{e}y$ $\hat{\uparrow}gú$ $^\uparrow\hat{d}í\hat{r}\hat{a}$
 person-DefPl Impf walk
 'The people travel/walk.' ($b\hat{o}r\text{-}\hat{e}y + H$)
- b. $b\hat{a}:b\text{-}\hat{a}\hat{\eta}$ $\hat{\uparrow}gú$ $\hat{\uparrow}d\hat{í}\hat{r}\hat{a}$
 father-2SgP Impf walk
 'Your-Sg father travels/walks.' ($b\hat{a}:b\text{-}\hat{a}\hat{\eta} + H$)
- c. $\hat{\eta}$ $\hat{\uparrow}gú$ $^\uparrow\hat{d}í\hat{r}\hat{a}$
 2SgS Impf walk
 'You-Sg travel/walk.' ($\hat{\eta} + H$)

- d. $i\hat{\uparrow} = \hat{\uparrow}w$ $\text{'}\hat{\uparrow}d\acute{ir}\grave{a}$
 $i\hat{\uparrow} = \hat{\uparrow}i$ "
 1SgS=Impf walk
 'I travel/walk.' (two variant outputs, from $\grave{i} + H$)
- e. $h\grave{a}:r-\grave{o}$ $\hat{\uparrow}g\acute{u}$ $\text{'}\hat{\uparrow}w\acute{o}y-\grave{o}$ $c\acute{e}:$
 $h\grave{a}:r-\acute{o}\hat{\uparrow}$ $= \hat{\uparrow}w$ " "
 man-Fin/DefSg Impf woman-Fin/DefSg call
 'The man calls the woman.' ($h\grave{a}:r-\grave{o} + H$)
- f. $h\acute{a}w-\acute{e}y$ $\hat{\uparrow}g\acute{u}$ $\text{'}\hat{\uparrow}h\acute{e}y\grave{n}-\grave{o}$ $\hat{\uparrow}\eta\acute{a}:$
 cow-DefPl Impf millet-Fin/DefSg eat
 'The cows eat the millet.' ($h\acute{a}w-\acute{e}y + H$)
- g. $h\acute{a}w-\acute{e}y$ $\hat{\uparrow}g\acute{u} = \acute{\eta}$ $\eta\acute{a}:$
 cow-DefPl Impf=3SgO eat
 'The cows eat it.' ($h\acute{a}w-\acute{e}y + H$)
- h. $[w-\acute{e}y$ $\text{'}\hat{g}\acute{a}$ $n\acute{e}$ $[\grave{n}\acute{e}y$ $g\grave{u}$ $\hat{\uparrow}k\acute{a}]$ $m\grave{a}\eta$ $\hat{\uparrow}k\acute{a}$
 [Dem-Pl Rel say [LogoPlS **Impf** come] PerfNeg come
 'Those who said they were coming didn't come.' ($\grave{n}\acute{e}y$)

In (369), a HL-toned bisyllabic noun ($c\acute{ir}-\grave{o} + H$ 'bird') becomes H.⁴H when imperfective $\hat{\uparrow}w$ cliticizes to it. As elsewhere, it is difficult to distinguish H.⁴H from H.L within a word. I do not hear downstep on the following word ('fly').

- (369) $c\acute{ir}-\acute{o}\hat{\uparrow} = \hat{w}$ $f\acute{i}.r\acute{i}$
 bird-Fin/DefSg=**Impf** fly
 '(A/The) bird will fly away.'

The imperfective morpheme is historically identical to $H + g\grave{o}$: 'be', a locational quasi-verb generally that is often combined with a locational phrase. $H + g\grave{o}$: could be analysed even synchronically as being the form taken by the imperfective morpheme when the following verb slot is empty, though this analysis is less compelling for HS than for KS (§7.1.2).

Just as $H + g\grave{o}$: 'be' is replaced by $b\acute{a}r\acute{a}$ 'be' in clauses containing a focused constituent, and in relative clauses, imperfective $g\grave{u} + H \sim \grave{w} + H$ is replaced in these contexts by **extraction-indexing imperfective** $b\grave{o} \grave{w} + H \sim b\grave{o}: + H$ (3Sg object $b\grave{o} k\acute{u} = \acute{\eta}$), see §7.2.4.2.

7.2.2 Functions of basic perfective and imperfective aspects

The unmarked perfective is used for bounded narrative events. It is usual in the antecedent ('if') clause of a conditional ('if he comes, I'll ...'), except where imperfectivity is specified ('if he is working, ...'). With verbs of adjectival quality,

the perfective can occur in predications ('it is black'), arguably because the HS predication (unlike the translation) denotes the underlying inchoative event ('it became black') and merely implies the continuous state. However, the imperfective is also possible in this case.

The forms of the imperfective morpheme are discussed in the preceding section. The imperfective (including the elaborated variants described in later sections) is regularly used with verbs in continuous and habitual contexts, with reference to the present or to some other specified time point. After subtracting out the marked forms, the simple imperfective in $gù + H \sim w̃ + H$ is most common with statives (including verbs of adjectival quality), habituals, and impending future events. In later sections I cover more specialized marked forms for future (§7.2.4.1), presentative (§7.2.3), and progressive (§7.2.4.3-6), which can be thought of as subtypes of the imperfective. For imperfective forms in clauses involving extraction, see §7.2.4.2. Some examples of the simple imperfective positive are given in (370).

- (370) a. \grave{a} $w̃$ $ká:n$ $^{\prime}s-éy$
 3SgS Impf be.sweet Dat-1Sg
 'It pleases me (=I like it).' ($kâ:n$)
- b. $\grave{ɲ}$ $\hat{g}ú$ $^{\prime}kóy$ $\hat{b}ánd-èy-ndì$
 2SgS Impf go behind-1Sg-1Pl
 'Are you-Sg going (=will you go) along with us?'
- c. $i\hat{\uparrow} = \hat{\uparrow}i$ $^{\prime}sá:bú$ $yórkòy$
 1Sg-Impf praise God
 'I praise God.' (pragmatic translation: 'I am in good health')
- d. $c\grave{ɲ}\grave{ɲ}-ó$ \hat{w} $^{\prime}\hat{k}á$ $nè:$ [$cè$ $fó:-fó:$]
 rain-DefSg Impf come here [time one-one]
 'It rains here occasionally.'

More examples of the imperfective negative portmanteau $sù + H$ (§7.2.1.3) are in (371).

- (371) a. \grave{a} $sù$ $\hat{k}á$ $^{\prime}hó^{\uparrow}-wô$
 3SgS ImpfNeg come today
 'He/She isn't coming today.'
- b. \grave{a} $sù$ $\hat{t}á$ [$^{\prime}yó\hat{\uparrow} = \hat{\uparrow}y$ $kóy$ [$\hat{y}ángá$ $^{\prime}dô$]]
 3SgS ImpfNeg accept [1PlS=Subju go [3FullSg chez]]
 'He_x doesn't allow us to go to his_x place.'

7.2.3 Presentative constructions

7.2.3.1 Presentative ($H + g\grave{o}: + H$)

A variant of the imperfective is formed by using presentative (Presv) $H + g\grave{o}: + H$ instead of the usual imperfective $g\grave{u} + H \sim \grave{w} + H$. The $H + g\grave{o}: + H$ morpheme can be equated with the locational quasi-verb $H + g\grave{o}:$ ‘be’ (§7.1.2). In either case, $H + g\grave{o}: + H$ is arguably a syntactically conditioned allomorph of the simple imperfective morpheme. Presentative examples are in (372).

- (372) a. \grave{a}^{\uparrow} $g\grave{o}:^{\uparrow}$ $\hat{k}\hat{a}$
 3SgS Presv come
 ‘Here 3Sg comes!’
- b. $\acute{i}\hat{\uparrow}$ $g\grave{o}:^{\uparrow}$ $\hat{k}\hat{a}$
 1SgS Presv come
 ‘Here I come!’ (= ‘I’m coming!’ in answer to a summons)
- c. $w\grave{o}y\text{-}\acute{e}y\hat{\uparrow}$ $g\grave{o}:^{\uparrow}$ $\hat{\uparrow}t\acute{e}ng\grave{e}r\text{-}\acute{e}y$ $d\acute{a}:r\acute{u}$
 woman-DefPl Presv mat-DefPl lay.out
 ‘There are the woman laying out (the beds).’

The presentative is intrinsically progressive or stative. It is also normally positive.

7.2.3.2 Presentative negative (as such) is absent

Given such positive/negative oppositions as imperfective $g\acute{u} + H \sim \acute{w} + H$ versus imperfective negative $s\grave{u} + H$, and locational quasi-verb $H + g\grave{o}:^{\uparrow}$ versus its negation $s\acute{i}:^{\uparrow}$, one would expect that presentative (positive) $H + g\grave{o}:^{\uparrow} + H$ might have a presentative negative counterpart $s\acute{i}:^{\uparrow} + H$ before a verb. This form does exist, but it does not function as a presentative negative. Rather, it functions as the primary negation of progressive $n\grave{o} + H$ (and variants), see §7.2.4.6.

To be sure, an explicit presentative negative would make little sense. Compare positive ‘here he comes!’ with negative #? ‘here he isn’t coming!’ However, one can construct a rough negative equivalent of the presentative using a biclausal construction, beginning with a simple $[X H + g\grave{o}:^{\uparrow}]$ and ending with a negative clause that shares the same subject; an example is (373a). Biclausal constructions can be used in a wider variety of contexts, e.g. (373b) with perfective negative.

- (373) a. $[\acute{a}^{\uparrow}$ $g\grave{o}:^{\uparrow}]$ $[\acute{a}$ $s\acute{i}:^{\uparrow}$ $g\acute{o}y]$
 [3SgS be] [3SgS ProgrNeg work]
 ‘There is he/she, not working (=loafing)’

- b. [à^ˈ gò:] [à^ˈ màŋ kóy]
 [3SgS be] [3SgS PerfNeg go]
 ‘There is he/she, having not gone.’

7.2.3.3 *nè*: ‘here’ as presentative with NP

A presentative counterpart of identificational predicates with *nôŋ* (§7.1.1.4) is formed by using *nè*: ‘here’ instead of *nôŋ* (whose original sense ‘there’ is preserved in other syntactic environments). The construction is therefore *NP nè*: ‘here is NP’, as in (374). Cf. also (488) in §8.6.5 and (202ab) in §4.4.3. The presentative construction does differ syntactically from the identificational one, since the latter but not the former allows the complement NP to be relativized.

- (374) a. ?áŋgá nè:
 3FullSg here
 ‘Here is 3Sg.’
- b. [wòy-ó^ˈ dì] ^ˈnè:
 [woman-Fin/DefSg StDef] here
 ‘Here is the (same) woman.’

7.2.4 Marked imperfective categories

7.2.4.1 Future (*nàm + H ~ nàŋ + H*)

The usual marked future (Fut) MAN morpheme is *nàm + H ~ nàŋ + H*, used only in positive sentences. The same interspeaker variation between preconsonantal *m* (not assimilating) and *ŋ* (subject to assimilation) noted earlier for subjunctive *m̂ ~ ŋ̂* applies here. Indeed, one could argue that the future morpheme is segmentable as *nà-m ~ nà-ŋ* and so actually ends in the subjunctive morpheme. However, differences between future and subjunctive morphemes in tonal effects on adjoining morphemes make this suggestion inadvisable; compare subjunctive *á^ˈ = m = à:* *káru* ‘that 3Sg hit 3Sg’ with future *à^ˈ nàm = á:* ‘*káru* ‘3Sg will hit 3Sg’. The 3Sg object allomorph used after the future morpheme is *à:*, the combination being *nàm = á:* (never #*nàŋ = à:*), hence often phonetic *nàm = á:* plus downstep. For the long vowel see §3.7.5.3.

The combinations with pronominal subjects are shown in (375).

(375) Subject pronominal plus future

category	subject pronoun	with future morpheme	
		<i>m</i> -variant	<i>ŋ</i> -variant
1SgS	<i>ì + H</i>	<i>ì ↑nâm + H</i>	<i>ì ↑nâŋ + H</i>
1PlS	<i>yò + H</i>	<i>yò ↑nâm + H</i>	<i>yò ↑nâŋ + H</i>
2SgS	<i>ŋ + H</i>	<i>(ŋ) ↑nâm + H</i>	<i>(ŋ) ↑nâŋ + H</i>
2PlS	<i>wò + H</i>	<i>wò ↑nâm + H</i>	<i>wò ↑nâŋ + H</i>
3SgS	<i>à</i>	<i>à' nâm + H</i>	<i>à' nâŋ + H</i>
3PlS	<i>ɲòŋ + H</i>	<i>ɲò ↑naâm + H</i>	<i>ɲò ↑nâŋ + H</i>
3FullSgS	<i>ʔáŋgá</i>	<i>ʔáŋgá nâm + H</i>	<i>ʔáŋgá nâŋ + H</i>
3FullPlS	<i>ŋjéy</i>	<i>ŋjéy nâm + H</i>	<i>ŋjéy nâŋ + H</i>

The future morpheme acquires an initial H-tone from the subject pronominals that are associated with a floating H. 2SgS *ŋ* usually disappears segmentally before the future marker, hence $\emptyset \uparrow nâm$ rather than $\#ŋ \uparrow nâm$, but the initial H-tone of $\uparrow nâm$ serves as a surface cue for the missing pronominal. As usual, 3Pl *ɲòŋ + H* reduces to *ɲò + H* before another MAN morpheme beginning with a nasal. $\uparrow nâm \sim \uparrow nâŋ$ normally delink their L-tone, which is realized as downstep on a following H-toned syllable.

The future is exemplified in (376). In (376b), we see how the future can spill into gnomic usage, denoting habitual or regularly repeated events.

- (376) a. *ì* *↑nám* *'kóy*
 1SgS Fut go
 'I will go.'
- b. [*hàŋ* *kúl*] *ì* *↑nám* *'góy* *nè:*
 [day.L every] 1Sg Fut work here
 'I work here every day.'

The usual negative counterpart of the future is an imperfective negative with *sù + H*, e.g. *ì sù kóy* 'I do/will not go'.

7.2.4.2 Extraction-indexing imperfective (*bò w̃ + H* ~ *bò: + H*, *bò kú = ŋ*)

A positive imperfective (in a broad sense including future) must be restructured if any NP in the clause is extracted (focalized or relativized). The regular imperfective or future MAN morpheme is replaced by a form involving *bò*, which I call the **extraction-indexing** imperfective (abbreviation XImpf). It corresponds in form (but not in precise functions) to what I called the strong imperfective in KS.

With a 3Sg object pronominal, the output is *bò kú↑ = ŋ*, with infinitival allomorph *kù + H* and 3Sg object *ŋ*. Elsewhere the output is *bò w̃ + H* with infinitival allomorph

$\hat{w}+H$, often contracted to $b\hat{o}:+H$. If the preceding subject NP or pronoun has a floating H, we get $\hat{\uparrow}b\hat{o} \hat{w}+H$ or contracted $\hat{\uparrow}b\hat{o}:+H$, and 3Sg object combination $\hat{\uparrow}b\hat{o} \text{ 'kú}\hat{\uparrow}=\hat{\eta}$.

The forms suggest that $b\hat{o}$ was originally a serial verb, followed by infinitive allomorph $k\hat{u}+H \sim \hat{w}+H$. HS has a verb $b\hat{a}$ ‘want’ that could well be the source of $b\hat{o}$, and the phonetic difference between certain extraction-indexing imperfectives and ‘want’ constructions can be slight ($b\hat{o} \hat{w}+H$ versus $b\hat{a} \hat{w}+H$). However, the historical development must be considered in the light of parallel phenomena involving locational quasi-verbs, where the unmarked main-clause positive form $H+g\hat{o}$: ‘be’ is replaced by $b\hat{a}r\hat{a}$ ‘be’ in clauses involving extraction. In extraction contexts I gloss $b\hat{a}r\hat{a}$ as ‘X.be’ (§7.1.2). The phonetic similarity between $b\hat{a}r\hat{a}$ and $b\hat{o}$, both with initial b , has undoubtedly played a role in this morphosyntactic association, but it probably reflects secondary convergence of historically unrelated verbs ‘want’ and ‘be’. In KS, the subjunctive morpheme ma , which also has an initial labial, has also become entangled in this subsystem, but I see no sign of this in HS.

Some examples of the extraction-indexing imperfective are in (377).

- (377) a. $m\acute{i}:\eta = \acute{\eta}$ $\text{'}\hat{\uparrow}b\hat{o}$ $[k\acute{u}\hat{\uparrow} = \eta$ $\text{'t}\acute{e}]$:
 what?=2SgS XImpf [Infin=3SgO do]
 ‘What are you-Sg doing?’
 phonetic [mí:mbōkúntē...]
- b. $m\acute{a}n = \acute{\eta}$ $\text{'}\hat{\uparrow}b\hat{o}$ $[\hat{w}$ $k\acute{o}y]$
 where?= 2SgS XImpf [Infin go]
 ‘Where are you-Sg going?’
- c. $m\acute{a}n$ $\acute{a}:\text{'}$ $b\hat{o}$ $[\hat{w}$ $k\acute{o}y]$
 where? 3SgS XImpf [Infin go]
 ‘Where is 3Sg going?’
- d. $m\acute{e}y$ $\hat{\uparrow}b\hat{o}$ $[\hat{w}$ $\hat{\uparrow}d\acute{r}\acute{a}]$
 who? XImpf [Infin walk]
 ‘Who is going away?’
- e. $[m\acute{e} \text{ f}\acute{o}] = \acute{\eta}\hat{\uparrow}$ $\text{'}\hat{\uparrow}b\hat{o}$ $[\hat{w}$ $\hat{\uparrow}d\acute{r}\acute{a}]$
 [where]?=SgS XImpf [Infin walk]
 ‘When are you going away?’

The overt focus morpheme $g\hat{a}$ (homophonous to the relative morpheme) is redundant in the positive imperfective, since the extraction is already cued by the XImpf morpheme. $g\hat{a}$ can be added after the fronted focalized constituent in the examples above, but this is unidiomatic. (In MAN categories other than positive imperfective, $g\hat{a}$ is used more systematically.)

The combinations with subject pronominals, as pronounced in isolation, are given in (378). 3Sg \acute{a} can be upstepped to \acute{a}' before $b\hat{o}(:)$. What I write as η in the 2Sg and 3Pl pronominals is assimilated phonetically to [m] before b .

(378) Subject pronominal plus extraction-indexing imperfective (XImpf)

category	subject pronoun	with XImpf	
		full form	contracted
1SgS	<i>ì + H</i>	<i>ì ↑bó w̃ + H</i>	<i>ì ↑bô: + H</i>
1PlS	<i>yò + H</i>	<i>yò ↑bó w̃ + H</i>	<i>yò ↑bô: + H</i>
2SgS	<i>ỳ + H</i>	<i>ỳ ↑bó w̃ + H</i>	<i>ỳ ↑bô: + H</i>
2PlS	<i>wò + H</i>	<i>wò ↑bó w̃ + H</i>	<i>wò ↑bô: + H</i>
3SgS	<i>à</i>	<i>à' bò w̃ + H</i>	<i>à' bô: + H</i>
3PlS	<i>ɲòŋ + H</i>	<i>ɲòŋ ↑bó w̃ + H</i>	<i>ɲòŋ ↑bô: + H</i>
3FullSgS	<i>ʔáŋgá</i>	<i>ʔáŋgá bò w̃ + H</i>	<i>ʔáŋgá bô: + H</i>
3FullPlS	<i>ɲjéy</i>	<i>ɲjéy bò w̃ + H</i>	<i>ɲjéy bô: + H</i>

For *nà bò w̃ + H* see §7.2.4.5 below.

There is no negative counterpart to the (positive) XImpf. For example, a WH-interrogative like *mí:ŋ 'gâ=ỳ sù bá:g-à* ‘what do you-Sg not like?’ is a straightforward focalization (with focus morpheme *gâ*) and the usual imperfective negative *sù + H*.

7.2.4.3 Progressive constructions with ‘be’ (*H + gò:*)

A classic periphrastic progressive construction of the type found in many languages can be put together by combining locational quasi-verb *H + gò:* ‘be’ with a locative postpositional phrase containing a verbal noun or other process-denoting nominal. Examples are in (379). In (379b), ‘meat cooking’ is a loose compound, not a possessive.

- (379) a. *í↑ gò: [góy-ó ↑gâ]*
 1SgS be [work-Fin/DefSg in]
 ‘I am working (=at work)’.
- b. *à' gò: [[hám-ó ↑hínà-r-ò] ↑gâ]*
 3SgS be [[meat-Fin/DefSg cook-VblN-Fin/DefSg] in]
 ‘He/She is cooking the meat.’

In this transparent construction, the usual replacements for *H + gò:* ‘be’ are also used: *cìndî* for past time reference, *bárâ* in positive clauses to index extraction, and negative *sí:* (§7.1.2).

7.2.4.4 Progressive ($n\grave{o} \grave{w} + H$, 3Sg object $n\grave{o} k\acute{u}\hat{\uparrow} = \eta$)

However, HS also has a more direct expression of the progressive (sometimes habitual), without leaving the basic MAN system. The MAN morpheme in question is $n\grave{o}$, here labeled progressive (Progr). Its “paradigm” is parallel to that of future $n\grave{a}m + H \sim n\grave{a}\eta + H$ (§7.2.4.1), including the fact that 2Sg $\eta\hat{\uparrow}$ is usually dropped and that 3Pl $n\grave{o}\eta + H$ loses its final η . Particle $n\grave{o}$ combines with a following 3Sg object as $n\grave{o} k\acute{u}\hat{\uparrow} = \eta$, which again suggests an origin as a serial verb. Elsewhere, the progressive is expressed as $n\grave{o} \grave{w} + H$ (preserving the infinitival structure). Infinitival allomorph \grave{w} is syllabified with a preceding syllable and is transcribed as a clitic. The combinations with pronominal subjects are as in (380).

(380) Subject pronominal plus progressive

category	subject pronoun	with Progressive	
		full form	contracted
1SgS	$\grave{i} + H$	$\grave{i} \hat{\uparrow}n\acute{o} \grave{w} + H$	$\grave{i} \hat{\uparrow}n\acute{o}: + H$
1PlS	$y\grave{o} + H$	$y\grave{o} \hat{\uparrow}n\acute{o} \grave{w} + H$	$y\grave{o} \hat{\uparrow}n\acute{o}: + H$
2SgS	$\eta + H$	$(\eta) \hat{\uparrow}n\acute{o} \grave{w} + H$	$(\eta) \hat{\uparrow}n\acute{o}: + H$
2PlS	$w\grave{o} + H$	$w\grave{o} \hat{\uparrow}n\acute{o} \grave{w} + H$	$w\grave{o} \hat{\uparrow}n\acute{o}: + H$
3SgS	\grave{a}	$\grave{a}^{\uparrow} n\grave{o} \grave{w} + H$	$\grave{a}^{\uparrow} n\grave{o}: + H$
3PlS	$n\grave{o}\eta + H$	$n\grave{o} \hat{\uparrow}n\acute{o} \grave{w} + H$	$n\grave{o} \hat{\uparrow}n\acute{o}: + H$
3FullSgS	$\eta\acute{\eta}g\acute{a}$	$\eta\acute{\eta}g\acute{a} n\grave{o} \grave{w} + H$	$\eta\acute{\eta}g\acute{a} n\grave{o}: + H$
3FullPlS	$\eta\grave{j}\acute{e}y$	$\eta\grave{j}\acute{e}y n\grave{o} \grave{w} + H$	$\eta\grave{j}\acute{e}y n\grave{o} + H$

Examples of the progressive are (381a-b). Note that the time frame may be past or present.

- (381) a. $[m\grave{e} \quad k\acute{a} \quad \grave{i} \quad \hat{\uparrow}k\acute{a}] \quad \grave{a}^{\uparrow} \quad n\grave{o} = [\grave{w} \quad g\acute{o}y]$
 [time Rel 1SgS come] 3SgS Progr=[Infin work]
 ‘When I came, he/she was working.’
- b. $\grave{i} \quad \hat{\uparrow}n\acute{o} = [\grave{w} \quad \hat{\uparrow}f\acute{i}:s-\grave{a}]$
 1SgS Progr=[Infin sweep-UnspecO]
 ‘I am sweeping.’ (reply to ‘what are you-Sg doing?’)

The progressive in $n\grave{o} \grave{w} + H$ can be thought of as a marked subtype of the ordinary imperfective. When extraction has occurred, progressive $n\grave{o} \grave{w} + H$ (like ordinary imperfective $g\acute{u} + H$) is replaced by XImpf $b\acute{o} \grave{w} + H$ (§7.2.4.2), as in (382), which may be progressive or may have a generalized present sense.

- (382) *méy* \uparrow *bô:* \uparrow *fí:s-à*
 who? XImpf.Infin sweep-UnspecO
 ‘Who is sweeping?’ or ‘Who sweeps (regularly)?’

7.2.4.5 Progressive (*nà bò w̃ + H*, 3Sg object *nà bò kú $\hat{=}$ ŋ*)

In addition to *nò w̃ + H* (and variants), there is also a longer form *nà bò w̃ + H*. It combines with 3Sg object as *nà bò kú $\hat{=}$ ŋ*. This allomorph shows that *w̃ + H* is the infinitive morpheme. *nà bò w̃ + H* appears to have about the same progressive sense as simple *nò w̃*. A variant pronunciation *nà mò w̃ + H* is used by some speakers; such variation suggests that the morphemic structure is somewhat opaque to native speakers. An example is (383), showing the usual segmental (but not tonal) deletion of 2Sg *ŋ + H* before a nasal-initial MAN morpheme.

- (383) \uparrow *ná* *bò* [*w̃* \uparrow *ŋá:* [*kù* \uparrow *bóri*]] *húw-án-dòŋ*
 2SgS-Progr XImpf [Infin eat [Infin be.good] house-2SgP-2PIP]
 ‘You-Sg eat well at your-Pl place (=at home)’

It seems likely that the *nà bò w̃ + H* ~ *nà mò w̃ + H* combination is directly related to the KS strong imperfective (*mma*, *mba*, *na-mba*), a possible reconstruction being **nàŋ bà* (plus infinitival morpheme). In KS, there has been a partial formal conflation of this with subjunctive *ma* (this conflation does not appear in HS).

In KS, the strong imperfective functions as a VP focalizer, as in answers to ‘what is X doing?’ and the like. The HS progressive in *nà* is often used in contexts where the VP is in focus, but focalization as such is not the basic function of the HS forms.

7.2.4.6 Progressive negative (*sí: + H*, 3Sg object *sí: kú $\hat{=}$ ŋ*)

Progressive *nò w̃ + H* is generally negated by a special progressive negative form *sí: + H*, as in (384a-b). An archaic variant *sí: w̃ + H* is attested, and this variant brings out the probable original structure, with *sí:* ‘not be’ followed by infinitival *w̃*. Even speakers who have just *sí: + H*, without so much as a tonal trace of the **w̃*, reveal the original infinitival structure in *sí: kú $\hat{=}$ ŋ* with 3Sg object *ŋ*. It may be that for some speakers the basic form is *sí: + H* rather than *sí: w̃ + H*.

The progressive negative may be used to deny ongoing action, or to deny a near-future eventuality (cf. English *I'm not going there*).

- (384) a. [*mè* *ká* *ì* \uparrow *ká*] [*à* *sí:* *góy*]
 [time Rel 1SgS come] [3SgS ProgrNeg work]
 ‘When I came, 3Sg was not working.’
- b. *ì* *sí:* \uparrow *fí:s-à*
 1SgS ProgrNeg sweep-UnspecO
 ‘I am not sweeping.’

In (385a), the regular imperfective negative *sù+H* suggests a more general dispreference or inability, while in (385b) progressive negative *sí:+H* denotes a current state or intention.

- (385) a. *àʔ* *sù* *↑zúru*
 3SgS ImpfNeg run
 ‘3Sg doesn’t run.’
- b. *à* *sí:* *↑zúru*
 3SgS ProgrNeg run
 ‘3Sg isn’t running; 3Sg isn’t going to run.’

The progressive negative is usual in the high-frequency expression *sí: séllê* ‘not be healthy’ = ‘be sick’, as in (310b) and (546). Another example of the progressive negative is (582b).

7.2.5 Perfect constructions

For experiential perfect ‘have (n)ever VPed’, see (566b) in §9.7.2, §9.7.4, and example (560). The current section deals with a more general perfect category.

7.2.5.1 Perfect (*nàŋ*, 3Sg object *nàŋ kú↑=ŋ*)

There is another construction with MAN morpheme *nàŋ* (never #*nàm* in this sense). There is no following floating H (see discussion below). The perfect morpheme is obligatory in a positive antecedent clause in a counterfactual conditional (§9.5.1.2), as in (386). I refer to it here as the **perfect** morpheme, abbreviation Prfct. It should not be confused with “perfective.” In composite abbreviations like PerfNeg, “Perf” means perfective, not perfect. (386a-b) illustrates *nàŋ* in positive counterfactual antecedents.

The negative perfect is *nà màn+H ~ nà màŋ+H*, which includes perfective (!) negative morpheme *màn+H ~ màŋ+H* (386c). *nàŋ* loses its final *ŋ* before the nasal-initial negative.

- (386) a. *hàl-ní:* *àʔ* *nàŋ* *nèy* *ʔkárú,*
 supposing 3SgS Prfct 1SgO hit,
ì *↑nám = ʔà:* *wí:*
 1SgS Fut=3SgO kill
 ‘If 3Sg had struck me, I would have killed 3Sg.’
- b. *hàl-ní:* *ì* *↑náj* *ʔháns-ó* *kárú, ...*
 supposing 1SgS Prfct dog-Fin/DefSg hit, ...
 ‘If I had struck the dog, ...’

- c. $há = \hat{y}$ $\hat{n}á$ $\hat{m}án$ $^{\uparrow}búp-èy$ $\hat{s}áfàrì,$
 if=1SgS Prfct PerfNeg head-1SgP treat,
 \hat{i} $\hat{n}ám$ $^{\uparrow}bú:$
 1SgS Fut die
 ‘Had I not treated myself (medically), I would have died.’

Perfects can also be used outside of conditional constructions. However, the context usually still involves a relationship between the event denoted and some other event later in time. An example of this classic perfect function is (387a). However, the perfect can also be used as a **VP-focalizer**. (387b) was elicited as a sample response to a question ‘what did you-Sg do?’ ($mí:\eta$ ‘ $gá = \hat{\eta} = \hat{\eta}$ $té:$), which puts the focus squarely on the VP. However, perfectives without $nà\eta$ can also occur in this context, so the correlation with VP-focus is not clean.

- (387) a. \hat{i} $\hat{n}án$ $dìrà,$ $gá$ $nò\eta$ $\hat{z}òw$
 1SgS St walk, Rel 3PIS fight
 ‘I had gone away, when they had a fight.’
 ‘I went away, then they had a fight.’
- b. \hat{i} $\hat{n}án\eta$ $jìrbì$
 1SgS Pfct sleep
 ‘I slept [focus].’

When followed by 3Sg object $\hat{\eta}$, the perfect morpheme is complemented by infinitival $kù + H$, as in (388), resulting in $nà\eta kù\hat{\eta} = \hat{\eta}$.

- (388) $hàl-ní:$ \hat{i} $\hat{n}án\eta$ [$^{\uparrow}kù\hat{\eta} = \hat{\eta}$ $kárú$], ...
 if 1SgS Pfct [Infin=3SgO hit], ...
 ‘If I had struck him/her, ...’

The vestigial use of the infinitive morpheme suggests that perfect morpheme $nà\eta$ originated as a serial verb. Indeed, modern HS does have a verb $nà\eta$ ‘leave, allow’ that might be a candidate for an etymological relation (another verb, $nân$ ‘push, press’, seems less likely).

Some further examples are (539a), (544), and (556).

The forms of perfect $nà\eta$ with pronominal subject marker are in (389).

- (389) Subject pronoun plus perfect

category	subject pronoun	with perfect
1SgS	$\hat{i} + H$	$\hat{i} \hat{n}án\eta$
1PIS	$yò + H$	$yò \hat{n}án\eta$
2SgS	$\hat{\eta} + H$	$(\hat{\eta}) \hat{n}án\eta$
2PIS	$wò + H$	$wò \hat{n}án\eta$

3SgS	à	à' nàŋ
3PlS	nòŋ + H	nò ↑nàŋ
3FullSgS	?áŋgá	?áŋgá nàŋ
3FullPlS	njéy	njéy nàŋ

Unlike future *nàm* ~ *nàŋ*, the perfect morpheme does not have a floating H-tone that can dock on a following L-toned stem (for object pronominals see below). With *dirà* ‘walk’, the perfect is therefore 3SgS *à nàŋ dirà*, 1SgS *ì ↑nán dirà*, etc., versus future 3SgS *à nàm ↑dirà* ~ *à nàŋ ↑dirà*, 1Sg *ì ↑nám '↑dirà* ~ *ì ↑nán '↑dirà*, etc. If there is a L-toned direct object noun such as *wòy-ò + H* ‘the woman’, we likewise find no tone raising in the perfective: *à nàŋ wòy-ò cé:* ‘(if) 3Sg had called the woman’, versus *↑wòy-ò + H* in future *à nàm ↑wòy-ò cé:* ‘3Sg will call the woman’. For speakers who pronounce the future morpheme as *nàŋ* (with *ŋ* instead of *m*), this tonal difference on the following word can differentiate the future from the apparently homophonous perfect in sentence context.

KS has similar perfect forms (I called them strong perfectives), generally with a no-longer segmentable strong perfective morpheme *ŋka*, though fuller forms *na-ŋka* and (before a velar) *naŋ-ha* occur dialectally. Since *ka* ~ *ha* is the KS infinitive morpheme (cf. HS *kù + H* ~ *w + H*), the KS forms are directly comparable to the extended HS form *nàŋ kù + H*. In KS, the forms are used in counterfactual conditionals, and can be used in classic perfect function, but they are best analysed as VP focalizers. I am not aware of other Songhay languages with historically related constructions.

7.2.5.2 Perfect negative (*nàŋ sí: + H*)

The composite *nàŋ sí: + H* (3SgS *à' nàŋ sí: + H*, 1SgS *ì' ↑nán 'sí: + H*, etc.) is morphologically a perfect *nàŋ* combined with progressive negative *sí: + H*. The sense ‘have/had not VP-ed’ lends itself to a (perfect) progressive negative reading ‘is/was not VP-ing’ or ‘had not been VP-ing’. Consider the parallel positive and negative examples in (390a-b). (390c) shows the form with 3Sg object.

- (390) a. à huyó 's-âŋ, [sàbù dèy]
 3SgS be.happy Dat-2Sg, [because]
 (ŋ) ↑nó [w kóy [à' hù]]
 (2SgS) Progr [Infin go [3Sg house]]
 ‘He was happy with you-Sg because you were (or: had been) going (regularly) to his home.’
- b. à' zàhà s-âŋ, [sàbù dèy]
 3SgS get.angry Dat-2Sg, [because]

($\hat{\eta}$) $\hat{\eta}$ náŋ 'sí: kóy [à hú]
 (2SgS) Prfct ProgrNeg go [3Sg house]
 'He got angry with you-Sg because you were (regularly) not (or: had not been) going to his home.'

c. ... sàbù ($\hat{\eta}$) $\hat{\eta}$ náŋ 'sí: [kú $\hat{\eta}$ = $\hat{\eta}$ fà:bà
 ... because (2SgS) Prfct ProgrNeg [Infin=3SgO help]
 '...because you had not been helping him'

7.2.6 Transitive ($\hat{\eta}$), a bidirectional case-marker

In a nonimperative transitive construction with subject, preverbal direct object NP, and verb, if the MAN sequence would otherwise be phonologically null (interpreted as positive imperfective indicative), so that nonzero subject and nonzero object would otherwise be adjacent, the **transitive** (Tr) morpheme $\hat{\eta}$ is inserted between subject and object. The transitive morpheme is required before object pronominals as well as full NPs, although in the case of 3Sg object $\hat{\eta}$ the resulting combination $\hat{\eta}=\hat{\eta}$ is realized phonetically as a single ungeminated [ŋ] (plus downstep).

The “transitive” morpheme is really a **bidirectional case marker** (Heath 2007). It is inserted between a nonzero subject and a nonzero object if they would otherwise be directly adjacent. It is therefore limited to OV transitives, and cannot occur in intransitive and VO transitive clauses. It is incompatible with any nonzero inflectional (MAN) morpheme that intervenes between subject and object. This leaves the perfective positive of an OV transitive clause as the only category that allows the transitive morpheme, and in this combination it is obligatory (though it may fuse phonologically with another morpheme, see below). It does not occur in infinitival VPs since they have no overt subject. It does not occur in singular-subject imperatives, which have no pronominal subject preceding the VP.

The only possible problem for the bidirectional-case interpretation of the morpheme is that it does not occur in plural-subject imperatives, which do have a nonzero proclitic $w\grave{o}$. However, $w\grave{o}$ does not match the usual 2Pl subject proclitic, which is $w\grave{o}+H$ including a floating H-tone: compare $w\grave{o}'\ d\grave{i}r\grave{a}$ ‘walk!-2Pl’ with $w\grave{o}\ \hat{\eta}d\grave{i}r\grave{a}$ ‘you-Pl walked’. It is therefore not clear that imperative “plural-subject” $w\grave{o}$ is a true syntactic subject. There is considerable morphological and syntactic evidence in Songhay and other West African languages that imperatives lack true referential subjects. If we do grant that 2Pl imperative $w\grave{o}$ is a real subject, this would simply require us to add one additional stipulation to the bidirectional case-marker status of the transitive morpheme. Any alternative gloss, such as “perfective” or “transitive,” would not come close to characterizing its distribution in HS or other related Songhay languages. “Perfective” is out since $\hat{\eta}$ cannot occur in transitive or VO perfective clauses. “Transitive” is out (except as a term of convenience) since $\hat{\eta}$ cannot occur in VO transitives, or in OV transitives that are imperfective and/or negative.

Similar bidirectional case morphemes occur in Bambara and some other Mande languages.

Phonetically, $\hat{\eta}$ assimilates in point of articulation to a following coronal or labial consonant, with the velar articulation retained before h and $ʔ$ (glottal stop) as well as before velars. $\hat{\eta}$ syllabifies with the preceding syllable and is therefore transcribed as a clitic $=\hat{\eta}$. If the preceding syllable would otherwise be L- or <HL>-toned, its syllabification with $=\hat{\eta}$, requires flattening to H-tone, since rising <LH>-tone is not allowed at syllabic level (§3.9.6.3). The combinations with preceding subject pronominal are shown in (391).

(391) Transitive $\hat{\eta}$ with subject pronominals

category	subject pronoun	subject plus transitive $\hat{\eta}$
1Sg	$\dot{i} + H$	$\dot{i}\hat{\uparrow} = \hat{\eta}$
1Pl	$y\dot{o} + H$	$y\dot{o}\hat{\uparrow} = \hat{\eta}$
2Sg	$\dot{\eta} + H$	$\dot{\eta}\hat{\uparrow} = \hat{\eta} \sim \hat{\eta}$ (see comment below)
2Pl	$w\dot{o} + H$	$w\dot{o}\hat{\uparrow} = \hat{\eta}$
3Sg	\dot{a}	$\dot{a}\hat{\uparrow} = \hat{\eta}$
3Pl	$\mu\dot{o}\eta + H$	$\mu\dot{o}\eta\hat{\uparrow} = \hat{\eta}$
3FullSg	$ʔ\acute{\alpha}\eta\acute{g}\acute{a}$	$ʔ\acute{\alpha}\eta\acute{g}\acute{a} = \hat{\eta}$
3FullPl	$\grave{n}j\acute{e}y$	$\grave{n}j\acute{e}y = \hat{\eta}$

Since transitive $\hat{\eta}$ is always tightly phrased with a following word, it normally surfaces as H-toned $[\acute{\eta}]$ plus a floating L that downsteps a following H-toned word.

There is no phonetic difference in the 2Sg between theoretical variants $\dot{\eta} = \hat{\eta}$ and $\hat{\eta}$, since they reduce to a single ungeminated nasal $[\acute{\eta}]$. The same is true of the triple combination 2Sg subject - transitive - 3Sg object, i.e. underlying $/\dot{\eta} + H \hat{\eta} \acute{\eta}/$, realized as $[\acute{\eta}]$, as in (392b) below. When syllabic, this $[\acute{\eta}]$ is often rounded phonetically, being heard as something in the zone of syllabic $[\acute{\eta}^w]$ and $[\acute{u}]$. The nasal may also assimilate in position to a following labial or coronal, e.g. syllabic $[m^w]$ before a labial.

Below are examples with pronominal (392a-b) and nonpronominal (392c-d) subjects. In (392b), note that the combination of 2Sg subject acting on 3Sg object ends up with **three** consecutive $\hat{\eta}$ morphemes. This string is phonetically reduced to a single $[\acute{\eta}]$.

- (392) a. $\dot{i}\hat{\uparrow} = \dot{\eta}$ $^{\prime}h\acute{a}m\text{-}\acute{o}$ $d\acute{u}m\acute{b}\acute{u}$
 1SgS=Tr meat-Fin/DefSg cut
 ‘I cut-Past up the meat.’
- b. $\dot{\eta} = \dot{\eta} = \dot{\eta}$ $\eta\acute{a}$:
 2SgS=Tr=3SgO eat
 ‘You-Sg ate it.’
 (phonetic $[\acute{\eta}^w\eta\acute{a}] \sim [\acute{u}(\eta)\eta\acute{a}]$)

- c. *háw-éy*↑=*ŋ* *hèyn-ò* ↑*ŋâ:*
 cows-DefPl=Tr millet-Fin/DefSg eat
 ‘The cows ate the millet.’
- d. *wòy-éy*↑=*ŋ* ‘*hám-ó* ↑*ŋâ:*
 woman-DefPl=Tr meat-Fin/DefSg eat
 ‘The women ate the meat.’

In (392c-d), transitive *ŋ* ends up sandwiched between two consonants. The nasal may be inaudible in this case after a semivowel, and is inaudible after a nasal or *l*. The most important such combinations are those with definite plural *-ey* or an inalienable pronominal suffix (1Sg *-ey*, 2Sg *-aŋ*). However, the tones of *ŋ* survive even when it is segmentally deleted (the preceding syllable shifts to H, and the following syllable is L or downstepped H). The subject nouns in (393c-d) are pronounced *háw-éy + H* and *wòy-èy + H* in isolation, and the object nouns are *hèyn-ò + H* and *hám-ó + H*, so there are useful tonal clues in both cases as to the presence of *ŋ* even when the latter is not segmentally audible. Without such cues, such noun-noun sequences might be initially mis-heard as possessor-possessioned sequences. (393a-b) show that the tonal patterns of possessive phrases differ from those of subject-object sequences in (392c-d) above, both because of the floating H associated with definite plural *-ey + H* and because a possessor requires a tonally characterized 3Poss suffix on the possessed noun.

- (393) a. *háw-éy* ↑*hény'n-ò*
 cow-DefPl millet-3PossSg
 ‘the cows’ millet’
- b. *wòy-èy* ↑*hám-ò*
 woman-DefPl meat-3PossSg
 ‘the woman’s meat’

7.3 Imperatives

Apparently alone among Songhay languages, HS has a suffixal singular-subject imperative. It shares with the other languages a 2PIS imperative expressed by the regular verb stem (or transitive VP) preceded by a special allomorph of the 2PIS clitic. The basic forms are in (394).

(394) Imperative morphemes

- a. Singular-subject imperative suffix *-ŋ* (the nasal is zeroed after a consonant); Tonal Rhythm (§3.9.4.1) applies to the final two syllables.
- b. Plural-subject imperative *wò* (without floating H) in the subject slot preceding the VP; often upstepped to *wò'* before a L-toned syllable.

7.3.1 Singular-subject imperative (-ŋ)

The singular-subject imperative suffix -ŋ (arguably -ŋ̂, see below) is doubly audible, in the form of the suffixal nasal consonant (always audible after a vowel), and in the form of tonal effects on the final two syllables of the verb, which are audible in all imperatives. The suffixal ŋ is deleted after another nasal consonant, and is optionally deleted after a semivowel.

The last two syllables of a nonmonosyllabic imperative are subject to Tonal Rhythm. If the penult is lexically H-toned, the imperative is ...C[̂]V C[̂](C)-ŋ. If the penult is lexically L-toned, the imperative is ...C[̂]V C[̂](C)-ŋ. The tone melody of the imperative is almost always distinct from the lexical tone for nonmonosyllabic stems. This is because the lexical forms of verb stems normally have two final syllables with H.H, H.<HL>, or L.L tone sequences, which differ from the H.L or L.<HL> of the imperative. However, there are a few lexically (L.)L.<HL> verb stems, and for them the imperative happens to have the same tone melody as the regular stem.

Examples of vowel-final bisyllabic stems are in (395). The imperatives are audibly marked both by the nasal suffix and by a tone change, except that the {LHL} stems do not change their tones.

(395) Singular-subject imperative of V-final bisyllabic stems

gloss	stem	2SgS imperative
a. 2SgS imperative ends in H.L syllable sequence		
<i>lexical {H} melody</i>		
‘hit’	<i>káru</i>	<i>káru-ŋ</i>
‘exit’	<i>fáttá</i>	<i>fáttà-ŋ</i>
<i>lexical {HL} melody</i>		
‘sell’	<i>né:rê</i>	<i>né:rè-ŋ</i>
‘eat supper’	<i>háwrû</i>	<i>háwrû-ŋ</i>
b. 2SgS imperative ends in L.<HL> syllable sequence		
<i>lexical {L} melody</i>		
‘go down’	<i>zùmbù</i>	<i>zùmbû-ŋ</i>
‘reply’	<i>tùrù</i>	<i>tùrû-ŋ</i>
<i>lexical {LHL} melody, C[̂]VCC[̂]V</i>		
‘remain’	<i>cìndî</i>	<i>cìndî-ŋ</i>
‘send’	<i>dòntô</i>	<i>dòntô-ŋ</i>
‘sleep’	<i>jìrbî</i>	<i>jìrbî-ŋ</i>

Trisyllabic verbs show the same tonal changes on the final two syllables.

(396) Singular-subject imperative of V-final trisyllabic stems

gloss	stem	2SgS imperative
a. 2SgS imperative ends in H.L syllable sequence		
<i>lexically {H}-toned</i>		
‘melt’	<i>ménéné</i>	<i>ménéné-ŋ</i>
<i>lexically {HL}-toned</i>		
‘calm down’	<i>súbúrí</i>	<i>súbúrí-ŋ</i>
b. 2SgS imperative ends in L.<HL> syllable sequence		
<i>lexically {L}-toned</i>		
‘treat’	<i>sàfàrì</i>	<i>sàfàrì-ŋ</i>
<i>lexically {LHL}-toned</i>		
‘cough’	<i>kògòtô ~ kògótò</i>	<i>kògòtô-ŋ</i>

Verb stems may end in a consonant, nearly always a nasal or *y*, rarely *l* or *w*. After a semivowel {*y w*}, the suffix *-ŋ* is inconsistently audible. After a nasal or *l* it is always deleted. The tonal changes due to Tonal Rhythm are nonetheless applicable to imperatives of C-final stems (397).

(397) Singular-subject imperative of C-final bi- and trisyllabic stems

gloss	stem	2SgS imperative
a. final nasal or <i>l</i> , suffixal nasal inaudible		
‘lock’	<i>kúfâl</i>	<i>kúfâl-Ø</i>
‘understand’	<i>fâhâm</i>	<i>fâhâm-Ø</i>
‘speak’	<i>sèlèŋ</i>	<i>sèlèŋ-Ø</i>
‘begin’	<i>síntîn</i>	<i>síntîn-Ø</i>
<i>{LHL}-toned [note tones!]</i>		
‘gnaw on’	<i>zínzîŋ</i>	<i>zínzîŋ-Ø</i>
‘peck at’	<i>zòŋkôm</i>	<i>zòŋkôm-Ø</i>
‘write’	<i>hàntûm</i>	<i>hàntûm-Ø</i>
b. final { <i>y w</i> }, suffixal nasal only sporadically audible		
<i>{HL}-toned</i>		
‘bathe’	<i>ɲínêy</i>	<i>ɲínèy-Ø ~ ɲínèy-ŋ</i>
<i>{H}-toned</i>		
‘be quiet’	<i>dánjéy</i>	<i>dánjèy-Ø ~ dánjèy-ŋ</i>
<i>{LHL}-toned [note tones!]</i>		
‘sneeze’	<i>tísòw</i>	<i>tísòw-Ø ~ tísòw-ŋ</i>
‘massage’	<i>músêy</i>	<i>músèy-Ø ~ músèy-ŋ</i>
‘wed’	<i>kùbêy</i>	<i>kùbèy-Ø ~ kùbèy-ŋ</i>

There is a notable difference in the tonal treatment of V-final and C-final {LHL}-toned stems in the singular-subject imperative. The V-final ones have imperatives ending in or consisting of $C\check{v}CC\check{v}-\eta$, while the C-final bisyllabics (except ‘write’) have $C\check{v}(C)C\check{v}C(-\eta)$, compare the {LHL}-toned forms in (397b) with those in (395b) and (396b). This is not because of any general constraint against L.<HL> outputs for C-final verbs; the imperatives $f\grave{a}h\grave{a}m-\emptyset$ and $s\grave{e}l\grave{e}\eta-\emptyset$ (from {L}-toned stems with final nasal) show this (397a). The $C\check{v}C\check{v}C(-\eta)$ imperative is found with $C\check{v}C\check{v}y/w$ stems, i.e. with unclustered medial consonant and final semivowel. There may be a phonological reason for the unexpected $C\check{v}C\check{v}C(-\eta)$ imperative, but it escapes me. I suspect that it is an opportunistic device to make an audible distinction between the imperatives, whose “regular” form would be $C\check{v}C\check{v}y/w(-\eta)$, and the unaffixed stems of the same verbs.

The exceptional verb is ‘write’, for which I recorded $h\grave{a}nt\grave{u}m$ as the stem and $h\grave{a}nt\grave{u}m-\emptyset$ as the homophonous imperative. I had some difficulty with the transcription of the stem, perhaps reflecting informant fluctuation. Cognates like Zarma $h\grave{a}nt\grave{u}m$ and TSK $h\grave{a}nt\grave{u}m$ should correspond to {L}-toned $h\grave{a}nt\grave{u}m$ in HS, and perhaps this is predominant form of the HS stem, in which case imperative $h\grave{a}nt\grave{u}m-\emptyset$ is regular.

Monosyllabic verb stems have <HL>-toned singular-subject imperatives regardless of lexical tone (398). The only cases where the imperative is always homophonous to the regular stem are <HL>-toned nasal-final stems like ‘fall’ in (398b).

(398) Singular-subject imperatives of monosyllabic verbs

gloss	stem	2SgS imperative
a. {H}-toned		
‘give’	$n\acute{o}:$	$n\acute{o}:-\eta$
‘know’	$b\acute{e}y$	$b\acute{e}y-\eta \sim b\acute{e}y-\emptyset$
‘slap’	$s\acute{a}\eta$	$s\acute{a}\eta-\emptyset$
b. {HL}-toned		
<i>nasal-final</i>		
‘fall’	$k\acute{a}\eta$	$k\acute{a}\eta-\emptyset$
<i>not nasal-final</i>		
‘blow nose’	$f\acute{\hat{i}}:^n$	$f\acute{\hat{i}}:-\eta$
‘proclaim’	$f\acute{e}$	$f\acute{e}-\eta$
‘buy’	$d\acute{e}y$	$d\acute{e}y-\eta \sim d\acute{e}y-\emptyset$
‘insult’	$w\acute{o}w$	$w\acute{o}w-\eta \sim w\acute{o}w-\emptyset$
c. {L}-toned		
‘eat’	$\eta\grave{a}:$	$\eta\grave{a}:-\eta$
‘greet’	$f\grave{o}:$	$f\grave{o}:-\eta$
‘take’	$z\grave{a}$	$z\grave{a}-\eta$

‘steal’	<i>zèy</i>	<i>zèy-ŋ ~ zèy-Ø</i>
‘drink’	<i>hàŋ</i>	<i>hàŋ-Ø</i>

The singular-subject imperative can readily be formed from a suffixally derived verb. For example, transitive *fí:sí* ‘sweep’ occurs in *tár-ó fí:sí-ŋ* ‘sweep the courtyard!’, while its {L}-toned unspecified-object form *fí:s-à* ‘do (some) sweeping’ occurs in *fí:s-à-ŋ* ‘sweep!’ (note the difference in tone melody).

A VO verb with a suffixed 3Sg object suffix *-a* can be made imperative: *mân* ‘approach’, *mân-à* ‘approach him/her’, imperative *mân-à-ŋ* ‘approach him/her/it!’. Likewise *dìŋŋ-à-ŋ* ‘forget him/her/it!’ and *hòŋg-à-ŋ* ‘remember him/her!’. Other pronominal objects are external to the verb and follow the imperative suffix: *mân-Ø* ‘?ây ‘approach me!, *dinów-Ø* ‘yérí ‘forget us!’, *hòŋgú-ŋ* ‘jóŋ ‘remember them!’.

I have analysed the tone melodies of these imperatives in terms of Tonal Rhythm, which calculates the final-syllable tone from the lexical tone of the penult. An alternative approach would be to attribute a <HL>-tone to the imperative suffix, and allow the H-tone component to migrate leftward, so that lexical ...H.<HL> and lexical ...H.H become imperative ...H.L-ŋ, and lexical ...L.<HL> (if vowel-final) and lexical ...L.L become imperative ...L.<HL>-ŋ. It would be rather tricky to formalize this analysis. Since Tonal Rhythm is well-supported in nominal morphophonology, I prefer to make use of it here. However, attributing <HL> tone to suffix *-ŋ* is correct etymologically, since it is an encliticized and phonetically reduced form of 2Sg pronoun *nî*.

7.3.2 Plural-subject imperative (*wò*)

The plural-subject imperative (2PISImprt) is expressed by a preverbal particle *wò* followed by the verb phrase. The verb occurs in its unsuffixed lexical form (without *-ŋ*). *wò* has no associated floating H, in contrast to the normal 2Pl subject clitic *wò + H* in nonimperative clauses. Plural-subject imperative *wò*, like 3SgS *à* in indicative clauses, has its pitch upstepped when it is followed by a L-tone, hence *wòʔ gòrò* ‘you-Pl sit!’ like *àʔ gòrò* ‘he/she sat’; contrast nonimperative 2Pl subject *wò + H* in *wò ʔgòrò* ‘you-Pl sat’.

Plural-subject imperatives of transitive OV verbs with preverbal pronominal objects are sometimes replaced by **subjunctives**. For example, *w = à:ʔ jìsì* ‘put-2Pl it down!’, (61b) in §3.9.4.2, can be replaced by subjunctive *wóʔ = m = à: jìsì* in more or less the same imperative context.

7.3.3 Irregular singular subject imperatives

There are no imperatives for **locational** quasi-verbs *H + gò*: ‘be (somewhere)’ and its negation *sí*, which are closely related to imperfective MAN morphemes. There is likewise no imperative for **identificational** quasi-verb *nòŋ*, which is derived from a ‘there’ demonstrative adverb.

Verbs with irregular singular-subject imperatives are in (399). The plural-subject counterparts are regular.

(399) Irregular singular-subject imperatives

gloss	stem	imperative	
		2SgS	2PlS
a. identical to lexical form of stem, no tone change or <i>-ŋ</i> suffix			
‘go’	<i>kóy</i>	<i>kóy</i>	<i>wò kóy</i>
‘take, convey’	<i>kàtè</i>	<i>kàtè</i>	<i>wòʔ kàtè</i>
b. suppletive			
‘come’	<i>kà</i>	<i>tê</i>	<i>wòʔ kà</i> [wòkà]
c. lexical merger			
‘say’	<i>nê</i>	—	—
‘say, speak’	<i>cì</i>	<i>cí ~ cî-ŋ</i>	<i>wòʔ cì</i>
d. imperative only			
‘take, receive’	—	<i>hó:ⁿ</i>	<i>wò hó:ⁿ</i>

The irregularity in (399a) is simply that no *-ŋ* suffix is present. In (399b), we have suppletion. *tê* ‘come!’ is accidentally homophonous with *tê* ‘become (adverb)’. In (399c), the irregular quotative quasi-verb *nê* has no imperative, so recourse is had to the synonym *cì*.

With *hó:ⁿ* (399d), which translates as ‘here!’ in the sense ‘take this!’ (French *tiens!*), the object handed over is usually in view and need not be mentioned overtly. However, it is possible to add the term for the object as an unmarked postverbal NP: *hó:ⁿ há-m-ó + H* ‘here, (take) the meat!’. The semantically closest nonimperative verb is *tà* ‘receive’.

7.3.4 Objects of imperative verbs

A canonical transitive verb will have its usual preverbal object NP or pronominal in all contexts, including imperatives. In imperatives, transitive morpheme *ŋ̂* is not used before the direct object. This is true not only in singular-subject imperatives, which have no preverbal subject and therefore fail one requirement for transitive *ŋ̂*, but also in singular-subject imperatives where 2Pl allomorph *wò* overtly occupies subject position. Thus compare the imperatives (400a-b) with the indicative clauses (400c-d), only the latter showing transitive *ŋ̂*.

- (400) a. *háns-ó* *kárù-ŋ̂*
 dog-Fin/DefSg hit-Imprt
 ‘Hit-2Sg the dog!’

- b. *wò* *háns-ó* *kárú*
 2PISImp dog-Fin/DefSg hit
 ‘Hit-2Pl the dog!’
- c. *ń =ń* *‘háns-ó* *kárú*
 2SgS=Tr dog-Fin/DefSg hit
 ‘You-Sg hit-Past the dog.’
 (phonetic [ń^whànsò...])
- d. *wó↑ =ń* *‘háns-ó* *kárú*
 2PIS=Tr dog-Fin/DefSg hit
 ‘You-Pl hit-Past the dog.’

The preverbal object can also be a pronominal. The singular-subject imperative is the only construction in which an unfocalized object pronominal occurs clause-initially. If the object is third person, there is some risk of initially mis-parsing such combinations as beginning with a subject pronominal. On the other hand, the preverbal 1Sg object and 1Pl object pronouns are easily distinguished from the corresponding subject clitics. Using the verb *ńà*: ‘eat’ (singular-subject imperative *ńâ:-ń*), which can be either intransitive or transitive, note the similarities between perfective intransitive forms and transitive singular-subject imperatives in (401).

(401) Transitive imperative versus perfective intransitive

category	perfective intransitive	2SgS imperative
1Sg	<i>ì ↑ńâ</i> : ‘I ate’	<i>nèy ńâ:-ń</i> ‘eat me!’
1Pl	<i>yò ↑ńâ</i> : ‘we ate’	<i>yérí ‘ńâ:-ń</i> ‘eat us!’
3Sg	<i>à ńâ</i> : ‘3Sg ate’	<i>à ńâ:-ń</i> ‘eat 3Sg!’
3Pl	<i>ńòń ↑ńâ</i> : ‘they ate’	<i>ńòń ńâ:-ń</i> ‘eat them!’
3FullSg	<i>ńáńgá ńâ</i> : ‘3FullSg ate’	<i>ńáńgá ‘ńâ:-ń</i> ‘eat 3FullSg!’
3FullPl	<i>ńjéy ńâ</i> : ‘3FullPl ate’	<i>ńjéy ‘ńâ:-ń</i> ‘eat 3FullPl!’

8 Discourse-functional constructions and extraction

8.1 Focus constructions

One nonpredicative constituent (NP in a broad sense, including adverbials) may be singled out for overt focalization. Semantically, focalization emphasizes the choice of a denotatum over other denotata that could have occurred in the same slot. WH-words in interrogatives are normally focalized, but focalization is very common and not limited to interrogatives. The focalized constituent, if it is not the subject and therefore would otherwise be noninitial in the clause, is fronted to clause-initial position to the left of the subject. If the subject itself is focalized, the same shift arguably applies but is string-vacuous (no observable effect). In addition to the reordering, focalization is indicated by addition of focus particle *gâ* directly after the focalized constituent.

The particle is often omitted in positive imperfective clauses, which have a more reliable way to index focalization. Here the operation of an extraction rule is indexed by replacing the usual imperfective morpheme $gù+H \sim \hat{w}+H$ by a special extraction-indexing imperfective (XImpf) *bò* (or variant), see §7.2.4.2. Moreover, locational quasi-verb $H+gò$: ‘be’, which is related historically to the imperfective morpheme, is replaced by *bârâ* ‘X.be’ in the same extraction contexts (§7.1.2). In such cases, focus *gâ* (now redundant) is normally omitted.

In HS, focalization and relativization are not merely similar (as they are in most Songhay languages). They are so close in form that usually one cannot tell them apart out of discourse context. However, the two constructions are clearly distinct when extraction applies to postpositional phrases (PPs).

A further respect in which HS differs from other Songhay languages is in lacking a distinctive subject-focus marker. Instead, the same focus morpheme *gâ* is used in both subject and nonsubject focalizations.

8.1.1 Nonsubject focus constructions

8.1.1.1 Direct-object focalization

I begin with **VO transitive verbs**, whose structure is more transparent than canonical transitives under focalization. Consider (402).

- (402) a. *háns-ó* *gá* [*î*] [*díy-à*]
dog-Fin/DefSg Focus [1SgS] see-3SgO]
‘It was the dog [focus] that I saw.’
- b. *háns-éy* *gá* [*î*] [*díy-à*]
dog-DefPl Focus [1SgS] see-3SgO]
‘It was the dogs [focus] that I saw.’

- c. *ní* *'gâ* [*i* *díy-à*]
 2Sg Focus [1SgS see-3SgO]
 'It was you-Sg [focus] that I saw.'

The structure is $X \text{ gâ } [Y \text{ VERB-3SgO}_x \dots]$. The most striking feature is the **invariant 3Sg** object suffix on the verb. It appears to be a resumptive pronoun, coindexed with the head NP, but it fails to agree with that NP in number or person features. It does, however, helpfully mark the grammatical relation corresponding to the fronted focalized constituent.

Consider now (403), with a canonical **OV transitive verb**, i.e. one that takes preverbal direct objects.

- (403) a. *háns-ó* *gá* [*'í↑ = íj = íj* *sàfàrì*]
 dog-Fin/DefSg Focus [1SgS=Tr=3SgO treat]
 'It was the dog [focus] that I treated (medically).'
- b. *háns-éy* *gá* [*'i = íj = íj* *sàfàrì*]
 dog-DefPl Focus 1SgS=Tr=3SgO treat
 'It was the dogs [focus] that I treated.'
- c. *ní* *'gâ* [*i = íj = íj* *sàfàrì*]
 2Sg Focus 1SgS=Tr=3SgO treat
 'It was you-Sg [focus] that I treated.'

If they are correctly analysed here, the examples in (403) have the same extraction syntax as do the VO cases in (402). Both show invariant 3Sg object as resumptive pronoun. Actually, one could object that $\acute{i}j = \acute{i}j$ in (403a-c) is always preconsonantal and therefore always reduced phonetically to ungeminated [$\acute{i}j$], so there is a whiff of doubt as to whether there is really a 3Sg object morpheme following transitive $\acute{i}j$. But comparison to the VO cases in (402), and to instrumental focalizations (§8.1.1.4, below) demonstrate the productivity of the invariant-3Sg rule for resumptives. Moreover, if the preverbal object slot in (403a-c) were empty, one might ask why the Tr morpheme is present. In all constructions not involving extraction, Tr $\acute{i}j$ is used only before a nonnull direct object.

8.1.1.2 Focalization of adverbials

In (404) I give examples of nouns generally used (without an adposition) as adverbials (i.e. as postverbal NPs outside of the core argument structure of the verb).

- (404) a. *hóⁿ↑-wó* (*'gâ*) [*i* *↑bó:* *'kóy*]
 today (Focus) [1SgS XImpf.Infin go]
 'It is today [focus] that I am going.'

- b. *bí:* *gá* [*à* *bú:*]
 yesterday Focus [3SgS die]
 ‘It was yesterday [focus] that he/she died.’

Note that there is no postverbal resumptive pronoun. Nouns like ‘today’ are regularly used as adverbs, so indexing the original syntactic function of the relativized NP by including a place-holding 3Sg pronominal would rarely have any disambiguating power.

The *gâ* in (404a) is only optional, since focalization is already cued by the XImpf morpheme *bô:*.

Temporal adverbials like ‘today’ and ‘yesterday’ can also be positioned at the beginning of the clause without being focalized. This construction is best analysed as having a presentential adverb, orienting the following sentence in spatial or temporal setting, as in (405).

- (405) *súbâ* *ì* *↑nám* *‘kóy*
 tomorrow 1SgS Fut go
 ‘Tomorrow (,) I will go.’

8.1.1.3 Focalization of postpositional phrases

Postpositions like dative *sê* and locative *gâ(:)* are included in the focalized constituent and therefore precede focus morpheme *gâ*. In other words, the PP as a whole (not just the NP under the scope of the postposition) is fronted under focalization (contrast this with relativization, §8.3.3 below). There is no resumptive element after the verb.

Dative examples are in (406).

- (406) a. [*méy* *sê*] *‘gá = ò = ò = ò* *‘háru*
 [who? Dat] Focus=2SgS=Tr=3SgO say
 ‘To whom [focus] did you-Sg say it?’
- b. [*?áy* *‘sê*] *gá = á = ò = ò* *‘háru*
 [1Sg Dat] Focus=3SgS=Tr=3SgO say
 ‘It was to me [focus] that he said it.’

Where a 1st/2nd person pronominal is involved, the focalized form of the PP differs from the postverbal form. In postverbal (i.e. cliticized) position, the 1st/2nd person pronominal is expressed by a suffix on the “postposition” (which thereby becomes a preposition), e.g. 1Sg dative *s-êy* and 2Sg dative *s-âñ*. When such PPs are fronted, we get the independent form of the pronoun, followed by the postposition, hence *?áy ‘sê* ‘to me’ in (406b),

A dative phrase meaning ‘on account of, because of’ can be focalized like other datives, taking focus *gâ* (407). However, such causal phrases seem to constitute an outer syntactic layer, and in (407b) we notice that imperfective *gù + H* is not replaced

by XImpf *bò* as is required when an argument from the core of the predication is focalized.

- (407) a. [wó 'sê] gá = á = íj nèy káru
 [Dem Dat] Focus=3SgS=Tr 1SgO hit
 'That's why [focus] 3Sg hit me.'
- b. [wó 'sá:b-ò sé] 'gâ ì ↑gú ↑wâ: ↑hâŋ
 [Dem reason-3PossSg Dat] Focus 1SgS Impf milk drink
 'It's for that reason [focus] that I drink milk.'

8.1.1.4 Focalization of instrumental phrases

Postverbal instrumental phrases of the shape *ndù + H X* where X is some NP does not move to preverbal focal position as a whole. Instead, X is focalized, leaving *ndù + H* behind, in the form *nd-à* with a fixed 3Sg resumptive pronominal. (408) shows what happens when the noun in [*ndù* ↑gó^tb-ô:] 'by means of this stick' is focalized.

- (408) gòb-ó: 'gâ í↑ = íj = íj 'káru = [nd-à]
 stick-this Focus 1SgS=Tr=3SgO hit=[with-3Sg]
 'It was this stick [focus] that I hit him with.'

For 'how?' interrogatives see §8.2.3.1.

8.1.2 Subject focus constructions

Most Songhay languages have different focus morphemes depending on whether the focalized constituent is the subject or a nonsubject constituent. HS, on the other hand, uses *gâ* for all types of focalization (as well as for relativization). Examples of subject relatives are in (409).

- (409) a. háns-ó gá = íj 'hám-ó ↑ŋâ:
 dog-Fin/DefSg Focus=Tr meat-Fin/DefSg eat
 'It was the dog [focus] that ate the meat.'
- b. bit-ò ↑bô: ká:n 's-êy
 porridge-Fin/DefSg XImpf be.sweet Dat-1Sg
 'It's porridge [focus] that pleases me.'

8.1.3 Multiple clauses attached to one focalized constituent

One cannot extract a focalized constituent simultaneously from two conjoined clauses, since the closest functional equivalent to clause "conjunction" in HS is an

asymmetrical subordinated construction where the second predication is expressed as an infinitival VP. In (410), infinitival *kú↑=ɲ ɲà:]* ‘to eat it’ at the end is subordinated to rather than conjoined to ‘slaughter it’.

- (410) *fè:g-ô: yò ↑bó [‘kú↑=ɲ kó:sú]*
 sheep-this 1PlS XImpf [Infin=3SgO slaughter]
[kú↑=ɲ ɲà:]
 [Infin=3SgO eat]
 ‘It’s this sheep [focus] that we will slaughter and eat.’

8.2 Questions and answers

8.2.1 Polar questions and answers

Simple polar questions can take the same form as a statement, with no overt interrogative element (411a).

- (411) *ɲ ↑nán ‘sí: séllé*
 2SgS Prft ProgrNeg be.healthy
 ‘You-Sg have been/were sick?’

However, a question marker *wàlà* can be added, usually as a tag at the end, with or without a slight pause. Its final vowel can be prolonged and pitch-raised intonationally.

- (412) *à kóy (,) wàlà*
 3SgS go (,) or
 ‘Did 3Sg go?’

wàlà is also used as an ‘or’ conjunction, and (412) can be interpreted as a broken-off combination of positive and negative alternative for the addressee to choose from (‘3Sg went, or 3Sg didn’t go?’). German uses *oder?* ‘or?’ as a tag in the same way.

yélà is used as a ‘whether’ particle, generally in subordinated interrogatives after a matrix verb like *béy* ‘know’ (413).

- (413) *ì ↑mán ‘béy yélà aˀ kà*
 1SgS PerfNeg know whether 3SgS come
 ‘I didn’t know whether he/she had come.’

This can be extended (redundantly) by adding the logically implied disjunctive phrase: ... *wàlà àˀ màn ↑ká* ‘..., or he/she hadn’t come.’

The functional equivalent of an English tag question, seeking to elicit assent from an addressee, is *ɲ béy*, phonetic [ɲbéj], literally ‘you-Sg knew’.

- (414) *jò:t-àntè* *nôŋ,* *ì* *béy*
 glutton it.is, 2SgS know
 ‘He is a glutton, isn’t he?’

The clause-initial particle *détâ* ~ *dété*, of fairly low text-frequency, can be used at the beginning of what can be translated as a polar question. One could equally well gloss it as ‘hopefully’, since it suggests the speaker’s wish that the following proposition be true (or be fulfilled later). On hearing that an accident has just taken place, a speaker might utter (415), which would translate pragmatically as half-question (‘was anybody hurt?’), half-statement (‘I hope nobody was hurt’).

- (415) *détá* *bòr-èy* *↑máŋ* *‘márey*
 yes-no? person-DefPl PerfNeg be.hurt
 ‘Hopefully nobody was hurt?’

Likewise, when strangers or distant neighbors arrive unexpectedly at a dwelling, the first order of business is to inquire whether they have come “in peace” (i.e. as a social call or to deliver good news), or in connection with a problem or dispute. A typical utterance in this context is (416).

- (416) *détá* *bà:n-ì* *gá* *kàtè* *wàràŋ*
 yes-no? peace Focus bring you-Pl
 ‘Hopefully peace has brought you-Pl here?’

Replies to polar questions can be of the “grunt” type, phonetic [mhm] for ‘yes!’ and [m?m] for ‘no!’. The alternative is to re-use the raw material from the question, including the verb, with the appropriate positive or negative polarity. (417) illustrates the sequence.

- (417) question *ì* *kóy* *móptí* *wàlà*
 2SgS go Mopti or?
 ‘Did you-Sg go to Mopti?’
- answer A *ì* *kóy*
 1SgS go
 ‘I went.’
- answer B *ì* *↑máŋ* *‘kóy*
 1SgS PerfNeg go
 ‘I didn’t go.’

8.2.2 WH-questions

WH-interrogative words are normally clause-initial focalized constituents. For the syntax of focalization see §8.1. Since focalization is an extraction process, the

examples in subsections below contain many instances of extraction-indexing imperfectives (XImpf, §7.2.4.2), and of extraction-indexing *bárâ* ‘X.be’ replacing *H+gò*: ‘be’ as locational quasi-verb (§7.1.2). In §8.2.2 I consider simple (uncompounded) WH-words, and in §8.2.3 I turn to (mostly) composite ones.

8.2.2.1 ‘Who?’ (*méy*)

méy ‘who?’ has an occasional plural *méy-nóŋ+H*, used when plurality is specified and is not obvious from context. The simple form *méy* is usual not only in the common situation where number is unspecified, but also when plurality is obvious or is specified by another constituent in the sentence, as in *méy té: ʔwáʔrâŋ* ‘who are you-Pl?’

Some examples are in (418), with a few comments and section references. The conjunction *méy = ndù méy-nóŋ*, literally ‘who and who-Pl’, is idiomatic (418k).

- (418) a. *méy nóŋ*
 who? it.is
 ‘Who is it?’ (identificational quasi-verb, §7.1.1.4)
- b. *méy té: ʔcéʔr-âŋ* (also: *méy gá ʔté: ...*)
 who? be friend-2Sg
 ‘Who is your-Sg friend?’ (copula, §7.1.1.1)
- c. *méy bár nè:*
 who? X.be here
 ‘Who [focus] is here?’ (*bárà*, locational quasi-verb, §7.1.2)
- d. *méy gá = ʔj wà: ʔhâŋ*
 who? Focus=Tr milk drink
 ‘Who [focus] drank the milk?’ (subject focalization, §8.1.2)
- e. *méy ʔbô: ʔwâ: ʔhâŋ*
 who? XImpf.Infin milk drink
 ‘Who [focus] is drinking the milk?’ (XImpf, §7.2.4.2)
- f. *méy gá = ʔj = ʔj = ʔj ʔkárú*
 who? Focus=2Sg=Tr=3SgO hit
 ‘Who(m) [focus] did you-Sg hit?’ (object focalization, §8.1.1.1)
- g. [*méy fând-à:] ʔnê:*
 [who? road-3PossSg] here
 ‘Whose road is this?’ (possessive, §5.2.1)

- h. [méy-ɲòŋ fánd-à:] nôŋ
 [who-Pl road-3PossSg] it.is
 ‘Whose-Pl road is it?’ (like preceding, but plurality specified)
- i. [méy sê] á↑=ɲ=ɲ háru
 [who? Dat] 3SgS=Tr=3SgO say
 ‘To whom did he/she tell it?’
- j. [ní=[núdu méy]] gá kà
 [2Sg=[with who?]] Focus come
 ‘You-Sg and who [focus] came?’
 = ‘Who(m) did you-Sg come with?’ (§5.11.2)
- k. wó↑=w [‘méy=núdu méy-ɲòŋ] ↑cé:cì
 2PIS=Impf [who?=with who-IndefPl] look.for
 ‘Who (plural) are you-Pl looking for?’

(418f), ‘who did you-Sg hit?’, is pronounced [méjgáŋkārū]. In normal allegro speech, it is not distinguishable from *méy gá=ɲ=ɲ ‘kárú* ‘who hit him/her?’.

8.2.2.2 ‘What?’ (*mî:ŋ* ~ *mîhîŋ*)

The nonhuman counterpart of *méy* ‘who?’ is *mî:ŋ* ‘what?’, also pronounced *mîhîŋ* in careful speech style. The plural *mî:ŋ-ɲòŋ + H* ~ *mîhîŋ-ɲòŋ + H* is rare but grammatical (419d). The syntax is the same as for *méy*.

- (419) a. *mî:ŋ* ‘nôŋ
 what? it.is
 ‘What is it?’ (identificational, §7.1.1.4)
- b. *mî:ŋ* ‘gá=ɲ díy-à
 what? Focus=2SgS see-3SgO
 ‘What [focus] did you-Sg see?’
- c. *mî:ŋ=ɲ* ‘bó [kú↑=ɲ ‘té:]
 what?=2SgS XImpf [Infin= 3SgO do]
 ‘What [focus] are you-Sg making?’ (XImpf, §7.2.4.2)
- d. *mîhîŋ-ɲòŋ gá* ‘bâr [zòlòŋfònt-ó-nòŋ kún-ò] gà]]
 what-Pl Focus be [bag-your interior-3PossSg] in]]
 ‘What things [focus] are in your-Sg bag?’

For dative *mî:ŋ* ‘sê ‘why’, see §8.2.3.2. The combination of *mî:ŋ* plus *té:* ‘do, make’ (419c) means ‘make (=produce) what?’

English what? can be translated by *mótê* ‘how?’ when manner is involved, as in ‘do what?’ and ‘what is your name?’ (cf. French *comment faire?*, *comment s’appeler?*), see (425-6) in §8.2.3.1.

8.2.2.3 ‘Where?’ (*mán* ~ *máŋ* ~ *máyⁿ* ~ *mè hérê*)

The ‘where?’ interrogative is *mán* + *H*, ordinarily without a postposition. With following 3Sg *à* the combination is always *mán* *↑á*. In other positions *mán* is prepausal or preconsonantal and in these environments it has variants *máŋ* + *H* and *máyⁿ* + *H*. Because verbs distinguish locative (stative), allative, and ablative, the simple form *mán* can be used in all these senses. Focus morpheme *gá* is occasionally omitted in perfectives (420b), but in the positive imperfective XImpf *bò* is regular (420d).

- (420) a. *mán* *gá* *ŋòŋ* *bú:*
 where? Focus 3PIS die
 ‘Where [focus] did they die?’
- b. *mán* *↑ŋóŋ* *‘kóy*
 where? 3PIS go
 ‘Where did they go?’
- c. *mán* = *↑á:* *‘bárâ*
 where?= 3SgS X.be
 ‘Where [focus] is he/she?’ (*bárâ*, §7.1.2)
- d. *mán* = *ŋ* *‘↑bó* [*w̄* *↑hûn*]
 where?=2SgS XImpf [Infin leave]
 ‘Where [focus] do you come from?’ (lit. “where do you leave?”)
 (phonetic [mám̄bōwhûn])
- e. *mán* = *ŋ* *‘bárâ* *hùmbùrì*
 where?=2SgS X.be Hombori
 ‘Where [focus] are you-Sg (=where do you live) in Hombori?’

The phrase *mán hérê* (variant *máyⁿ hérê*) ‘whereabouts?’, i.e. ‘around where?’ asks for a less pinpointed location.

A common variant of this is *mè hérê*, with a form *mè* that is elsewhere found as part of temporal interrogative *mè fô* ‘when?’ (§8.2.3.3).

8.2.2.4 ‘How much, how many?’ (*mèrjè*)

Some examples are in (421).

- (421) a. *mèrjè* *gá = ↑íj* *dùw-â*
 how.much? Focus=2SgS get-3SgO
 ‘How much/how many [focus] did you-Sg get?’
- b. *mèrjè = òj* *↑bó* [*‘kú↑ = íj* *nó:* *s-éy*]
 how.much?=2SgS XImpf [Infin=3SgO give Dat-1Sg]
 ‘How much (or: how many) [focus] are you-Sg going to give me?’
- c. [*fè:g-ù* *↑mérjè*] *nôj*
 [sheep-NF how.many?] it.is
 ‘How many sheep are there?’
- d. *?izé* *mèrjè*
 child how.many?
 ‘how many?’ (units, nonhuman type, e.g. fruits)
- e. *gùr-ù* *↑mérjè*
 unit how.many?
 ‘how many?’ (units, human or nonhuman type)
- f. *fè:j-éy-ndiy-éy* [*gùr* *↑mérjè*] *gá* *‘kóy*
 sheep-DefPl-our [unit how.many?] Focus go
 ‘Of our sheep, how many head [focus] went away?’
- g. *wàráj* [*‘bôr* *↑mérjè*]
 you-Pl [person how.many?]
 ‘how many of you?’ (with *bôr* as unit term, §5.4.8)
- h. *mèrjè-↑mérjè* *à’* *bò = [w̃* *né:r-éyndí = nd-à]*
 how.much-Rdp 3SgS XImpf=[Infin see-PotPass=with-3SgO]
 ‘At how much (per unit) is it sold?’ (instrumental focalization, §8.1.1.4)

mèrjè can function as an independent NP (421a-b). It can also function as an adjective, following a noun in nonfinal form. If the noun is {L}-toned, *mèrjè* becomes *↑mérjè* by Adjectival Tone-Raising. *?izé* ‘child’ (used especially for fruits and other parts of a larger whole) and *gùr-ù* ‘unit’ (all-purpose term) are common default nouns when a more precise noun for the unit type is omitted (421d-e); *bôr* ‘person’ is also common for human reference. If the nominal quantified over is a possessed or (otherwise) definite NP (421f), or a personal pronoun (421g), *mèrjè* is attached to a unit term following this NP. The distributive iteration *mèrjè-↑mérjè* is used to denote a quantity (usually a price) that is correlated with each member of a set (§5.4.4); in (421h) it is used in an instrumental construction with *ndù + H*.

8.2.2.5 ‘Which (one)?’ (*fô*)

‘Which one?’ is $?â-fô \sim ?i-fô$, with plural $?â-f-êy \sim ?i-f-êy$ ‘which ones?’. The $?â-$ or $?i-$ here is the absolute morpheme and is omitted when a preceding overt noun or NP is quantified over. The examples in (422) show *fô* with nominals. The syntactic possibilities are absolute $?i-fô$ following a fully-formed locative PP in partitive sense (422a), or *NOUN fô* with the interrogative directly attached to an uninflected noun (422b). In either case, *f-êy* is used when plurality is presupposed, as in (422c).

- (422) a. $[hàr \quad fâr-êy \quad \uparrow gá:] \quad ?i-fô \quad \uparrow gâ \quad dîrà$
 [man farming[adj]-DefPl in] Absol-which? Focus walk
 ‘Of the farmers, which one [focus] went away?’
- b. $[hàr \quad fâr \quad fô] \quad \uparrow gâ \quad dîrà$
 [man farming[adj] which?] Focus walk
 ‘Which farmer [focus] went away?’
- c. $[hàr \quad fâr \quad f-êy] \quad \uparrow gâ \quad dîrà$
 [man farming which?-Pl] Focus walk
 ‘Which farmers [focus] went away?’

The ‘which?’ adjective should not be confused with numeral *fô*: ‘1’ (§4.7.1), which differs in V-length and in tonal effect on a following word (note the downstepped following words in the examples above). ‘Which?’, like other WH-interrogatives, occurs chiefly in focalized constructions or in isolation, while ‘1’ is usually not focalized. The plurals are also different.

8.2.3 Composite WH-interrogatives

8.2.3.1 ‘How?’ (*mótê*) and ‘what kind?’ (*cíléy fô*)

The ‘how?’ expression is theoretically $ndù \text{ } môtê$ consisting of instrumental preposition $ndù + H$ ‘with’ and an interrogative noun that could be glossed ‘what manner?’ *môtê* itself is normally focalized, so the output is *mótê ... nd-à* with invariant resumptive 3Sg object pronominal suffix *-à* (§8.1.1.4). $nd-à$ in this construction is usually cliticized to the verb. Focus morpheme *gâ* is optional.

- (423) a. $mótê = \uparrow \hat{y} \quad \uparrow bô \quad [w \quad góy = nd-à]$
 how?=1SgS XImpf [Infin work=with-3SgO]
 ‘How will I work?’
- b. $mótê \quad gá = \hat{y} \quad \uparrow gú \quad \uparrow hám-ó \quad dúbú = nd-à$
 $mótê \quad = \hat{y} \quad \uparrow gú \quad hám-ó \quad "$
 how? (Focus)=2SgS Impf meat-Fin/DefSg cut=with-3Sg
 ‘How do you-Sg cut the meat?’

Without *ndù + H*, *mótê* is used in greeting expressions. The common forms are linked to times of day (424a-b), though there is a default form (424c).

- (424) a. *mótê = ḡ* *‘kání*
 how?=2SgS go.to.sleep
 ‘Good morning!’ (lit. “how did you-Sg sleep?”)
- b. *mótê = ḡ* *‘há:y*
 how?=2SgS spend.day
 ‘Good evening!’ (lit. “how did you-Sg spend the day?”)
- c. *mótê = ḡ* *‘bárâ*
 how?=2SgS X.be
 ‘How are you?’

mótê is also used instead of *mî:ḡ* ‘what?’ (§8.2.2.2) with reference to naming, as in (425), where focus *gâ* is often omitted. Since *té:* ‘be’ in “perfective” form is stative in copular sense (as opposed to inchoative ‘become’ sense), there is no shift to extraction-indexing imperfective in (425). *mótê* can also be used as direct object of transitive *té:* ‘do’ when the emphasis is on the manner of acting rather than the product (426).

- (425) *mótê* *‘gá* *té:* *mâ:-ḡ*
mótê *‘té:* "
 how? (Focus) be name-2SgP
 ‘What [focus] is your-Sg name?’

- (426) *mótê* *‘gá = ḡ = ḡ = ḡ* *té:* *bì:*
 how? Focus=2SgS=Tr=3SgO do yesterday
 ‘What [focus] did you-Sg do yesterday?’

‘What kind (of X)?’ expressions are based on the noun *cíléy* ‘sort, type, the likes of’, definite singular *cíl-ó + H*. Combined with *fô* ‘which?’ (§8.2.2.5) we get *cíléy fô ~ cíl-ú fô* ‘what kind?’. A noun in apposition can be added, in nonfinal form (i.e. as a compound initial or modified noun): *tè:n-ù cíléy fô* ‘what kind of date(s) (fruit)?’. An alternative is *tè:n-ù móté ‘cíl-ò* ‘what kind of date(s)’.

8.2.3.2 ‘Why?’ (*mí:n ‘sê*)

mí:n ‘sê ‘why?’ is the dative of *mî:n* ‘what?’. It occurs in the usual clause-initial position of WH-interrogatives, with or without the focus morpheme *gâ* (427a-b). It may also precede, with or without its own *gâ*, a clause that already has a focalized constituent. In (427c), there are two occurrences of *gâ*, since there are two layers of focalization: an inner layer in which an argument is focalized, and an outer layer

involving the motive for the event. This is the only situation I know of where double focus is permitted.

- (427) a. [mí:n sɛ́]=ɨ́=ɨ́=ɨ́ 'dúmbú
 [what? Dat]=2SgS=Tr=3SgO cut
 'Why did you-Sg cut it?'
- b. [mí:n 'sê] gá=ɨ́=ɨ́=ɨ́ 'dúmbú
 [what? Dat] Focus=2SgS=Tr=3SgO cut
 'Why [focus] did you-Sg cut it?'
- c. [mí:n 'sê] gá
 [what? Dat] Focus
 ['hám-ó gá=ɨ́ 'ɨ́bò=[w bá:g-à]]
 [meat-Fin/DefSg Focus=2SgS XImpf=[Infin want-3SgO]]
 'Why [focus] is it meat [focus] that you-Sg like?'

8.2.3.3 'When?' (*mè fô*) and 'whereabouts?' (*mè hérê*)

'When?' is *mè fô*, containing *fô* 'which?' (§8.2.2.5). *mè* does not occur independently as a noun, but recurs in temporal relative *mè kâ ...* '(at the time) when ...' (§8.3.6) and *mè kúl 'gâ ...* 'any time when ...'. An example of *mè fô* is (428), which does not show focus morpheme *gá*, although that morpheme can optionally be added after *mè fô*.

- (428) [mè fô]=ɨ́ 'ɨ́bó [w 'fí:s-à]
 [when?]=2SgS XImpf [Infin sweep-UnspecO]
 'When are you-Sg going to sweep up?'

An alternative 'when?' expression is *wàkkátí 'fô* '(at) what time?' (lit. 'time which?'). When a day needs to be specified, *hàn*↓ *fô* '(on) what day?' is used (cf. *hán* 'day'). Modern clock times are elicited by *é:r 'fô* 'at what hour' (*é:r* from French *heure*). If an approximate rather than exact time is needed, approximative *hérê* can be added: *é:r 'fô hérê* 'around what time (hour)?'.

mè also occurs in *mè hérê*, a variant of *mán hérê ~ máyⁿ hérê* 'whereabouts?' (§8.2.2.3).

8.2.4 Fronted versus *in situ* WH-interrogatives

In-situ WH-interrogatives are rare. They can be used, however, when a speaker is incredulous about a statement just made by an interlocutor, or otherwise needs confirmation ('you did WHAT?'). The interlocutor's sentence is then repeated, with the questionable constituent replaced by a WH-interrogative.

Often the speaker suspects that the interlocutor has mis-spoken, so the interrogative is metalinguistic rather than referential in the usual sense. In this case syntactic focalization does not apply. A preverbal direct object or postverbal constituent therefore remains in its (non-clause-initial) position (429a). A subject NP does not trigger the usual markers of focalization: focus morpheme *gá* or the shift from imperfective and progressive to XImpf (429b).

- (429) a. *à* *nò* [*w* *↑kâ* [*mè fô*]]
 3SgS Progr [Infin come [when?]]
 ‘When (did you say) 3Sg is coming?’
- b. *méy* *↑nó* [*w* *↑kâ*]
 who? Progr [Infin come]
 ‘Who (did you say) is coming?’

8.2.5 Questions embedded under matrix verbs ‘know’, ‘ask’, etc.

When the embedded question is polar, if a factive complement (presupposing the truth of its proposition) is needed, it is phrased with *gâ* ‘that’, which is elsewhere the relative and focus marker. This can occur with *béy* ‘know’ (430).

- (430) *ì* *↑máŋ* *‘béy* [*gá = ↑j* *‘↑kâ*]
 1SgS PerfNeg know [that=2SgS come]
 ‘I didn’t know that you-Sg had come.’

If the complement is not factive in this sense, *yélà* ‘whether’ can be used (431a). Indeed, *yélà* can be used even when the factuality of the embedded proposition is not in dispute. For example, (431b) can be used in a discourse context like this: ‘I arrived there in the morning and waited for him all day, but he didn’t realize that I had come’. This sentence could also be used in a different discourse context where the speaker had not arrived, or where the factuality of the speaker’s arrival is not relevant one way or the other. In other words, HS typically puts more emphasis on the state of mind of the matrix-clause subject than on the presupposed factuality of the embedded complement.

- (431) a. *ì* *sí:* *‘béy* [*yélà* *à’* *kà*]
 1SgS ProgrNeg know [whether 3SgS come]
 ‘I didn’t know whether (or not) he/she had come.’
- b. *à* *sí:* *béy* [*yélà = y* *↑kâ*]
 3SgS ProgrNeg know [whether=1SgS come]
 ‘He/She didn’t know whether I had come.’
 or: ‘He/She didn’t know (=realize) that I had come.’

When the embedded complement of ‘know’, ‘ask’, etc. is a WH-interrogative, the original interrogative may be replaced by an indefinite relative clause, using the embedding replacements shown in (432). The reduced L-toned forms of the head noun, e.g. *bòr↓*, *hà:*, and *dèy↓*, are also used before *kûl* ‘all’, see (275) in §5.4.3.2. The alternative is to keep the original WH-interrogative in the embedded complement.

(432) Embedded equivalents of WH-interrogatives

WH	gloss	embedded	literal gloss
<i>méy</i>	‘who?’	<i>bòr↓ kâ ...</i>	‘person who ...’
<i>mî:ŋ</i>	‘what?’	<i>hà: kâ ...</i>	‘thing that ...’
<i>mí:ŋ</i> ‘sê	‘why?’	<i>hà: ká sè ...</i>	‘thing for which ...’
<i>mán</i>	‘where?’	<i>dèy↓ kâ ...</i>	‘place where ...’
<i>mè fô</i>	‘when?’	<i>wákkátì gá gâ: ...</i>	‘time in which ...’
"	"	<i>mè kâ ...</i>	‘time when ...’
<i>hán fô</i>	‘what day?’	<i>hàŋ↓ kâ ...</i>	‘day when ...’

Except for *wákkátì* ‘*gâ gâ:*, which shows relative *gâ* followed by locative postposition *gâ:*, the forms in the “embedded” column of (432) show a special allomorph *kâ* of the relative morpheme (elsewhere always *gâ*). The form with *k* is archaic, since most other Songhay languages have *k*-initial relative morphemes (e.g. KS *kaŋ*). In all of the embedded forms in (432), the quantifier *kûl* can be added to the noun (*hà: kûl* ‘*gâ ...*, etc.) with only a slight increase in emphasis. In this case the relative allomorph is normally *gâ*, hence *bòr↓ kûl gâ ...*, but I have also occasionally recorded e.g. *bòr↓ kûl kâ ...*

(433) shows the two alternative syntactic patterns. In (433a), the WH-interrogative has been replaced by the appropriate indefinite relative from (432) above. In (433b), the original WH-interrogative word is retained.

- (433) a. *ì sù béy [bòr↓ ká kà]*
 1SgS ImpfNeg know [person Rel come]
 ‘I don’t know who came.’ [lit. “I don’t know the person who came.”]
- b. *ì sù béy [méy gá kà]*
 [who? Focus come]
 [= (a)] [lit. “I don’t know, who came.”]

I gloss *kâ* in (433a) as the relative morpheme, but *gâ* in (433b) as the focus morpheme. In HS the two are arguably the same morpheme so one might debate whether the syntax is really different in the two cases. This issue can be decided if PPs are used. The two examples in (434) show complements as they appear when embedded after *ì sù béy* ‘I don’t know’ as in the previous examples.

- (434) a. ... [[*bòr ká 'sê]* *á↑=ŋ=ŋ* *'háru]*
 ... [[person **Rel** **Dat**]] 3SgS=Tr=3SgO say]
 ‘(I don’t know) to whom he/she told it.’
- b. ... [[*méy sê]* (*gá*) *á↑=ŋ=ŋ* *'háru]*
 ... [[who? **Dat**] (**Focus**) 3SgS=Tr=3SgO say
 [= (a)]

The position of the dative postposition clearly shows that (434a) is a relative construction and that (434b) is a PP focalisation.

In the cases of WH-interrogatives *mèrjè* ‘how much?’, [*X fô*] ‘which X?’, *mótê* ... *ńd-à* ‘how?’, and *ciléy fô* ‘what kind?’, the regular WH-interrogative form is used in the embedded clause. Examples with *mótê* are in (435).

- (435) a. *ì sù béy* [*móté=í* *'gú↑=ŋ=ŋ* *'té:*
 1SgS ImpfNeg know [how=1SgS Impf=Tr=3SgO do
 [*kù dí: [ʔá:màdù hú]]*]
 [Infin see [Amadou house.3PossSg]]]
 ‘I don’t know how to find Amadou’s house.’
 (lit. ‘I don’t know how [=what] I will do to ...’)
- b. *à sù béy*
 3SgS ImpfNeg know
 [*móté à gú↑=ŋ=ŋ háw=ńd-à*]
 [how? 3SgS Impf Tr-3SgO cut=with-3SgO]
 ‘He/She doesn’t know how he/she will tie it.’

8.2.6 ‘Whatchamacallit?’ (*hày-ô:*)

A ‘whatchamacallit?’ form is *hày-ô:* ‘this thing’. It can also be used as a verb ‘do whatchamacallit?’, with singular-subject imperative *hàyô-ŋ*.

8.3 Relativization

Relative clauses are characterised by relative morpheme *gâ* (in a few high-frequency combinations, *kâ*). A plural *#gá-nòŋ + H* does not seem to occur. The basic sequence is *X gâ* [...] for most kinds of relatives, where X is the head NP. X is in independent form but may be definite or indefinite, if the noun in question has distinct forms for these functions. X may also end in a demonstrative or in a quantifier such as *kûl* ‘all’. In the great majority of cases, X is coindexed with a NP with a specific syntactic function (e.g. subject, direct object, instrumental, postpositional complement) within the subordinated clause.

The coindexed NP inside the relative clause is deleted (subject, postpositional complement after the postposition is fronted, most spatiotemporal and manner

adverbials), or is represented by an **invariant 3Sg object** place-holding morpheme (VO or OV direct object, complement of un-frontable instrumental preposition *ńdù + H*).

However, there are cases where the embedded clause is syntactically autonomous (e.g. when it is a biclausal conditional), and here the usual syntax of coindexation does not apply. I refer to these as **loose relative** clauses; see (452-3) in §8.3.8.

In the case of postpositional complements, the usual structure is *X [gâ POSTP] [...]*, with the postposition fronted and effectively cliticized to *gâ*. This is occasionally extended as *X [gâ POSTP] gâ [...]*. One could take the second *gâ* in this fuller construction as the focus morpheme, which (like the relative morpheme) has the form *gâ*. If so, one might infer that the nonpostpositional relatives beginning *X gâ [...]* have themselves been reduced (by a kind of haplology) from an underlying *X gâ gâ [...]* beginning with X, relative *gâ*, then focus *gâ*. However, the second consecutive *gâ* never appears in the nonpostpositional relatives, and the second *gâ* is not common even in the postpositional type, so I will not adopt this analysis here.

Instrumental preposition *ńdù + H* remains in postverbal position when its complement is relativized on. Instrumental and direct-object relatives have an unusual syntactic pattern with a “resumptive” pronoun that takes invariant 3Sg object form instead of agreeing with X. This contrasts with KCh, which has no resumptive pronoun (i.e. has a phonologically null trace), and with KS, which has true resumptive pronouns that agree in intrinsic features with the head NP.

In HS, relativization and focalization (the two extraction processes) are more closely related than they are in other Songhay languages. Both use the morpheme *gâ*, and both require replacement of locational quasi-verb *H + gò*: by *bárâ* ‘X.be’, and of imperfective positive *gù + H ~ w̃ + H* by XImpf *bò*. Nevertheless, there are syntactic differences between relativization and focalization that are overtly visible in PP’s, since relativization applies only to the NP complement while focalization applies to the PP as a whole.

There are no headless relatives of the type ‘what the dog ate’ or ‘(the one) who came’. Instead, indefinite relatives of the type ‘person Rel ...’, ‘thing Rel ...’, ‘place Rel ...’, or ‘time Rel ...’ are used (§8.3.6, §8.2.4). In these combinations, the relative morpheme has an archaic allomorph *kâ*. However, *gâ* can be used as a clause-initial morpheme in adverbial relatives (§8.3.11), and this could be construed as a relative with an omitted adverbial head noun.

In HS, restrictive relative clauses whose propositional content has already been established (‘there was a man who was working and another man who was resting; the man who was working ...’) often use strong definite *H + dî* (§5.7) as a right-edge marker, showing that the relative clause has come to an end. It is not syntactically obligatory and I omit it from many of the simple examples in subsections below, but it is rather common in texts.

8.3.1 Relativization of subject NPs

If the subject NP (X) is relativized on, the result is $[X \text{ } g\hat{a} \text{ } MAN \text{ } VP]$. On the assumption that X is not inside the relative clause, we could argue whether $g\hat{a}$ has occupied the subject position, or whether $g\hat{a}$ is itself followed by a clause with a phonologically null trace \square in subject position. The latter analysis seems reasonable, but there is no direct evidence one way or the other.

Examples of subject relatives are in (436). The syntax is partially parallel to that for focalization. However, the last two examples (436h-i) show that either the topical NP or the inner complement NP of identificational quasi-verb $n\hat{o}\eta$ can be relativized on. When the topical NP is relativized on (436h), one wonders whether this is an ordinary subject relativization, or a case where the embedded clause is syntactically autonomous (compare the relatives involving conditionals in §8.3.8).

- (436) a. $w\hat{o}y-\hat{o}$ $g\hat{a}$ $b\hat{o}$ $[\hat{w}$ $\hat{h}\hat{i}n-\hat{a}]$
 woman-Fin/DefSg Rel XImpf [Infin cook-UnspecO]
 ‘the woman who cooks’ (definite head noun, extraction-indexing)
- b. $h\hat{u}w-\acute{o}$ $g\hat{a}$ $‘b\hat{a}r$ $n\hat{e}:$
 house-Fin/DefSg Rel X.be here
 ‘the house that is here’ ($b\hat{a}r\hat{a}$ as locational quasi-verb)
 (phonetic [... $b\hat{a}n:\hat{e}:$])
- c. $w\hat{o}y-n\hat{o}\eta$ $g\hat{a}$ $s\hat{u}$ $d\hat{u}r\acute{u}$
 woman-IndefPl Rel ImpfNeg pound
 ‘women who do not pound (grain, in mortars)’ (indefinite plural head)
- d. $ʔ\acute{a}y$ $‘g\hat{a}$ $z\acute{i}g\acute{i}$ $[\acute{t}\acute{o}nd-\acute{o}$ $\hat{b}\hat{o}\eta]$
 1Sg Rel go up [stone-Fin/DefSg on]
 ‘I who climbed the mountain’ (independent pronoun as head)
- e. $k\hat{o}-t-\acute{i}y-\hat{a}:$ $g\hat{a}=i\eta$ $‘h\hat{a}m-\acute{o}$ $\hat{i}\eta\hat{a}:$
 child Rel=Tr meat-Fin/DefSg eat
 ‘the child who ate the meat’ (definite head, canonical transitive)
- f. $k\acute{o}$ $‘g\hat{a}$ $m\hat{a}\eta$ $\hat{i}k\hat{a}$
 child Rel PerfNeg come
 ‘a child who didn’t come’ (indefinite head, perfective negative)
- g. $[\hat{b}\hat{o}r-\acute{e}y\hat{a}$ $w-\acute{e}y]$ $g\hat{a}$ $s\hat{u}$ $\hat{b}\hat{i}\eta\eta\hat{a}$ $\hat{i}\eta\hat{a}:$
 [person-DefPl Dem-Pl] Rel ImpfNeg pig eat
 ‘those people who don’t eat pig (=pork)’ (demonstrative in head NP)
- h. $h\hat{a}r$ $g\hat{a}$ $[\acute{d}\acute{o}kt\acute{o}r-\hat{o}$ $n\hat{o}\eta]$
 man Rel [doctor-Fin/DefSg it.is]
 ‘a man who is a doctor’ (topical NP of identificational $n\hat{o}\eta$)

- i. *hà:* *ká* *'nôŋ*
 thing Rel it.is
 'the thing that it is' (inner complement of identificational *nôŋ*)

8.3.2 Relativization of object NPs

Direct-object relativization, whether with canonical or VO transitives, is entirely parallel in syntax to direct-object focalization. A few examples are in (437). Note the invariant 3Sg object resumptive pronominal.

- (437) a. *háns-éy* *gâ* *i↑=ŋ=ŋ* *'wì:*
 dog-DefPl Rel 1SgS=Tr=3SgO kill
 'the dogs that I killed'
- b. *ʔáy* *'gâ* *nòŋ* *díy-à*
 1Sg Rel 3PlS see-3SgO
 'I whom they saw'
- c. *fè:g-ò* *gá* *yò* *↑bó* [*kú↑=ŋ* *kó:sú*]
 sheep-Fin/DefSg Rel 1PlS XImpf [Inf=3SgO slaughter]
 'the sheep-Sg that we are going to slaughter' (extraction-indexing)

8.3.3 Relativization of NP complements of postpositions

Here is where we can make a clear syntactic distinction between relativization and focalization. Relativization operates on NPs, including NP complements of postpositions. Focalization operates on complete PPs, not on NP complements within a PP (§8.1.1.3). Further examples of relativization follow. Focus morpheme *gâ* can optionally follow the fronted PP (438a).

- (438) a. *bòr-ò* [*gá* *'sê*]
 person-Fin/DefSg [Rel Dat]
gá *'i↑=ŋ* *nò:r-ò* *nó:*
 Focus 1SgS=Tr money-Fin/DefSg give
 'the person to whom I gave the money' (for non-focus, see §9.1.2)
- b. *húw-ó* [*gá* *gà:]* *nòŋ* *bú:*
 house-Fin/DefSg [Rel in] 3PlS die
 'the house in which they died'
- c. *kò-t-íy-à:* [*gá* *bòŋ*] *ì* *kâŋ*
 child-Fin/DefSg [Rel on] 1SgS fall
 'the child on whom I fell'

- d. *tù:r-ò* [*gá* *bàndè*] *ì* *↑bó* [*w* *kání*]
 tree-Fin/DefSg [Rel behind] 1SgS XImpf [Infin lie.down]
 ‘the tree behind which I will lie down (to sleep)’
- e. [*hú* *‘hínk-ó*] [*gá* *‘gám-ò* *gà:*]
 [house two-DefSg] [Rel middle-3PossSg in]
ì *↑bó* [*w* *kání*]
 1SgS XImpf [Infin lie.down]
 ‘the two houses between which I will lie down (to sleep)’

With compound postpositions, as in (438e), there is no clear distinction between postpositional and possessor relativizations.

8.3.4 Relativization of NP complements of *ńdù + H*

Instrumental preposition *ńdù + H* ‘with’ is stranded in postverbal position, with a place-holding 3Sg object resumptive pronoun, when its complement NP is relativized on. Again, relativization and focalization here have the same output syntax. An example with true instrumental sense is (439). A rough functional equivalent can be constructed as a direct-object relative with *yà:rì* ‘take’ as a serial verb (440).

- (439) *gòb-èy* *gá* *‘í↑=ń* *háns-ó* *káru=ńd-à*
 stick-DefPl Rel 1SgS=Tr dog-Fin/DefSg hit=with-3SgO
 ‘the sticks with which I hit the dog’

- (440) *gòb-èy* *gá* *‘í↑=ń=ń* *yà:rì* [*w* *háns-ó* *káru*]
 stick-DefPl Rel 1SgS=Tr=3SgO take [Infin dog-Fin/DefSg hit]
 ‘the sticks that I took (=used) to hit the dog’

In comitative or conjoining function, we get examples like (441) and (442a-b). (441) can be interpreted as based on a simple comitative construction *ńdù + H X*, structurally parallel to instrumental constructions. Therefore (441) is parallel to instrumental (439) above, with cliticized postverbal *ńd-à* remaining with the verb after the complement NP (X) is extracted.

- (441) *hà:r-ò* *gá* *ì* *tó:=ńd-à* *nè:*
 man-Fin/DefSg Rel 1SgS arrive=with-3SgO here
 ‘the man with whom I arrived here’

Examples (442a-b), on the other hand, are based on a conjunction type *Y [ńdù + H X]* ‘Y and X’, which can occupy any syntactic position in the larger sentence (subject, direct object, etc.). When X is relativized on, we get *Y ńd-à* in the original syntactic position, for example subject position in (442a) and direct object position in (442b).

8.3.6 Adverbial relatives without postpositions (*dèy↓ kâ*, *mè kâ*, *hàŋ↓ kâ*)

Indefinite relative expressions *bòr↓ kâ* ... ‘a/the person who ...’, *hà: kâ* ... ‘a/the thing that ...’, *dèy↓ kâ* ... ‘a/the place where ...’, *mè kâ* ... ‘a/the time when ...’, and *hàŋ↓ kâ* ... ‘a/the day when ...’ were introduced in (432) in §8.2.5 in connection with embedded counterparts of WH-interrogatives. For these reduced and L-toned forms of the head nouns see also (275) in §5.4.3.2. These expressions are also used as NPs or adverbials in main clauses. Of interest syntactically is the fact that spatial *dèy↓ kâ* ... and the temporals *mè kâ* ... and *hàŋ↓ kâ* ... occur without spatiotemporal postpositions, and in nonfinal form even when clearly definite.

The absence of a postposition is seen in the choice of e.g. *dèy↓ kâ* ..., literally ‘place Rel ...’ (=‘a/the place that ...’) instead of the more logically complete *dèy ká gà: ...* (=‘a place in which ...’) with locative *gà:*, or the even more complete *dúw-ó gá gà:* with the noun in definite form (=‘the place in which’). The stripped-down form is used not only when the relative clause functions as a NP argument (‘the place where I saw him/her is far away’), where the postposition would be inappropriate, but also in the more usual function as an adverbial relative (‘I sat [(in the place) where I had seen him/her]. Examples are in (445).

- (445) a. *ì* *↑yéka* [*dèy↓ ká* *ì* *díy-à*]
 1SgS return [place Rel 1SgS see-3SgO]
 ‘I went back to the place where I had seen it.’
- b. *mè ká* *ì* *dí:* *ɲónɲ,* *ɲònɲ* *sí:* *séllé*
 time Rel 1SgS see 3PIO, 3PLS ProgrNeg be.healthy
 ‘When I saw them, they were sick.’

8.3.7 Multiple relative clauses (conjoined or recursive)

Consider the two examples in (446), where the first clause is held constant but two different phrasings of the second clause are possible.

- (446) *wòy-èy* *gá=ɲ* *tù:r-ò* *↑fáàrè,*
 woman-DefPl Rel=Tr wood-Fin/DefSg chop
- a. ... *gá=ɲ* *dàrb-èy* *ɲínéy*
 Rel=Tr garment-DefPl wash
- b. ... *gá* *ɲónɲ↑=ɲ* *dàrb-èy* *ɲínéy*
 then 3PLS=Tr garment-DefPl wash
- ‘the women who chopped the wood and washed the clothes’

In the version ending in (446a), we have two parallel relative clauses, jointly associated with head NP ‘the women’. In the version ending in (446b), only ‘who chopped the wood’ is an ordinary restrictive relative, while the following clause is better analysed as an adverbial clause with *gá* as a conjunction ‘and then’ (see §8.3.11). The formal difference is that in (446b) we get a 3Pl subject pronoun

coindexed to ‘the women’. The semantic difference is that the (446a) version does not specify the chronological order of the chopping and washing, while the (446b) version does. Another example similar to (446a) is (447), which expresses an adversarial relationship between the two relative clauses.

- (447) *góndí-ṣòṣò* [gá = w̃ ↑námà] [gá sù ↑wíy-à]
 snake-Pl [Rel=Impf bite] [Rel ImpfNeg kill-UnspecO]
 ‘snakes that bite but (that) do not kill’

Stacked relative clauses with different head NPs are of course possible (448).

- (448) *bòr-ò* gá ‘bâr [húw-ó
 person-Fin/DefSg Rel X.be [house-Fin/DefSg
gá gá: bà:b-àṣ bú:]
 Rel in father-2Sg die]
 ‘the person who is (living) in the house in which your-Sg father died’

8.3.8 Relativization out of complex syntactic structures

Relativization out of the infinitival VP following a serial verb like *himà* ‘ought to’ is possible (449).

- (449) *tónd-èy* gá = ↑á bò [w̃ ↑hímà
 stone-DefPl Rel=3SgS XImpf [Infin ought
[kú↑ = ṣ = ṣ ‘nó: s-èy]]
 [Infin=Tr=3SgO give Dat-1Sg]]
 ‘the rocks that he/she is supposed to give me’

If the infinitival VP is the second part of a transitive verb-verb compound (§6.3.2), direct-object relativization is out of the usual slot preceding the first verb (450).

- (450) [*cìr-ò* ↑lá:‘múd-èy] gá = ↑á ‘gú↑ = ṣ déy
 [salt-Fin/DefSg bar-DefPl] Rel=3SgS Impf=3SgO buy
[‘kú↑ = ṣ né:rê]
 [Infin=3SgO sell]
 ‘the salt bars that he buys and sells’

Relativization out of an embedded subjunctive clause is illustrated in (451).

- (451) a. *hì:r-èy* gá = y↑ ‘↑bó [w̃ ↑bá
 bead-DefPl Rel=1SgS XImpf [Infin want
[ṣ = m = à: déy ‘s-èy]]
 [2SgS=Subju=3SgO buy Dat-1Sg]]
 ‘the beads that I want you to buy for me’

- b. *gòb-ò* *gá = ↑á* *nê*
 stick-Fin/DefSg Rel=3SgS say
 [*ʔí* *háns-ó* *kárú = úd-à*]
 [1SgS.Subju dog-Fin/DefSg hit=with-3SgO]
 ‘the stick that 3Sg told me to hit the dog with’

With *gá* ‘that’ or *yélà* ‘whether’ as complement, we do not get the normal relative-clause type. Instead, we get a “loose” relative clause with *gá*. The embedded clause has the appropriate pronoun for the coindexed NP, e.g. 3PIS *ɲòŋ + H* in (452).

- (452) *bòr-èy* *gá = ↑ý* *sù* *béy*
 person-DefPl Rel=1SgS ImpfNeg know
 [*yélà* *ɲòŋ* *↑gú* *↑kà*]
 [whether 3PIS Impf come]
 ‘the people who I don’t know whether they’re coming’

Consider now the relatives based on conditionals in (453). In (453a), the head NP is coindexed to a NP in the antecedent (‘if’) clause. Here we get a standard relative clause, the plural head NP being represented by a 3Sg object resumptive pronoun in the antecedent clause. In (453b), the head NP is coindexed to a NP in the consequent clause. In this case, we get a “loose” relative, where the plural head NP is represented by a 3PIS pronoun in the consequent.

- (453) a. *kò:s-èy* *gá* [*há* *fè:g-ó↑ = ɲ = ɲ* *ɲà:*],
 leaf-DefPl Rel [if sheep-Fin/DefSg =Tr=3SgO eat],
 [*àʔ* *nàm* *bú:*]
 [3SgS Fut die]
 ‘leaves that, if a sheep eats them, it will die’
- b. *sùb-èy* *gá* [*há* *cìŋŋ-ò* *↑máj* *↑kâ*],
 grass-DefPl Rel [if rain-DefSg PerfNeg come],
 [*ɲò* *↑nám* *yùrà*]
 [3PIS Fut wither]
 ‘grasses (=herbs) that, if the rain doesn’t come, they will wither’

8.3.9 Relative clauses separated from the head NP (right dislocation)

When the head NP is preverbal (subject or direct object), an associated relative clause may be extraposed (right-dislocated) to the position following the main-clause verb (454).

- (454) *ì* *sù* [*bòr↓* *kúl*] *‘béy*,
 1SgS ImpfNeg [person all] know,

gá = w̄ *hín* [*kù* \uparrow *néy* *fà:bà*]
 Rel=Impf be.able [Infin 1SgO help]
 ‘I don’t know anyone who can help me.’

The same pattern occurs commonly when the head NP is the complement of identificational quasi-verb *nòŋ*. For an example see (443) in §8.3.5 above.

8.3.10 Postpositions and DF morphemes operating on the head NP

The combination of a head NP and an associated relative clause is syntactically just an NP, and it may have any syntactic function within the matrix clause. Among other things, it may be the complement of a postposition, such as dative *sê* (455a) or locative *gà(:)* (455b).

- (455) a. \uparrow *í = ń* *wàráŋkà* *nó:*
 1SgS=Tr twenty give
 [[*kò-t-íy-à:* *gá = ń* \uparrow *jín-è-ŋòŋ* \uparrow *jérè*] *sê*]
 [[child-Fin/DefSg Rel=Tr baggage-1SgP-IndefPl carry] Dat]
 ‘I gave twenty (riyals) to the boy who carried my baggage.’
- b. *ì* *dúká*
 1SgS speak.noisily
 [[*hà:r-ò* [*gá = ń* \uparrow *íy-ó:* *kárú*]] *gà(:)*]
 [[man-Fin/DefSg [Rel=Tr child-3SgP hit]] on]
 ‘I spoke harshly to the man who had struck his child.’

The embedded relative clause might happen to end in a postposition, in which case we get two consecutive postpositions, as in (456).

- (456) \uparrow *í = ń* *nò:r-ò* *nó:*
 1SgS=Tr money-Fin/DefSg give
 [[*hà:r-ò* *gá* *gà:rà* [*ŋòŋ* *sê*]] \uparrow *sê*]
 [[man-Fin/DefSg Rel bless [3Pl Dat]] Dat]
 ‘I gave the money to the man who had blessed them.’

A construction of the type in (455-6) is preferred when there are no production difficulties. However, the same type of right dislocation of the relative clause observed in the preceding subsection can also apply to examples like (455), so the postposition could attach to the head noun. Corresponding to (455a) this would produce ... [*kò-t-íy-à: sê*] \uparrow *gá = ń* \uparrow *jín-è-ŋòŋ* \uparrow *jérè*.

8.3.11 Adverbial relatives with bare *gâ* ‘so ..., then ...’

gâ can also be used clause-initially. In this case, it is not interpreted as a standard headless relative, with a human or other specific referent understood (‘one who comes here’, ‘what I think’). Instead, it functions as an adverbial conjunction. Typically the clause in question is understood as a sequential (‘and then ...’) or causal (‘so ..., in such a way that ...’) follow-up of a preceding clause. If we think of this as a relative clause, the missing material would have to be an abstraction like ‘in a situation that ...’ or ‘in such a way that ...’. The NPs within the clause proper have their regular form (the range of pronominal categories, for example), showing no signs of extraction.

Examples are (387) in §7.2.5.1, (466) in §8.5.2.1, and (478) in §8.5.4.4. See also the discussion of (446a-b) in §8.3.7.

8.4 Topic constructions

A **topical** constituent provides either a **spatiotemporal setting** or a **referential anchor** for a clause. Spatiotemporals have no special topic marking, but referential topics (i.e. NPs) can be followed by a topic morpheme. Topical constituents are usually preposed to a clause and are therefore outside of the clause’s boundaries. In this case, a referential topic may be coindexed to a pronominal inside the clause but there is no special syntax involved. We may speak loosely of topicalization, but it is not a clause-internal syntactic process in the sense that focalization is.

8.4.1 Topical NPs and clauses with *mínê* ‘as for’

The basic ‘as for X’ construction takes the form *X mínê* with topic morpheme *mínê*, cf. KS *binde* and other Songhay cognates. X may be any type of NP, or an independent pronoun as in *ǎáy ‘mínê* ‘as for me’ and *yérí ‘mínê* ‘as for us’. The topical constituent is preposed to a clause, and if the referent reappears in the clause proper it must be marked by a pronoun (457).

- (457) *jèr-èy kóy, [yérí ‘mínê] yò ǎcín’dî*
 part-DefPl go, [1Pl Topic] 1PlS remain
 ‘The others went; as for us, we stayed.’

As expected, referential topical NPs most often correspond to the subject of the clause they are associated with, but other grammatical functions are also possible. In the subject case, as in (457), a topical constituent may be pronounced in one breath with the following clause, there being no pause or other intonational break, and vocalic contractions may occur. The subject clitic, such as 1PlS *yò + H* in (457), is always audible. Contrast the situation with weak topic *kèy + H* (§8.4.3).

8.4.2 Syntactic distribution of independent pronouns

Independent forms of personal pronouns (§4.3.4), as opposed to pronominal clitics, are required in the syntactic positions listed in (458).

(458) Positions requiring full pronouns

- a. isolation form, including bare preposed topic
- b. complement of identificational quasi-verb *nôŋ* ‘it is’
- c. focalized constituent
- d. before nonzero discourse-functional particle (topic, emphatic, ‘also’)
- e. before demonstrative *H + wô* (Pl *H + w-êy*)
- f. left conjunct of *ńdù + H* ‘and’
- g. head NP of relative clause

Pronominal clitics (§4.3.4), on the other hand, are used for bare pronominals in the functions subject, direct-object (pre- or postverbal), complement of postposition, complement of instrumental preposition *ńdù + H*, and possessor.

This is sufficient to account for the distribution of independent 1st/2nd person pronouns. In the third person, 3FullSg *?áŋgâ* is obligatorily used instead of clitic 3Sg *â* (and allomorphs), and 3FullPl *ńjêy* is obligatorily used instead of clitic 3Pl *noj*, in the positions listed in (458). However, these 3Full pronouns are also used in any “clitic” position to mark logophoricity (coindexation to quoted speaker or thinker), and in some clitic positions they can also be used to mark reflexivity (coindexation to a syntactically defined NP, usually clausemate subject).

Examples of 3FullSg *áŋgâ* in the positions in (458) are: isolation form *?áŋgâ*; identificational *?áŋgâ 'nôŋ* ‘it is him/her’; focalized *?áŋgâ 'gâ ...*; discourse-functional *?áŋgâ 'mô* ‘he/she too’; demonstrative *?áŋgâ 'wô* ‘that one’; left conjunct *?áŋgâ = ńdù + H X* ‘he/she and X’; and relative *?áŋgâ 'gâ ...*

8.4.3 Weak topic marker *kèy + H ~ kây + H*

The weak topic (WTopic) marker is pronounced *kèy + H* or *kây + H* depending on speaker; in the case of *kèy + H* I have not observed palatalization (to *#cèy + H*), so *kây + H* may be the older variant. The weak topic morpheme is similar in function to *mínê* (§8.4.1), but it is less marked and is usually best left untranslated. It is especially common with personal pronouns. Examples in (459).

- (459) a. $[n\acute{ı} \quad k\grave{e}y] = \acute{\eta}$ $\acute{\eta}k\grave{a}$
 [2Sg WTopic]=2SgS come
 ‘You-Sg came.’
- b. $[?áŋg\acute{a} \quad k\grave{e}y]$ \acute{a}^{\ast} $k\grave{a}$
 [3FullSg WTopic] 3SgS come
 ‘3Sg came.’

- c. [ʔáy kèy] (y) ↑ká
 [1Sg WTopic] 1SgS come
 ‘I came.’

In the sequence [ʔáy kèy] *ì* in 1Sg-subject examples like (459c), the 1SgS clitic *ì* is usually elided (absorbed by the preceding *y*) and therefore inaudible. However, it has its usual tonal effect on the following constituent, in this case raising the tone of *kà* ‘come’.

The floating H in *kèy + H ~ kày + H* is usually not heard. This is because such topic phrases are usually treated as preclausal and therefore as tonally separate from the following clause. This seems to be true even in (459a) and (459b), in spite of the segmental fusion of the topic phrase with the subject pronoun. However, the floating H is audible (on a following L-toned syllable) when the topic phrase is treated as a clause-internal NP, as in (460), where the imperfective morpheme is H-toned.

- (460) [w-éy kày] ↑gú cèr nèn
 [Dem-Pl WTopic] Impf Recip precede
 ‘Those (people) go at different speeds.’

Another common combination is *mà(r)-sán* ↑káy ‘now’, which competes with *mà(r)-sán-dâ* (and other less common variants).

8.5 Emphatics and similatives

8.5.1 Simple emphatics

8.5.1.1 Emphatic of precision (*dâ*)

As in other Songhay languages, a particle *dâ* is used to emphasis the precise identity (including sameness in discourse context) of a spatiotemporal point or, less often, of a referent. Combinations with spatial deictics (§4.4.3) include *nè: dâ* (or *né: ↑-wò dâ*) ‘right here’, *héndí ‘dâ* ‘right (over) there’, and *nón-dî dâ* ‘right there (discourse-definite)’. Combinations with common temporal deictics (§5.13.2) include *hóⁿ ↑-wó dâ* ‘(right) today’, *hàràŋ dâ* ‘(right) this year’, and *mà-sán-dá ‘dâ* ‘right now’. In the last example, the nonemphatic form *mà-sán-dâ* ‘now’ already contains a frozen instance of the emphatic particle. ‘Right now’ is more often expressed by another phrase, *mà-sán-dá sà:tíyò* (§4.4.5). (461a) is a typical example of *dâ* with an adverbial. (461b) shows the uncommon use of *dâ* as clause-final particle emphasizing the correctness of the statement. The more usual clause-level emphatics are discussed below in §8.5.5.

- (461) a. *súbâ* [né: ↑-wò dá] yò ↑bó [w̄ ↑cér ‘↑kúbèy]
 tomorrow [here Emph] 1PlS XImpf [Infin Recip encounter]
 ‘Tomorrow, right here [focus] we’ll meet each other.’

- b. à' kà dâ
 3SgS come Emph
 'He/She has indeed come.'

8.5.1.2 Emphatic of confirmation or exclusion (*já:tîŋ*)

Similar in sense, and quite common in HS, is a particle *já:tîŋ* (< Fulfulde, perhaps ultimately from Arabic). It can be used in the same contexts as *dâ* (precise identity), but also in contexts involving exclusion of other referents (corresponding to English emphatic *–self* reflexives). It occurs with all types of constituents, and may be clause-final with propositional scope ('indeed', confirming the correctness of an assertion or supposition). Examples are in (462).

- (462) a. [ʔây já:tîŋ] nàm [góy-ó dî] té:
 [1Sg Emph] Fut [work-Fin/DefSg StDef] do
 'I will do the work myself (=unassisted).'
- b. à kóy já:tîŋ
 3SgS go Emph
 'did indeed go.'

8.5.1.3 Clause-final *ní* and related forms (*ní:*, *-ní:*)

This clause-final particle occurs occasionally in narrative texts as a highlighting device. To judge from the relatively few examples, it indicates the surprising aspect of an event (463). In (463a) it co-occurs with *dâ*.

- (463) a. dāŋgà ì ↑náj 'sí:-ndù bòn dá 'ní
 like 1SgS Prfct not.be-with head Emph Emph
 'Seemingly (=they thought that) I was without a head!'
- b. à túká [w̄ ↑zúr-ànd-à] ní
 3SgS persist [Infin run-Caus-UnspecO] Emph
 'She just kept racing (on horseback).'
- c. à sátté [w̄ ↑bá [wòy-m-ó↑ dî]] ní
 3SgS do.extremely [Infin want [sister-3SgS StDef]] Emph
 'He was just madly in love with that sister of his.' (*wòy-mè*)

ní is probably related to KCh *nin* ~ *niⁿ* 'merely, only'. The HS 'only' particle *táj* is borrowed from Fulfulde and may have displaced *ní* from this function.

It is unclear whether clause-final emphatic *ní* is the "same" morpheme as a phrase-final *ní:* that is used (infrequently) to highlight focalized constituents. In (464), it is

not clear whether the best gloss is emphatic or ‘only’. The context is that only certain Songhay varieties (not including HS) have been selected for literacy programs.

- (464) [gá:wó sénn-ò ní:] [tómbóktú ‘sénn-ò ní:]
 [Gao language-3PossSg Emph] [Timbuktu language-3PossSg Emph]
 gá pòŋ ʔgú ‘kóy [kúʔ=ŋ ‘čów]
 Focus 3PLS Impf go [Infin=3SgO read]
 ‘It’s precisely (=just) the Gao language (and/or) the Timbuktu language that they go to study.’

There is also an element *-ní:* that occurs as second element in three clause-initial elements: *hâl-ní:*, *kâ:-ní:*, and *dòw-ní:*. Of these, *hâl-ní:* ‘supposing that’ is an occasional extension to *hâl* ‘if’ in conditional antecedents (§9.5.1). *hâl* is also used in the sense ‘until, all the way to’, but *hâl-ní:* is specifically conditional. *kâ:-ní:* is likewise an occasional extension of clause-initial *kâ:* ‘but’. *dòw-ní:* is an uncommon form meaning something like ‘in view of the fact that’. The first element is not otherwise attested. *hâl* and *kâ:* are HS forms of regionally widespread morphemes, and it may be that the variants with *-ní:* were borrowed as units. Compare Bambara *ni* ‘if, when’, Fulfulde *ni ~ ní:* ‘thus’.

8.5.2 Exclusivity particles

8.5.2.1 ‘Only’ (*táŋ ~ táŋ*)

The ‘only’ particle is *táŋ ~ tán* (<Fulfulde). It can follow and have scope over NPs (including adverbials), PPs, or clauses. When it follows an instrumental phrase *ńdù + H X* ‘with X’ we cannot tell whether it has scope over *ńdù + H X* or just over the NP (X). Examples are in (465).

- (465) a. *ì dí: [ʔbá:b-èy táŋ]*
 1SgS see [father-1Sg only]
 ‘I saw only my father.’
- b. *ì dí: ʔbá:b-èy [ʔáŋgá ‘táŋ]*
 1SgS see father-1Sg [3FullSg only]
 ‘I saw my father alone (by himself).’
- c. *àʔ nò [w ʔhéyn-ò dúrú táŋ]*
 3SgS Progr [Infin millet-Fin/DefSg pound only]
 ‘He/She just pounds millet.’
 (=‘The only thing he/she does is pound millet’)

Example (465a), as bracketed, has the translation shown, but with another bracketing the same word-string could mean ‘I only saw my father’. To insist on the restrictive bracketing a speaker could focalize ‘only my father’, shifting it to clause-initial

position: [bà:b-èy táŋ] gá y díy-à. In (465b) the ‘only’ phrase ?áŋgá ‘táŋ functions as a secondary predicate (small clause). In (465c) táŋ has clausal (or at least VP) scope.

(466) is an example of how táŋ combines with a perfect clause and a following clause beginning with gâ (§8.3.11), indicating immediate sequencing. There is no intonation break between the two clauses.

- (466) [î ↑náŋ ‘tó: táŋ] [gá ì kání]
 [1SgS Prfct arrive **only**] [Rel 1SgS go.to.sleep]
 ‘As soon as I had arrived (home), I went to sleep.’

For clause-final ní, which is probably related to ‘only’ particles in some other Songhay languages, see §8.5.1.3 above.

8.5.2.2 ‘Except’ (kâl + H, hál màn tù + H)

‘Except’ expressions are the simple particle kâl + H ‘except’ and the phrase hál màn tù + H ‘if it is not’ (cf. French *ne serait-ce que*), preceding the excepted constituent. (Most DF morphemes follow the associated constituent.) Such expressions require an adjoining proposition specifying a set from which certain members are excluded. Examples are in (467). In (467c), kâl + H has scope over an infinitival VP (for a similar example see the following section).

- (467) a. [ñjêy’ kúl] ðirà, hál màn tù ?ây
 [3FullPl all] walk, if PerfNeg be 1Sg
 ‘They all went away, except me.’
- b. í↑ = ↑í ‘hín [kù [hà: kúl] ñà:],
 1SgS=Impf be.able [Infin [thing all] eat],
 kâl [↑bíŋŋà hám-ò]
 except [pig meat-3PossSg]
 ‘I can eat anything, except pig meat (=pork).’
- c. ì sí: hín [kù bá:y-à: té: s-âŋ],
 1SgS ProgrNeg be.able [Infin anything do Dat-2Sg],
 kâl kù ↑sélèŋ [kò-kòy-ò sé]
 except Infin speak [chief-Fin/DefSg Dat]
 ‘I can’t do anything for you-Sg, except speak to the chief.’

As in some other Songhay languages, ‘except’ expressions (hál màn tù + H and kâl + H) are allergic to instrumental preposition ñdù + H, which is omitted although logically implied in cases like (467). Conjoined NPs of the type Y [ñdù + H X] pose no problems (468).

- (468) *n̄ sù hín [kú↑=ɨ́ 'gó:sù], kàl ↑már'tô:*
 2SgS ImpfNeg be.able [Infin=3SgO bend], except hammer
 'You-Sg can't bend it except with a hammer.'
- (469) [*bòr↓ kúl*] *màn ↑cín'dî,*
 person all PerfNeg remain,
hál màn tù [ʔáy=[ndù nî]]
 if PerfNeg be [1Sg=[and 2Sg]
 'Nobody remained, except you-Sg and I.'

8.5.2.3 'Not except' = 'only, exclusively'

The combination of a negation with a following 'except' phrase is common in HS (as in KS). One recurrent pattern is to embed an identificational predicate with quasi-verb *nôŋ* in the frame *màn tù + H kàl [X nôŋ]* '(it) is not except (that) [it is X]'. (For *màn tù + H* as higher-level negation with clausal complement, see §9.3.2.) In effect *màn tù kàl + H* contains a double negation, and there is no truth-conditional difference vis-à-vis the simple positive predication *X nôŋ*. The fuller expression, by explicitly excluding alternative identifications ('it is Y', 'it is Z', etc.) and/or a negative counterpart ('it is not X'), can be described functionally as a strong focalizing device (overt focalization is not permitted with *nôŋ*). An example is (470).

- (470) *màn tù kàl [tá:s-à: nôŋ]*
 PerfNeg be except [bowl-Fin/DefSg it.is]
 'It is (none other than) a bowl.'

Similar combinations of negated clause with a following (positive) exception phrase beginning in *kàl + H* are common, especially in narrative. They can often be translated with monoclausal English sentences containing 'only' ('just', 'merely'). Consider (471).

- (471) a. *ì ↑mâŋ bá:y-à: té:, kàl [kù ʔá'tté: dèkè]*
 1SgS PerfNeg anything do, except [Infin tea put.up.on]
 'I haven't done anything, except put the tea on (the burner).'
 (= 'I merely put the tea on.')
- b. [*bòr↓ kúl*] *màn kóy [kàl ɲâ:-y]*
 [person all] PerfNeg go [except mother-1SgP]
 'Nobody went, except my mother.' (= 'Only my mother went.')
- c. *yò ↑mâŋ bá:y-à: té:,*
 1PIS PerfNeg anything do,
kàl táŋ í↑=ɨ́ dàrb-ò tá:
 except only 1SgS=Tr garment-Fin/DefSg sew
 'We have done nothing, except that I sewed up the shirt.'

If the ‘except X’ phrase has a VP in X position, it takes infinitival form (471a). Other possibilities for X include NP (471b) and entire clause (471c). In the latter case, *kàl + H* is augmented by adding *táj* ‘only’. In (471b), the ‘except X’ phrase may not be attached directly to the associated NP within the clause ($\#[bòr\downarrow kúl\ kàl\ nà:-y]\ mà\eta\ kóy$ was rejected). It is therefore reasonable to think of (471b) as a slightly truncated version of a biclausal construction with the verb (underlyingly) repeated: ‘Nobody went, except (that) my mother (went)’.

8.5.3 ‘Also’ (*mô*)

The ‘only, too’ particle is *mô*, following the constituent it has scope over, which may be a NP, an adverbial, or a clause. With a PP, *mô* follows and takes scope over the NP complement rather than the PP as a whole. In an instrumental construction, the string *índù + H X mô* has ambiguous bracketing and I cannot determine whether *mô* has scope over *índù + H X* or just over the NP (X). Some examples are in (472).

- (472) a. *[háns-è mô] ‘bú:*
 [dog-1SgP too] die
 ‘My dog too (i.e. not just my cat) died.’
- b. *í↑=íj [[‘háns-ó=[índù hèyl-ò] mô] ‘kárú*
 1SgS=Tr [[dog-Fin/DefSg=[and cat-Fin/DefSg] too] hit
 ‘I hit [the dog and the cat] too (i.e. not just the goat).’
- c. *í↑=íj ‘háns-ó ‘kárú,*
 1SgS=Tr dog-Fin/DefSg hit,
 í↑=íj [hèyl-ò mô] ‘kárú
 1SgS=Tr [cat-Fin/DefSg too] hit
 ‘I hit the dog, (and) I hit the cat too.’ (=‘I hit the dog, and also the cat.’)
- d. *à’ nàm kàη [[ní ‘mô] bòn]*
 3SgS Fut fall [[2Sg too] on]
 ‘It will fall on you-Sg too (i.e. not just on me).’
- e. *à yé:rí mô*
 3SgS vomit too
 ‘3Sg vomited too (i.e. didn’t just spit)’

In these examples, the *X mô* constituent is fully integrated into its clause—as subject (472), direct object (472b-c), or complement of postposition (472d)—, or else it has clausal (propositional) scope. (472b) shows that when *mô* follows a conjoined NP, it takes scope over the entire conjoined phrase and not specifically the right conjunct. A translation with narrower scope ‘also’ such as ‘I hit the dog and also the cat’ comes

out in HS as a biclausal construction (472c). In other words, in HS *mô* presupposes contrastive material in the preceding discourse, not earlier in the same clause.

Unlike the examples in (472), those in (473) show a *X mô* constituent added as an appendage rather than integrated into a basic argument position. In (473a), *ʔáy* ‘*mô*’ is a preposed topical constituent, the remaining *nèy nò:-ŋ* being a well-formed imperative ‘give (one) to me!’. In (473b), *ní* ‘*mô*’ is likewise a postposed (afterthought) topical constituent, the 2Sg pronominal already being expressed by dative *s-âŋ* ‘to you-Sg’.

- (473) a. [*ʔáy* ‘*mô*’] *nèy* *nò:-ŋ*
 [1Sg too] 1SgO give-ImprtSg
 ‘Give (one) to me too!’
- b. *hà:* *ká* *ɲòŋ* *té:* *s-êy,*
 thing Rel 3PlS do Dat-1Sg,
ɲò \uparrow *nám = ʔá:* *té:* *s-âŋ* [*ní* ‘*mô*’]
 3PlS Fut=3SgO do Dat-2Sg [2Sg too]
 ‘What they did for me, they will do for you-Sg too.’

The ‘again’ particle, with clausal scope, is *kátin* or *kásin* (see §9.5.6.1 and §9.3.5).

8.5.4 Similitives

8.5.4.1 ‘Like X’ (*dàngà* X)

The only adposition-like element meaning ‘like X, similar to X’ is the uninflectable particle *dàngà*. It can occur as a straightforward similitive preposition, followed by a NP or independent pronoun (474). However, *dàngà* often implies that the similarity is superficial, a matter of appearances only (475). Indeed, it can be used clause-initially as a kind of conjunction, glossable roughly as ‘in the belief that ...’ (§9.5.8.3).

- (474) \uparrow = \uparrow *ʔóy* [*dàngà* *ʔàngá*]
 1SgS=Impf work [like 3Sg]
 ‘I work like him/her.’
- (475) \grave{a} \grave{w} *té:* [*dàngà* [*bór* *sà:h-àntè*]]
 3SgS Impf be [like [person nice]]
 ‘3Sg is like (=has the mannerisms of) a nice person.’

8.5.4.2 ‘X resemble Y’ (*hímá* \uparrow -*ndù* + H)

Predications of similarity are made with verb *hímà* ‘seem’, specifically its derivative *hímá* \uparrow -*ndù* + H ‘resemble’, which behaves like a VO transitive (476).

- (476) à w̄ ↑hí'má↑-ndù ?ây
 3SgS Impf seem-with 1Sg
 'He/She resembles me.'

8.5.4.3 'The likes of X' (X *cíl-ò*)

Another relevant stem is the possessed noun *cíl-ò* 'the likes of, the equal of'. It can be preceded by an NP, a third person possessive clitic (477a), or an independent 1st/2nd person pronoun like 1Sg ?ây or 2Sg *nî* (477b).

- (477) a. [*à cíl-ò*] sí:
 [3SgP equal-3PossSg] not.be
 'He/She is peerless (incomparable).'
- b. [*nî 'cíl-ò*] sí:
 [3SgS equal-3PossSg] not.be
 'You-Sg are peerless (incomparable).'

8.5.4.4 'The (same) way that ...' (*móté*)

When a comparison revolves around event types, a relative clause based on *móté* 'how' can be used (478). At the beginning of the second clause is *gâ* (§8.3.11)

- (478) *móté* 'gá=↑á bò [w̄ góy=nd-à],
 how Rel=3SgS XImpf [Infin work=with-3SgO],
gá=↑í '↑bó [w̄ góy=nd-à]
 Rel=1SgS XImpf [Infin work=with-3SgO]
 'The (same) way that he/she works, I will work that way.'
 (= 'I will work just like he/she works.)

8.5.5 Clause-level emphatics

These particles give various emphatic nuances to statements and imperatives. Unlike true intensifiers (§9.2), they are not pronounced with exaggerated high pitch and forcefulness, and those that begin with a H-tone can be downstepped.

8.5.5.1 Clause- or phrase-final *dèy* (admonition)

Clause-final particle *dèy* with L-tone adds a mild intensifying note to an admonition, or to a statement contradicting something the interlocutor has said. The prohibitive (479a) might be uttered by a parent to a child, the 'now' of the free translation being the understressed, low-pitched, nontemporal 'now' used in similar admonitions.

- (479) Ø=*ɲ* *sù* ↑*zùrù* *dèy*
 2SgS-Subju ImpfNeg run Emph
 ‘Don’t you run now!’

Some speakers regularly add *dèy* to *sàbù* ‘because’, hence *sàbù dèy* glossable ‘because’ as a unit (§9.5.7). Likewise, some speakers add *dèy* to the quotative particle *kèy*, as in *à né cèy dèy ...* ‘he/she said that ...’.

8.5.5.2 Clause-final emphatic *mê* or *sà*

Imperatives like *gòrò-ɲ* ‘sit down-Sg!’ can be intensified by adding a clause-final particle *mê* or *sà*, hence *gòrò-ɲ ‘mê* ‘sit down-Sg, dammit!’ (for plural addressee *wòʔ gòrò mê*). The form *sà* is apparently a recent borrowing from Bambara and other regional languages (cf. French *ça*). Certainly *mê* is in common use among all age groups. It is rarely used from one adult to another, but is quite common in adult-to-child imperatives. Typically it is used when a command has to be repeated (with increased insistence) when the child has not obeyed the first command.

8.5.5.3 Clause-final emphatic *kòy*

The most common clause-final emphatic particle after assertions is *kòy*, though some speakers prefer to use *láy* in a similar function. *kòy* is the HS version of a regionally widespread particle, also in Fulfulde and some Dogon languages. It should not be confused with the verb *kóy* ‘go’ or with the noun *kôy* (final/definite singular *kóy-ó+H*) ‘owner’. The clause-final particle is much more frequent in animated conversation than, say, in narrative monologue. It is often best left untranslated. An example is (480).

- (480) *àʔ* *tùrù* *kòy*
 3SgS reply Emph
 ‘He/She indeed answered.’

8.5.5.4 Clause-final emphatic *láy*

This particle is close to *kòy* in discourse function. Different speakers prefer one or the other.

- (481) a. *àʔ* *màɲ* ↑*ká* ‘*láy*
 3SgS PerfNeg come at.all
 ‘He/She didn’t come at all.’

- b. *ì* $\hat{\uparrow}$ *máj* \uparrow *ηâ:* *láy*
 1SgS PerfNeg eat at.all
 ‘I didn’t eat at all.’ (=‘I didn’t get so much as a bite to eat.’)

8.5.5.5 Clause-final emphatic *yá*

This clause-final particle can be used to insist on the truth of a proposition that an interlocutor has challenged or expressed doubt about, or might do so. In some textual passages it seems to have a more general emphatic value similar to *kòy*. Even more than other emphatic particles, this one deserves careful study based on numerous textual examples, but that is beyond the scope of this grammar.

8.5.6 Strong emphatics and oaths

Oaths consist of *wàllá:hì!* ‘by God’ (<Arabic) or a variant followed by an ordinary assertion, with no further intervening particle (compare KS particle *bara*).

8.5.7 ‘Even’ (*bâ:*)

The ‘even’ particle is *bâ:*, preceding the constituent or clause that it has scope over. The constituent is usually a NP (including adverbials and independent pronouns), as in (482a-b). Occasionally it is a VP, in which case *bâ:* itself becomes a serial verb, followed by an infinitival VP (482c-d). *bâ:* can also follow a serial verb such as *bà* ‘want’, before the infinitival VP complement (482e).

- (482) a. [*bá:* *bà:b-àη*] $\hat{\uparrow}$ *máj* \uparrow *kâ*
 [even father-2Sg] PerfNeg come
 ‘Not even your father came.’
- b. *yó* $\hat{\uparrow}$ = $\hat{\uparrow}$ *w* \uparrow *hín* *kóy* [*bá:* \uparrow *súbâ*]
 1PIS=Impf be.able go [even tomorrow]
 ‘Even tomorrow (i.e. at any time) we could go.’
 [reduced from *hín kù kóy* with infinitival *kù + H*]
- c. $\hat{\uparrow}$ *à* *màη* *bá:* [*kù* $\hat{\uparrow}$ *fô:*]
 3SgS PerfNeg even [Infin greet]
 ‘3Sg didn’t even say hello.’
- d. $\hat{\uparrow}$ *à* *bá:* [*kù* *dô:η*]
 3SgS even [Infin sing]
 ‘3Sg even sang.’

- e. *ì sù ʔbâ [bá: kù díy-à]*
 1SgS ImpfNeg want [even Infin see-3SgO]
 ‘I don’t even want to see it.’

With instrumental preposition *ndù + H*, usually the complement NP is focalized, leaving the preposition stranded postverbally (483a). In elicitation, an informant hesitatingly allowed *bá:* to precede the unreduced prepositional phrase in the postverbal complex (483b), but the grammaticality of this seems doubtful.

- (483) a. *bá: ʔsémb-ó gá = ʔɲ sù hín*
 even knife-Fin/DefSg Focus=2SgS ImpfNeg be.able
[kú = ɲ ʔdúmbú = nd-à]
 [Infin=3SgO cut=with-3SgO]
 ‘Even with a knife you-Sg can’t cut it.’
- b. *ɲ sù hín [kú = ɲ ʔdúmbú]*
 2SgS ImpfNeg be.able [Infin=3SgO cut]
[bá: = [ndù sémb-ó]]
 [even=[with knife-Fin/DefSg]]
 ‘You-Sg can’t cut it even with a knife.’ (marginally grammatical)

‘Even if ...’ is expressed with clause-initial *bá:*, the usual *hâl* ‘if’ being omitted (484).

- (484) *bá: = ɲ ʔ = ɲ nèy bàna, ì sú ʔ = ɲ = ɲ ʔté:*
 even=2SgS=Tr 1SgO pay, 1SgS ImpfNeg=Tr=3SgO do
 ‘Even if you-Sg paid me, I wouldn’t do it.’

8.6 Cooccurrence of discourse-functional categories

8.6.1 Topic plus another DF morpheme on the same constituent

It was possible to elicit a pronoun with both topicalizing *mínê* (or weak topic *kèy + H*) and emphatic *dâ*. These combinations may also be focalized (485a-b).

- (485) a. *[ʔáŋgá ʔmínê dá] bô [w̄ hín]*
 [3FullSg Topic Emph] XImpf [Infin be.able]
[kù ʔnáj fâ:bà]
 [Infin 2SgO help]]
 ‘It is 3Sg him-/herself [focus] who can help you-Sg.’
- b. *[ʔáy kèy dá] ʔgâ mòngò [w̄ ʔdú kà:tíb-èy]*
 [1Sg WTopic Emph] Focus fail [Infin get riyal-DefPl]
 ‘It is I [focus] who was unable to get money.’

8.6.2 Emphatic plus focus

Constituents with emphatic *dâ* are often focalized; see (485-6) in the preceding section, also (461) in §8.5.1.1. Similar examples were elicited with emphatic *já:tîŋ*, but also (less obviously) with *táŋ* ‘only’ and *mô* ‘also’.

- (486) a. [*ʔáŋgâ táŋ*] *↑bó* [*ẁ* *↑górò*]
 [3FullSg only] XImpf [Infin sit]
 ‘3Sg alone [focus] is sitting.’
- b. [*háns-è mó*] *‘gâ* *kà*
 [dog-1Sg also] Focus come
 ‘My dog too [focus] came.’

8.6.3 Topic plus focus

Combinations of topical NP with topic *mínê* or weak topic *kèy+H* were elicitable; see examples in §8.6.1. However, these combinations are not attested in texts. Normally a topicalized constituent is preposed to the clause, a coindexed pronoun appearing within the clause itself.

8.6.4 Multiple topics

Since topical NPs are generally presentential, there is no real combinatory syntax affecting them. Multiple topical NPs are uncommon but not excluded. The most typical type would be a spatiotemporal adverbial specifying a setting, and a second topical NP (perhaps with *mínê*) establishing a key discourse referent (487).

- (487) *bì:* [*ʔáy ‘mínê*] *ì* *↑cín‘dí* *nè:*
 yesterday [1Sg Topic] 1SgS remain here
 ‘Yesterday, as for me, I stayed here.’

8.6.5 Relativization and focus

It is not usual for the relativized constituent to be focalized within the relative clause proper. When it is focalized, the relevant independent (e.g. 3FullSg) pronoun is added after the relative morpheme. This is therefore a case of “loose” relative clause. An example is (488), which also illustrates strong definite *H+dî* as right-edge marker at the end of a relative (§9.5.10) and presentative *nè:* ‘here is’ (§7.2.3.3).

- (488) [*kò-t-íy-à:* [*gá ‘ʔáŋgâ gá* *ì* *díy-à*]
 [child-Dimin-Fin/DefSg] [Rel 3FullSg Focus 1SgS see-3SgO]

[à w̄ ↑bá:b-ò kárú dì] dá] nè:
 [3SgS Impf father-3SgP hit StDef] Emph] here
 ‘Here is the boy whom it was he [focus] that I saw hitting his father.’

8.6.6 Relativization and topicality

A topical NP may have an attached relative clause, usually nonrestrictive in sense (building up background information for the following discourse), as in (489).

(489) ní ‘mínê, gá ‘kóy fáránsí,
 2Sg Topic, Rel go France,
 mí:ŋ = ↑ǵ ‘↑bó [kú↑ = ǵ mí:lô]
 what?=2SgS XImpf [Infin=3SgO think]
 ‘You-Sg, who have gone to France, what do you think?’

One can also put *mínê* at the end of the relative clause (*ní ‘gâ kóy fáránsí ‘mínê*). There is little change in meaning, but in this case the relative clause is best interpreted as restrictive.

9 Sentence-level syntax and semantics

9.1 Object NPs

9.1.1 Classification and ordering of nonsubject NPs and PPs

The categories of nonsubject NPs are those in (490).

(490) Nonsubject NPs

- a. preverbal direct object of ordinary (canonical) transitive
- b. postverbal direct object of VO verb ('see', 'get', etc.)
- c. unmarked postverbal NP (§6.1.8)
- d. complement of dative postposition *sê* (§5.9.2)
- e. complement of spatial postposition (*gâ(:)*, *bòŋ*, etc.) (§5.9.4ff.)
- f. complement of preposition, chiefly instrumental *ńdù + H* 'with' (§5.11.1)
- g. nonadpositional adverbial ('here', 'today', etc.)

All but (490a) appear in postverbal position. (490b) differs from (490c) in that only (490b) can be represented by a 3Sg object suffix *-à* on the verb, or by 3Pl *ńóŋ* following the verb. (490d) and (490e) are closely related postpositional complements, but datives (490d) occur in 'give' and 'show' clauses that also have variant constructions where the recipient is shifted to preverbal direct-object position (§9.1.2). (490f), prepositional complement, is not always easy to distinguish from (490b), since the sequence *VERB ńdù + H NP* has variable bracketing, one possibility being *VERB-ńdù + H NP* including a suffixally derived VO verb. (490g) is not easily distinguished from (490c), the latter being a miscellaneous set of cases where a non-direct-object argument lacks an overt adposition, though syntactic processes like focalization may force this argument to take a "real" syntactic function.

When there are two or more postverbal NPs (including adverbials), ordering is not fixed by syntactic function except in the case of pronominals. If a VO object is pronominal, it immediately follows the verb in all cases (as suffix *-à* for 3Sg, as a clitic in the other categories). Even when this combination co-occurs with a pronominal postposition such as a dative, the PP must follow the VO object pronominal (491).

(491) *àʔ* *dù* *ńí* *ʔs-êy*
3SgS get 2Sg) Dat-1Sg
'He/She got you-Sg for me.'

However, a pronominal dative PP preferentially precedes a full-NP object of a VO verb (492).

- (492) à* dù s-éy 'háns-ó
 3SgS get Dat-1Sg dog-Fin/DefSg
 'He/She got the dog for me.'

With spatiotemporal postpositions, there is only a tendency for a pronominal PP to precede a full-NP object. (493a) shows a pronominal PP following a full-NP object, while (493b) has the opposite order. In both sentences the order could be reversed.

- (493) a. ì ↑dú [ʔàtté: 'jín-èy] [↑á bòn] bì:
 1SgS get [tea gear-DefPI] [3Sg on] yesterday
 'Yesterday I got (=found) the tea gear on it.'
- b. í↑ = íí 'hó:lê [à gà:] cèr-èy
 1SgS=Impf trust [3Sg in] friend-1SgP
 'I trust my friend in that (matter).'

Adverbials (simple nouns or nonpronominal PPs) generally follow other NPs that relate more directly to the argument structure of the verb, as with *bì:* 'yesterday' in (493a) above. However, there is considerable fluidity in ordering, and in that example *bì:* could also occur directly after the verb, or between the direct object 'tea gear' and the PP 'on it'.

9.1.2 Double-object constructions

With ditransitive *nó:* 'give' and 'show', two constructions are possible. In (494a-b), the theme (the object shown or transferred) functions as preverbal direct object, and the recipient is expressed as a postverbal dative PP.

- (494) a. í↑ = íj nò:r-ò nó: [↑kó-t-íy-à: sê]
 1SgS=Tr money-Fin/DefSg give [child-Dimin-Fin/DefSg Dat]
 'I gave the money to the child.'
- b. í↑ = íj nò:r-ò ↑cówrù [kò-t-íy-à: sê]
 1SgS=Tr money-Fin/DefSg show [child-Dimin-Fin/DefSg Dat]
 'I showed the money to the child.'

In (495a-d), it is the recipient that appears as preverbal direct object, while the theme turns up as an unmarked postverbal NP. (495c) shows that the postverbal theme may be omitted (if obvious).

- (495) a. í↑ = íj kò-t-íy-à: nó: ↑nó:r-ò
 1SgS=Tr child-Dimin-Fin/DefSg give money-Fin/DefSg
 [= (494a)]

- b. $i\hat{\uparrow} = \acute{ij}$ $k\grave{o}-t-\acute{iy}-\grave{a}:$ $\hat{\uparrow}c\acute{o}wr\grave{u}$ $n\grave{o}:r-\grave{o}$
 1SgS=Tr child-Dimin-Fin/DefSg show money-Fin/DefSg
 [= (494b)]
- c. $\acute{a}\hat{\uparrow} = \acute{ij}$ $n\grave{e}y$ $n\acute{o}:$
 3SgS=Tr 1SgO give
 ‘He/She gave (some) to me.’
- d. $\acute{a}\hat{\uparrow} = \acute{ij}$ $n\grave{e}y$ $c\grave{o}wr\grave{u}$ $n\grave{o}:r-\grave{o}$
 3SgS=Tr 1SgO show money-Fin/DefSg
 ‘He/She showed me the money.’

Extraction (focalization, relativization) can apply to the recipient out of either construction; relative examples are (496a-b).

- (496) a. $b\grave{o}r-\grave{o}$ $[g\acute{a} \acute{t}s\acute{e}]$ $i\hat{\uparrow} = \acute{ij}$ $n\grave{o}:r-\grave{o}$ $n\acute{o}:$
 person-Fin/DefSg [Rel Dat] 1SgS=Tr money-Fin/DefSg give
 ‘the person to whom I gave the money’ (cf. §8.3.3)
- b. $b\grave{o}r-\grave{o}$ $g\acute{a}$ $\acute{t}\hat{\uparrow} = \acute{ij} = \acute{ij}$ $n\acute{o}:$ $\hat{\uparrow}n\acute{o}:r-\grave{o}$
 person-Fin/DefSg Rel 1SgS=Tr=3SgO give money-Fin/DefSg
 ‘the person to whom I gave the money’

The theme NP can be extracted out of preverbal object position, but usually not out of postverbal position, so (497a) but not (497b) is grammatical.

- (497) a. $n\grave{o}:r-\grave{o}$ $g\acute{a}$ $\acute{t}\hat{\uparrow} = \acute{ij} = \acute{ij}$ $n\acute{o}:$
 money-Fin/DefSg Rel 1SgS=Tr=3SgO give
 $[\hat{\uparrow}k\acute{o}-\acute{t}-\acute{iy}-\grave{a}:$ $s\acute{e}]$
 [child-Dimin-Fin/DefSg Dat]
 ‘the money that I gave to the child’
- b. $\#n\grave{o}:r-\grave{o}$ $g\acute{a}$ $\acute{t}\hat{\uparrow} = \acute{ij}$ $k\grave{o}-t-\acute{iy}-\grave{a}:$ $n\acute{o}:$
 #money-Fin/DefSg Rel 1SgS=Tr child-Dimin-Fin/DefSg give
 (ungrammatical)

9.1.3 Biclausal instrumental constructions

HS can use a ‘take’ verb, often $y\grave{a}:r\grave{i}$, as a kind of serial verb with following infinitival VP, as an alternative to the usual monoclausal instrumental construction with $\acute{n}\acute{d}\acute{u} + H$. An example is (498).

- (498) $i\uparrow = \acute{y}$ $d\grave{e}:s-\grave{o}$ $\uparrow y\acute{a}:r\grave{i}$ [\grave{w} $\uparrow t\acute{u}:r-\grave{o}$ $\uparrow f\acute{a}r\grave{e}$]
 1SgS=Tr ax-Fin/DefSg take [Infin wood-Fin/DefSg chop]
 ‘I took the axe to chop the wood.’
 (=‘I used the axe to chop the wood.’=‘I chopped the wood with the axe.’)

9.1.4 Double-dative constructions

Double datives are possible within a clause if there is sufficient differentiation in sense. In (499), the first dative is an argument of the verb ‘bless’, the second is a benefactive outside of the core argument structure.

- (499) \acute{a}^* $n\grave{a}m$ $d\acute{u}w\acute{e}$ [\acute{a} $s\acute{e}$] $^*s-\acute{e}y$
 3SgS Fut bless [Dat 3Sg] Dat-1Sg
 ‘He will bless her for me.’

9.1.5 Restarting clauses with heavy preverbal objects

If a preverbal direct object is heavy, for example by ending in a relative clause, we get an example like (500).

- (500) $i\uparrow = \acute{y}$ [$k\grave{o}-t\acute{i}$ $^*h\acute{i}ŋk-\acute{o}$
 1SgS=Tr [child two-DefSg
 [$g\acute{a} = \uparrow \acute{n}^{\prime}j\acute{e}y$ $b\grave{a}:b-\grave{u}$] $w\acute{o}w$]]
 [Rel=[3FullPIP father-3PossSg] insult]]
 $^*k\acute{a}r\acute{u}$
 hit
 ‘I struck the two children who had insulted their father.’

Sentences like this, where the subject and verb are widely separated, cause problems in production and processing. To avoid this without stylistic awkwardness, one can prepose (topicalize) the direct object, then follow it with a compact clause (‘the two children who had insulted their father, I struck them’). Alternatively, one can begin the sentence as in (500), but stop at the end of the heavy direct-object NP. The compact clause (‘I struck them’) can then be restarted with a third person pronoun (501).

- (501) $i\uparrow = \acute{y}$ [$k\grave{o}-t\acute{i}$ $^*h\acute{i}ŋk-\acute{o}$
 1SgS=Tr [child two-DefSg
 [$g\acute{a} = \uparrow \acute{n}^{\prime}j\acute{e}y$ $b\grave{a}:b-\grave{u}$] $w\acute{o}w$]]
 [Rel=[3FullPIP father-3PossSg] insult]]
 $i\uparrow = \acute{y}$ $\mu\grave{o}\eta$ $k\acute{a}r\acute{u}$
 1SgS=Tr 3PIO hit
 [(500)]

Such “broken” and restarted sentences are frowned on by informants in elicitation, but do occur in actual speech.

9.2 Intensifiers

Intensifiers are interjection-like particles, often in *CvC* form, that are associated with a particular adjectival sense, or less often with an action. Many intensifiers are therefore strongly associated with a particular lexical stem (or word-family, consisting for example of a verb of adjectival quality, its associated adjective, and further derivatives).

HS makes extensive use of such intensifiers in conversation, perhaps more than any other Songhay language. (502) presents the intensifiers known to me. The associated verb is also shown, but the intensifier can be used with any other forms (e.g. adjectives, nouns) of the same word families. I add an exclamation mark ! to emphasize the interjection-like articulation of intensifiers.

(502) Intensifiers

gloss	verb	intensifier
a. colors		
‘be black’	<i>bí-bî</i>	<i>tík!</i>
‘be white’	<i>kà:rèy</i>	<i>wák!, táy!</i>
‘be red’	<i>cìrèy</i>	<i>cóy!</i>
‘be yellow’	<i>?ó:ldê</i>	<i>búy!</i>
b. full/empty		
‘be full’	<i>tó:</i>	<i>pét!</i>
‘be empty, drained’	<i>kò:s-à</i>	<i>kárás!</i>
c. life/death		
‘die’	<i>bú:</i>	<i>túk!</i>
‘be alive’	<i>húná</i>	<i>ǰáy!</i>
d. taste/smell		
‘be sweet’	<i>kâ:n</i>	<i>nám!</i>
‘be tasteless’	<i>tárú</i>	<i>pásák! ~ páták! (see ‘be wet’)</i>
‘be bitter’	<i>mórú</i>	<i>tóróm!</i>
‘be spicy’	<i>hóttó</i>	<i>rók!</i>
‘be rotten’	<i>fúmbú</i>	<i>dús!</i>
e. moisture		
‘be dry’	<i>kó:gú</i>	<i>káráw!</i>
‘be wet’	<i>tá:y</i>	<i>páták! (see ‘be tasteless’)</i>

f. temperature		
‘be hot’	<i>kóróŋ</i>	<i>táw!</i>
‘be cold’	<i>yéy</i>	<i>yérem!, sáábáy!</i> (see ‘peace’)
g. texture		
‘be hard’	<i>jítí</i>	<i>gúk!</i>
‘be soft’	<i>bà:n</i>	<i>délék!, búruk!</i>
h. other adjectival senses		
‘be new’	<i>táw</i>	<i>mánzám!</i>
‘be ugly’	<i>mé:rí</i>	<i>kútúbá!</i>
‘be radiant’	<i>nará</i>	<i>néw!</i>
i. actions and states		
‘stop, halt’	<i>gâ:y</i>	<i>cót!</i>
‘fall’	<i>kâŋ</i>	<i>búp!</i>
‘be quiet’	<i>dánjéy</i>	<i>sút!</i>
‘know’	<i>béy</i>	<i>fár!</i>
j. in greetings		
‘peace, well-being’	<i>bà:n-ì</i>	<i>sáábáy!</i> (see ‘be cold’)

Verbs of adjectival quality and other verbs (or nouns) of adjective-like meaning that do not have an attested intensifier are these: *bé:rí* ‘be big’, *bòrì* ‘be pretty’, *dùcciyà* ‘be short’, *dùŋgù* ‘be lukewarm’, *fà:bù* ‘be skinny’, *hây* ‘be spacious, wide’, *kàtiyà* ‘be small’, *kò:n* and variants ‘be bare, empty’, *mân* ‘be near’, *mòl* ‘be hard to grip’, *mó:rû* ‘be far away’, *ná:sú* ‘be plump’, *nín* ‘be cooked, ripe’, *tèfèy* ‘be flat’, *yúltú* ‘be smooth’, *zé:n* ‘be old’, and the color adjectives (really nouns in form) *bákâ* ‘blue’, *sùb-ù* *î tá:y-ò* ‘green’ (“fresh grass”), and *túrí* ‘yellow’.

Most often intensifiers simply add emphasis. They are characteristic of lively narrative and conversation; compare English *brand new*, *clean as a whistle*, *dead drunk*. In a few cases the intensifier makes a semantic distinction within the range of senses of a stem. For example, *kâ:n* ‘be sweet; be good; (blade) be sharp’ takes intensifier *nám!* only in the sense ‘be sweet’, referring to taste.

Intensifiers are pronounced forcefully, highlighting the blunt-edged *CvC* and *CvCvC* shapes and (in many cases) the otherwise impermissible final obstruents. The pitch is always high, and preceding words (regardless of phonological tone) are sharply lowered in pitch. For example, in *à hóttó rók!* ‘it is very bitter’, the verb *hóttó* is pronounced with lower than usual pitch in order to make the intensifier *rók!* conspicuous. (*kûl* ‘all’ and other emphatic elements have similar effects on the preceding word.)

Default negative intensifiers, i.e. associated with negation but not with specific lexical senses, are those in (503).

(503) Default negative intensifiers

fés! ~ *fás!* ‘(not) at all’
fúr! ‘(not) at all’ (uncommon)

They are ‘(not) at all’ expressions, as shown in (504).

(504) *à'* *màŋ* *↑yéddà* *fés!*
 3SgS PerfNeg consent **at.all**
 ‘He/She didn’t consent at all.’

For other negative polarity items, see §9.3.4 below. Default positive intensifiers are presented in the section on clause-final emphatic particles (§8.5.5.1-4).

9.3 Operators and scope

9.3.1 Types of adverbs

Spatiotemporal adverbs are of course common, but those that are not overt adpositional phrases can be interpreted as noun stems with an implied (but unexpressed) adposition (usually locative). For examples see §4.4.3 and §5.13.1-2.

Quantificational adverbials include the ‘X times’ construction, where X is some numeral (§5.4.9), and the adverbs *kóynê* ‘again’ and *jínáŋ* ‘for now; (not) yet’ (§9.3.5, §9.5.6.2). Serial-verb constructions fulfill the functions of quantificational adverbs in other cases; see *yò* ‘do again’ (566d) in §9.7.2.

A biclausal construction with a verb of manner is easy to construct, so HS can often do without an actual adverb. For example, ‘(to) cook well’ can be expressed as *hìn-à* [*w̄* *↑bóri*] with *hìn-à* ‘cook’ and an infinitival VP based on the verb *bòrì* ‘be pretty, be good’. However, there are some manner adverbials in the form of postverbal adpositional phrases, such as instrumental *ńdù gá:bì* ‘with force; hard’ and dative *yá:dá* ‘sê’ ‘for nothing, in vain’. The most important simple manner adverbs are *tàmbà* ‘early’, its iteration *tàmbà-↑támbà* ‘fast, quickly’, and *móssó-móssó* ‘slowly, gently’.

As for subject-oriented adverbials, ‘on purpose’ is expressed with verb *hénsé* ‘do on purpose’ plus an infinitival VP, e.g. *à hénsé* [*w̄* *↑néy* ‘kárú’] ‘he hit me on purpose’.

There are no adnominal adverbials of the English type *the man in the street*. These are expressed as relative constructions (‘the man who is/was in the street’).

9.3.2 Negation

In addition to ordinary sentence-internal negation (which is part of the MAN system), there is **higher-level negation** which asserts the falsehood of an entire proposition

(itself variably positive or negative). The higher-level construction is schematized in (505), where S is any indicative sentence.

- (505) *màn* *tù + H* [*S*]
 PerfNeg be [*S*]
 ‘it is not the case that [*S*].’

This construction is especially useful when S is an identificational predication with *nôŋ*, since this construction contains no verb and allows no MAN marking, so there is no way to negate it internally. See examples (354a-b) in §7.1.1.5.

Higher-level negation is also useful when S is a focalized clause, and when what is denied is that the focalized constituent was involved in the eventuality (506).

- (506) *màn* *tù* [*ʔáy* *‘gâ* *kóy*]
 PerfNeg be [1Sg Focus go]
 ‘It was not I [focus] who went.’ (i.e. it was somebody else)

Likewise, higher-level negation can be used when this clarifies the **scope relationship** between the negative and a universal quantifier. An example is (510) in the following section.

Higher-level negation can also be used for **metalinguistic negation**, as when the pronunciation or correct formulation of a word or phrase is challenged. In (507), a speaker corrects the interlocutor’s misunderstanding of the verb (‘reply’ versus ‘braid’, which differ only in tone) that the speaker had uttered a moment before.

- (507) *màn* *tù* “*àʔ nàŋ tùrù*” *kòy*, “*àʔ nàŋ túrú*”
 PerfNeg be “3SgS Prfct reply” indeed, “3SgS Prfct braid”
 ‘Not “*àʔ nàŋ tùrù*,” rather “*àʔ nàŋ túrú*.”’

NP-internal negation is not part of HS grammar, but a rough functional equivalent can be produced by *jêŋ-êy* ‘lack (of sth)’ as compound final (§4.8.8) or with a possessor X in *X jéʔŋ-êy* ‘lack/shortage of X’. Cf. verb *jêŋ* ‘fail (to do)’ (§9.7.6).

9.3.3 Negation and quantifiers

The usual ‘not any’ construction combines clause-internal negation with a NP ending in *kúl* ‘all’ (508a-b).

- (508) a. [*bòr*↓ *kúl*] *màŋ* *ʔkâ*
 [person all] PerfNeg come
 ‘Nobody came.’
- b. *ì* *sù* *kóy* [*dèy*↓ *kúl*] *‘láy*
 1SgS ImpfNeg go [place all] at.all
 ‘I’m not going anywhere at all.’

- (513) a. *bá:y-à: gá à màn = ↑á: 'nó: s-éy*
 nothing Focus 3SgS PerfNeg=3SgO give Dat-1Sg
 'Nothing [focus] is what 3Sg gave me.'
- b. *bá:y-à: sù fáttá*
 nothing ImpfNeg exit
 'Nothing will come out.'
- c. *?àbádá nòŋ sù ↑ká*
 never 3PIS ImpfNeg come
 'They will never come.'

Other forms that serve as negative polarity items can be constructed with the schema *X kûl*, with some noun *X* ('person', 'place', etc.) plus *kûl* 'all'. An example is (508b) above ('nowhere'). For simple clause-final '(not) at all' particles, see the default intensifiers in (503) in §9.2 above.

9.3.5 Negation with 'again' and 'first, for now' ('no longer' and 'not yet')

'No longer' is expressed by adding *kátìn ~ kásìn* 'again' (§9.5.6.1) to a negative clause, in postverbal position (514). Both variants are borrowed from Fulfulde dialects.

- (514) *à sí: ↑yó [w̄ ↑dó:ⁿ 'kátìn] láy*
 3SgS ProgrNeg return [Infin sing again] at.all
 'He/She (e.g. a retired singer) no longer sings.'

'Not yet' is expressed by adding *jínáŋ* 'for the time being, for now' (§9.5.6.2) after the verb of a negated clause. A slightly more emphatic 'still not' sense can be expressed by using a postverbal *hâl* 'until' phrase like *hâl hòⁿ* 'until now' with a negation ('He/She didn't come [until today]'). *hâl hòⁿ* but not *jínáŋ* may also be preposed without changing the sense. Regardless of position, both *jínáŋ* and *hâl hòⁿ* have wide scope, encompassing the negation, so an informal representation would be of the form '[as of now [it is not the case that [...]]]'.

- (515) a. *à[†] màn[†] 'kú[†]béy 'jínáŋ*
 3SgS PerfNeg marry for.now
 'He hasn't gotten married yet.' (*kùbêy*)
- b. *à[†] màn[†] ↑dírà [hâl hòⁿ]*
 3SgS PerfNeg walk [until now]
 'He/She has not yet left.' (= '...still hasn't left')

9.3.6 Quantification over possessed nouns

When the possessor has scope over a nonsingular numeral phrase, we get outputs like (516).

- (516) *[fè:g-ù hínc-è] bú:*
 [sheep-NF two-1SgP] die
 ‘My two sheep died.’

When the quantifier has scope over a possessed phrase, we have a partitive reading of the type ‘one (or: two, etc.) of the Y’s of X’. The fullest expression of this in HS involves a preposed locative phrase with plural possessed noun, followed by an independent numeral (with absolute prefix if the numeral allows it) denoting the cardinality of the subset.

- (517) *[fè:j-é-nòŋ ↑gá:] ?i-fó: bú:*
 [sheep-1SgP-IndefPl in] Absol-one die
 ‘One of my sheep died.’

When the subset is singular (‘one of the Y’s of X’), a partitive sense can also be conveyed by adding the possessive to the definite form of the numeral ‘1’, namely *fíy-â: +H* (variant *fúw-â: +H*), as in (518a). This implies but does not overtly mention the larger collectivity. A different expression based on the adjective *fòllòŋk-ò +H* ‘one, single, sole’ is used for ‘the one (=sole) Y of X’ (518b).

- (518) a. *[fè:g-ù fíy-è:] bú:*
 [sheep-NF one-1SgP] die
 ‘One of my sheep died.’ (lit. “My one sheep died.”)
- b. *[fè:g-ù ↑fóllòŋc-é] ‘bú:*
 [sheep-NF one-1SgP] died
 ‘My one (=sole) sheep died.’

The universal quantifier *kûl* ‘all’ follows the core NP, including a possessor if present. Here there is no referential difference between partitive and nonpartitive readings. ‘All my sheep died’ is *[fè:j-é-nòŋ kûl] ‘bú:*, compare (517) above.

9.4 Overview of complement clause types

Except in details, the HS system of complementation is very similar to that of KS and several other Songhay languages. (519) shows the major types.

(519) Complement clause types

- a. indicative clause (same form as main clause, perhaps with *gâ* ‘that’)

- b. subjunctive clause (with subjunctive *m̄* and a subject NP; negation permitted)
- c. infinitival VP (with infinitive *kù+H ~ w̄+H*, no subject NP or MAN marking)

Indicative clauses denote complete propositions and are used in complements of verbs like ‘know’ and in conditional antecedents. Both subjunctive clauses and infinitival VP complements are irrealis and usually future oriented; the difference between them is usually that an infinitival complement shares its (omitted) subject with the subject or other argument of the higher clause, while subjunctive clauses are finite (including a subject).

Cross-cutting these complement types is the possibility of using logophoric pronouns (next chapter), which constitutes another kind of subordination found in quotations.

9.5 Clause conjunction and indicative complement clauses

In the following subsections are considered a number of constructions involving two or more indicative (nonsubjunctive) clauses.

9.5.1 Conditionals (*hâl*, *bâ*ː)

The basic ‘if’ morpheme is *hâl* at the beginning of the antecedent clause. There is also a less common extended variant *hâl-ní*ː. The augment *-ní*ː is also found in two other similar clause-initial phrases (§8.5.1.3). Elsewhere, *hâl* (but not *hâl-ní*ː) is used in the sense ‘until’ or ‘all the way to’ (§9.5.6.4, §9.6.4, §5.9.8). In conditional function, *hâl* often contracts to *hâ* before 2SgS *ñ+H* and 1SgS *ì+H*, which cliticize to and fuse with it, resulting in phonetic [hân] and [hâj], respectively.

The sense ‘even if’ is expressed by clause-initial *bâ*ː ‘even’ instead of the logically expected ‘even if’ combination #*bâ*ː *hâl*, see (484) in §8.5.7.

There is no particle at the beginning of the consequent clause, but the boundary between antecedent and consequent can be indicated by a right-edge marker, usually *kûl* ‘all’, at the end of the antecedent; see §9.5.10 for discussion.

For ‘if [X or Y], (then) Z’ with a disjunctive antecedent, see §9.5.4 below.

HS distinguishes hypothetical from counterfactual conditionals by the use of different MAN categories in the antecedent.

9.5.1.1 Hypothetical conditionals

A typical hypothetical construction consists of an antecedent of type *hâl* plus perfective clause (plus optional *kûl*), followed by a consequent consisting of a nonperfective (i.e., imperfective or future) clause. When denoting simple events, the consequent is usually in future form if positive (520a), and in simple imperfective form if negative (520b). *hâl-ní*ː may be used instead of *hâl*. As in other constructions,

hâl contracts with encliticized 2Sg subject pronoun *ɨ* + *H* (520a-b) and 1Sg subject pronoun *ì* + *H*.

- (520) a. *há* = *ɨ* $\hat{\uparrow}$ *yékà*,
 if=2SgS come.back,
ì $\hat{\uparrow}$ *nâm* $\hat{\uparrow}$ *nán* 'nó: $\hat{\uparrow}$ *nó: 'r-ó-nòŋ*
 1SgS Fut 2SgO give money-PossSg-2SgP
 'If you-Sg come back, I'll give you your money.'
- b. [*há* = *ɨ* *kâŋ*, *kúl*]
 [if=2SgS fall, all]
ɨ *sù* *béy* [*dèy*↓ *ká* = $\hat{\uparrow}$ *ɨ* 'bárâ]
 2SgS ImpfNeg know [place Rel=2SgS X.be]
 'If you-Sg fall, you won't know where you are.'

If the consequent is semantically perfective (better: "perfect"), denoting an event prior to that of the endpoint of the antecedent, the consequent can take perfective form (521).

- (521) [*hál* 'á $\hat{\uparrow}$ = *ɨ* *má:-ŋ* 'cé: *kúl*] [*n* $\hat{\uparrow}$ *dú*]
 [if 3SgS=Tr name-2Sg call all] [2SgS get]
 'If he/she has called (=calls) out your-Sg name, (it means) you have won.'

The antecedent may be imperfective if it denotes a continuing state or a habitual activity (522).

- (522) *há* = $\hat{\uparrow}$ *ɨ* 'á $\hat{\uparrow}$ *gú* *mé:rí*, *n* *sù* $\hat{\uparrow}$ *dú* 'kúrŋé
 if 2SgS Impf be.ugly, 2SgS ImpfNeg get husband
 'If you-Sg are ugly, you won't get a husband.'

9.5.1.2 Counterfactual conditionals

A counterfactual conditional is characterized by an antecedent clause with **perfect** MAN marking (*nâŋ*), which should be distinguished from the partially homophonous future (*nâm* + *H* ~ *nâŋ* + *H*). The consequent clause has the same form as the consequent of a hypothetical conditional; for example, it can be in future form, indicating relative time with respect to the (unactualized) event denoted by the antecedent. An example with positive antecedent and negative consequent is (523). Additional counterfactual examples are in (386a-c) in §7.5.2.1. As with the hypotheticals, *hâl-ní:* may be used instead of *hâl*.

- (523) *hál* *yò* $\hat{\uparrow}$ *náŋ* 'béy, *yò* *sù* $\hat{\uparrow}$ *kâ*
 if 1PlS Prfct know, 1PlS ImpfNeg come
 'Had we known, we would not have come.'

9.5.1.3 ‘Unless’ conditionals

‘Unless’ constructions can be expressed as regular hypotheticals, the antecedent beginning with *hâl* plus the higher-level negation *mân tù + H* ‘it is not (the case)’ (§9.3.2) and an embedded clause (524).

- (524) *hâl mân tù [gá nò:r-ò bén],*
 if PerfNeg be [that money-Fin/DefSg end],
ì ↑nám ↑cín^dî nè: [jír ^fó:]
 1SgS Fut remain here [year one]
 ‘Unless the money runs out, I will stay here for a year.’

9.5.1.4 Willy-nilly conditionals

In this construction, the positive and negative versions of the antecedent are juxtaposed, without *hâl* ‘if’ at the beginning, and without *wâlâ* ‘or’, but with right-edge marker *kûl* at the end (525). Aspect marking is as with ordinary hypotheticals. A more literal paraphrase is ‘You have come, you haven’t come; they will leave’. *ndù + H* ‘and, with’ is optionally added between the positive and negative versions.

- (525) *[[î ↑ká]=[ndù Ø=↑máŋ ^↑ká]^ kûl],*
 [[2SgS come]=[and 2SgS=PerfNeg come] all],
pò ↑nám ^↑dírà
 3PLS Fut walk
 ‘Whether you-Sg come or not, they will leave.’

9.5.2 Juxtaposed and conjoined clauses (‘and’, ‘so’)

There is no ‘and’ conjunction with clausal scope. Indicative clauses denoting consecutive events in a narrative can simply be juxtaposed. When the two clauses are uttered with no intonational break, if the verbs can denote bounded events the natural interpretation is that the second immediately follows the first. Perfectives to denote a single past event (526a) and imperfectives to denote recurring events (526b).

- (526) a. *[î tó:] [î kání]*
 [1SgS arrive] [1SgS go.to.bed]
 ‘I arrived (home) and immediately went to bed.’
- b. *[í↑=í ^tó:] [í↑=í ^kání]*
 [1SgS=Impf arrive] [1SgS=Impf go.to.sleep]
 ‘I (always) arrive (home) and (immediately) go to sleep.’
 (=‘I go to sleep as soon as I get home.’)

In other cases of clause-juxtaposition, one can fine-tune the interclausal relationship by using DF morphemes like *mô* ‘also’ (§8.5.3) or clause-initial emphatic *dèy* (§9.5.6.5).

For ‘so’ in causal sense, a speaker may begin the clause with the simple particle *déllè* ‘so’ (variant *ndéllè*) or with a fuller expression like *wó* ‘*sá:b-ò sê* ‘for that reason’. *déllè*, however, can also be used as a hesitation phrase (‘that is to say, ...’).

9.5.3 Indicative clauses attached to another clause

Clauses with a verb denoting the passage of time or denoting motion can be followed by another fully-formed simple imperfective clause denoting a durative activity that took place through a good part of that interval (527).

- (527) a. [nòŋ hánáná] [nòŋ ↑gú 'dô:ⁿ]
 [3PIS spend.night] [3PIS Impf sing]
 ‘They stayed up all night singing.’
- b. [âˀ kà] [â w̄ dô:ⁿ]
 [3SgS come] [3SgS Impf sing]
 ‘He/She came singing.’

Although there is no overt subordination of one clause to another, the combination of an initial clause containing one of a small set of verbs with a second clause of open-ended structure is reminiscent of serial constructions. Indeed, the basic idea of (527) can alternatively be expressed by a serial-verb construction (*nòŋ hánáná [w̄ dô:ⁿ]*). The serial construction (§9.7.6) seems more common in this durative context. Only the serial construction can be used when the attached clause denotes a punctual event that is merely located by the temporal clause: ‘they killed him while it was night (=at night)’.

Another recurrent conjunction type consists of an initial clause denoting some event or state, followed by a negated clause describing a background situation. A free translation involving ‘without (X) VPing’ is called for (528).

- (528) a. â kóy [nò:r-ò sí: [â sê]]
 3SgS go [money-Fin/DefSg not.be [3Sg Dat]]
 ‘He/She left without (having) any money.’
- b. [â kóy] [â màŋ ↑fô:]
 [3SgS go] [3SgS PerfNeg greet]
 ‘He/She went away, without having said hello.’

For the locational type exemplified by (528a), a positive counterpart with *H + gò*: ‘be’ is possible: [â kóy] [nò:r-ò ↑gò: [â sê]] ‘He/She left, with some money’. However, in a case like (528b) where the second clause would denote a bounded event if converted from negative to positive, a positive counterpart would normally have a

sequential interpretation ('He/She went away, [then] he/she said hello'). By contrast, (528b) has an inverted sequential interpretation, the act of going taking place after the time interval during which the greeting ought to have occurred. In effect, the type (528b) is used opportunistically, taking advantage of the fact that implicatures involving event sequencing do not apply to positive-negative clause sequences in the same way as they apply to positive-positive (or negative-negative) sequences.

9.5.4 Clausal disjunctions (*wàlà* 'or')

wàlà 'or' is placed at the beginning of the second disjunctive clause. If the disjuncts are positive and negative versions of the same scenario, there is no reduction of the core of the second clause (subject, direct object [theme], MAN marking, verb) beyond normal pronominalization, although NPs are pronominalized and setting adverbials are not repeated. There is thus no parallel to the severely truncated English type ending with *or not?* Since (529a-b) are questions, *wàlà* has a final pitch rise and is heard as [wàlá] or [wàlā].

- (529) a. [ɸ̌ Ø ʰkâ] [wàlà ɸ̌ sù ʰkâ]
 [2SgS Impf come] [or 2SgS ImpfNeg come]
 'Are you-Sg coming, or aren't you (coming)?'
 [for ɸ̌ ʰgú ʰkâ ...]
- b. bà:b-àŋ ʰnám ʰnêy nó: ʰfé:g-ò
 father-2SgP Fut 1SgO give sheep-Fin/DefSg
 wàlà à súʰ=ɸ̌ ʰnó:
 or 3SgS ImpfNeg=3SgO give
 'Is your father going to give me a sheep, or not?'

An example of a clausal disjunction functioning as antecedent within a hypothetical conditional is (530). Again there is no unusual reduction of the second clause. The second *hál* 'if', at the beginning of the second disjunct, is optionally omitted.

- (530) [hál à: bú:] [wàlà hál à: zé:n [fàr-mí gâ]],
 [if 3SgS die] [or if 3SgS get.old [farm-VbIN in]]
 ì ʰnám [à dúw-ò] sámbú
 1SgS Fut [3Sg place-3PossSg] take
 'If he dies or if he becomes too old for farming, I will take his place.'

For cases where the two disjuncts of the antecedent are positive and negative versions of the same core scenario, see the 'willy-nilly' conditionals in §9.5.1.4.

9.5.5 Adversative conjunctions (*kâ:*, *ʔammá:*)

One basic clause-initial ‘but’ conjunction is *kâ:* (perhaps from local Fulfulde) or its extended form *kâ:-ní:*. For the *-ní:* extension see §8.5.1.3.

- (531) à w̄ má: [hùmbùrì sénn-ò],
 3SgS Impf hear [Hombori language-3PossSg],
kâ:-ní: á sù hín [kù ↑sélèŋ [àʔ gà]]
 but 3SgS ImpfNeg be.able [Infīn speak [3Sg in]]
 ‘He/She can understand HS, but he/she can’t speak it.’

An alternative to *kâ:* is clause-initial *ʔammá:* ‘but, however’, of Arabic origin. It can also be used phrase-initially as an adversative topical marker (‘but as for X’).

9.5.6 Temporal relations

9.5.6.1 ‘Again’ (*kátìn* ~ *kásìn*, *kóynê*)

The common ‘again’ adverb is *kátìn* ~ *kásìn* (interspeaker variation), borrowed from Fulfulde. It can denote repetition of an action (532a), or it can be used more abstractly to mean ‘in addition, furthermore’ (532b). In the simple repetition sense, it competes with a serial-verb construction with verb *yò* ‘return, do again’, see (566d) in §9.7.2. For ‘no longer’ in combination with negation see §9.3.5.

- (532) a. à kâŋ kátìn
 3SgS fall again
 ‘He/She fell again.’
- b. ńdù mí:ŋ ʔkátìn
 with what again
 ‘and what else?’

One could ask (532b) when the speaker has just been requested to bring a list of things. The question asks whether there is anything to be added to the list.

kóynê ‘also, more’ matches productive ‘also’ adverbs in other Songhay languages, including TSK *kǎynê*. In HS it is much less common than *kátìn* ~ *kásìn*.

9.5.6.2 ‘(At) first, for now’ (*jínáŋ*)

jínáŋ ‘(at) first, for now’ emphasizes that the associated event precedes another event denoted by an adjoining (usually following) clause.

Emphatic particle *dèy* at the beginning of the second clause, which in this case has subjunctive form, can also (with or without *jínáŋ*) specify a similar sense. For *dèy* see §9.5.6.5 below.

- (533) $\dot{\iota}$ \uparrow nám \uparrow ŋâ: jínánj, déy \uparrow =y
 1SgS Fut eat first Emph=1SgS.Subju
 kò-kòrù [w̄ kóy [\uparrow kóyrà kún-ò \uparrow gâ]]
 do.later [Infin go [town inside-3PossSg in]]
 ‘I will eat first; then I will go into the town.’

jínánj is most common with a negation in the sense ‘not yet’ (§9.3.5).

9.5.6.3 Clause-initial *zá*: ‘since’

Like most Songhay languages, HS uses *zá*: ‘since, beginning with’ to denote a starting point, and *hâl* ‘until, all the way to’ denote an endpoint, with a wide range of complements. For clause-initial *hâl* see §9.5.6.4 just below. For quasi-prepositional usage of *zá*: before NPs see §5.9.8.

zá: ‘since, from the time that’ plus clausal complement specifies an event that coincides with the onset of a time interval associated with another activity, state, or situation. A typical positive example is (534).

- (534) [*zá*: = \uparrow á *kà*]
 [since=3SgS come]
 [\uparrow á’ *màn* [\uparrow á *kàsá:b-ò* *jínêy*]
 [3SgS PerfNeg [3SgP boubou-3PossSg] wash
 ‘From the time he came, he/she hasn’t washed his/her boubou (or: shirt).’

zá: is very common with a negative clause denoting an as-yet unactualized event. This is the normal way to translate English ‘before ...’ clauses.

- (535) à *kóy* [*zá*: \uparrow mó: \uparrow mánj *bów*]
 3SgS go [since daybreak PerfNeg break]
 ‘He/She left before the day broke (=before daybreak).’

KS has a narrative construction with *za*: preceding an imperfective clause, the sequence being repeated at least once, to indicate prolongation of an activity. This construction has not been observed in HS.

9.5.6.4 Clause-initial *hâl* ‘until, to the point that’

For quasi-prepositional usage of *hâl* before a NP see §5.9.8. For its use at the beginning of subjunctive complements see §9.6.4. For its use as an ‘if’ conjunction in conditional antecedents see §9.5.1.

With a (nonconditional) indicative clause as complement, *hâl* means ‘until’ (specifying a temporal boundary) or ‘to the point that’ indicating a causal as well as temporal relationship. Examples in (536).

- (536) a. *yò* *góy* [*hál* *wòyn-ò* *kâŋ*]
 1PIS work [until sun-Fin/DefSg fall]
 ‘We worked until the sun set (=until sundown).’
- b. *yò* *góy* [*hál* *yò* *↑zàràbí*]
 1PIS work [until 1PIS get.tired]
 ‘We worked until (=to the point that) we were tired.’

When shifted into the future (‘we will work until the sun sets/until we get tired’), the *hál* clause is normally subjunctive. The “future” can also be used for present (progressive or habitual) sense.

9.5.6.5 Clause-initial *dèy* (‘only then’)

Clause-initial particle *dèy* can link a clause to a preceding clause, indicating close temporal and/or causal sequencing. It can sometimes be glossed in context as stressed ‘then’. *dèy* usually contracts with following 2Sg and 1Sg subjunctive markers (2Sg *déy↑=m̂*, 1Sg *déy↑=ŷ*).

A subjunctive *dèy* clause puts more emphasis on the immediacy of the sequencing. In (533) above, the chronological sequencing is further reinforced by using serial verb *kò-kòrù* ‘do later’ in the second clause. Note also the shift from future to subjunctive. Another example of clause-initial *dèy* is (537).

- (537) [*hál* *cìŋŋà* *↑kâ*]
 [when rain come]
 [*dèy* *bòr-éy↑=m̂* *‘fáttá*]
 [then person-DefPl=Subju exit]
 ‘When the rain comes, then let the people go out!’ (i.e. not until then)

The clause preceding the *dèy* clause can end in *jínáŋ* ‘(at) first, for now’ to emphasize the ordering (§9.5.6.2).

Like colloquial (American) English *so*, *dèy* can also be used to initiate a new topic, perhaps after a length pause. In this function it is compatible with a topical NP, as in (538).

- (538) *dèy* *gànjì-hày-èy* *mínê, ...*
 so forest-thing-DefPl Topic, ...
 ‘So, as for the lions, ...’

9.5.7 ‘Because’ clauses (*sàbù* ~ *sàbà* etc.)

The common ‘because’ phrase before an indicative clause is *sàbù* or *sàbà*. Some speakers regularly extend this as *sàbù dèy* with a special use of emphatic particle *dèy*

(§8.5.5.1) in a specialized usage. The *dèy* is often high-pitched, which I take to be an intonational effect (nonterminal intonation) rather than high tone.

sàbù or *sàbà* is one of a set of borrowings ultimately from Arabic noun *sabab* ‘reason’, others being the noun *sá:bê* (3PossSg *sá:b-ò*) ‘reason, motive’ and the noun *sàbá:b-ò* ‘reason’. Similar forms occur widely in the zone, e.g. in Bambara and Fulfulde, and much borrowing back and forth has evidently occurred.

Examples are in (539).

- (539) a. \hat{i} = \hat{ij} h háns-ó wí:,
 1SgS=Tr dog-Fin/DefSg kill
 [sàbù dèy] à nàŋ kò-t-íy-à: \hat{I} námà
 [because Emph] 3SgS Prfct child-Dimin-Fin/DefSg bite
 ‘I killed the dog because it had bitten a child.’
- b. \hat{i} \hat{I} nám h kóy \hat{I} bámàkò
 1SgS Fut go Bamako
 [sàbù dèy] bé:r-éy nò [w̃ góy nón-dì]
 [because Emph] elder.sib-1SgP Progr [Infin work there]
 ‘I will go to Bamako, because my elder sibling works there.’

In (539a), notice the perfect morpheme in the ‘because’ clause, which denotes a prior punctual event. (539b) shows that nonperfective MAN categories can be used in ‘because’ clauses that denote ambient circumstances.

9.5.8 Indicative ‘that’ complements (*gá*, *kèy*, *dàngà*)

9.5.8.1 *gá* ‘that ...’

The particle *gá* is a workhorse in HS grammar. It is the relative morpheme (§8.3), a kind of adverbial conjunction (§8.3.11), and the focus morpheme (§8.1). It is also the ‘that’ conjunction in factive complements.

- (540) à w̃ béy [gá
 3SgS Impf know [that
 \hat{i} sù [\hat{I} há: \hat{I} lá:l-ò] té: [ʔángá ‘sê]]
 1SgS ImpfNeg [thing bad-Fin/DefSg] do [3FullSg Dat]]
 ‘She_x knows that I won’t do any harm to her_x.’

Indicative ‘that’ complements occur after verbs like *béy* ‘know’, *dí:* ‘see (that ...)’, *còwrù* ‘show’ and its verb-verb compound *kà: kù \hat{I} còwrù* ‘reveal, demonstrate (that ...), *má:* ‘hear (that ...)’ along with its self-compounded form *má: kù má:* ‘hear rumors (that ...), *má:tê* ‘sense (that ...), *mí:lò* ‘believe (that ...), *siccê* ‘suspect (that ...), and *táycê* ‘notice (that ...)’.

9.5.8.2 *kèy* ~ *cèy* and *há:ⁿ* ‘(say) that ...’

A ‘that’ complement is also possible after *nê* ‘say’, though *gâ* is most often omitted in this case. *nê* is always followed by a quotative complement, while an alternative verb *hárú* ‘say, tell’ is used with a direct object, as in ‘I didn’t tell it to them’ (§6.1.9). The difference between factive and jussive complements is adequately marked by MAN morphemes (indicative versus subjunctive, §9.6.3, §10.1.1).

More common than *gâ* after *nê* is another particle *kèy* ~ *cèy* (often elaborated as *kèy dèy* with an emphatic morpheme). An entire sequence like *á nê kèy (dèy)* ‘he/she said that’ can be followed by a pause, then the quoted material. *kèy (dèy)* appears to be common among younger people in Hombori.

An alternative to *kèy (dèy)* is *há:ⁿ*, which occurs in the same frame, i.e. following *nê* ‘say’, but separated from quoted material by a pause. KS *há:ⁿ* is used in the same contexts. A connection with the verb *há:ⁿ* is possible but uncertain.

9.5.8.3 *dàngà* ‘like; believing that ...’

dàngà ‘like, as though; believing that’ (§8.5.4.1) can be used instead of *gâ* to emphasize that the content of the belief is doubtful (or turned out later to be false), as in (541).

- (541) *ì mí:ló dàngà [bór ‘bóry-à: nôŋ]*
 1SgS believe like [person good-Fin/DefSg it.is]
 ‘I (mistakenly) believed that he/she was a good person.’

9.5.9 Bare indicative factive complements

9.5.9.1 *gàrù* ‘find, encounter (that ...)’

A common way of indicating a newly encountered situation is to use a bare indicative complement after the verb *gàrù* ‘find’ (often in the verb-verb compound *kà w̄ ḡgàrù* ‘come and find’). Example (542) could be translated freely ‘It turned out that he/she had gone out’, in the appropriate discourse context.

- (542) *ì ḡká [w̄ ḡgàrù [à fáttá]]*
 1SgS come [Infin [find [3SgS exit]]]
 ‘I came and found that he/she had gone out.’

HS often uses the formulation in (542), with a referential subject (e.g. ‘I found that’) rather than an impersonal matrix-clause phrase (‘it turned out that’ or ‘it happened that’). This is useful in that it allows topic switches even within a construction such as a string of infinitival VPs. For example, (542) would appear as (543) if it were part of such a string, or if it complemented a serial verb with ‘me’ as subject:

- (543) ... *kù* $\hat{\uparrow}$ *ká* [*w̄* $\hat{\uparrow}$ *gárù* [*à* *fáttá*]]
 ... Infin come [Infin find [3SgS exit]]
 ‘... to come and find that he/she had gone out.’

However, it is also possible to use a fixed 3Sg subject in this *gárù* construction. As before, *kà* ‘come’ is optionally compounded with *gárù*. An example is (544).

- (544) *à*^r *kà* [*w̄* $\hat{\uparrow}$ *gárù* [*ɲòŋ* $\hat{\uparrow}$ *náj* ‘*fáttá*’]]
 3SgS come [Infin find [3PlS Prfct exit]]
 ‘It happened that (at that time) they had gone out.’

Here the invariant *à* subject of the matrix clause does not refer to or agree with the same entity mentioned in the complement clause, which can be any pronoun or NP. One can agonize about whether this *à* is referential, or an expletive (dummy) merely providing nonzero phonological content to the subject position (§6.1.1). Since examples like (544) are always embedded in a narrative context, one could argue that the *à* refers abstractly to the situation as left by the immediately preceding discourse.

9.5.9.2 *sábá-ndù + H ~ sáwá-ndù + H* ‘coincide (with)’

The derived VO verb *sábá-ndù + H ~ sáwá-ndù + H* ‘coincide (in time and space) with’, from *sábá ~ sáwá* ‘be equal’, is used in much the same way as *gárù* (545). For suffixed *-ndù + H* see §6.2.5.

- (545) *ì* $\hat{\uparrow}$ *ká* [*w̄* *sáwá-ndù* [*à* *w̄* $\hat{\uparrow}$ *dírà*]]
 1SgS come [Infin coincide-with [3SgS Impf walk]]
 ‘I came just as he/she was leaving.’

9.5.9.3 *kò:rù* ‘have left (sb, in a situation)’

Another such verb is a difficult-to-gloss VO transitive verb *kò:rù* ‘have left (sb) some time ago (in a situation)’, used in constructions translatable e.g. ‘the last time I saw him, he was ...’ (546). The referential object (‘he’ etc.) is optionally omitted, suggesting that the situation itself can function as object.

- (546) *ì* $\hat{\uparrow}$ *kó:rù* [*à* *sí:* *séllê*]
 1Sg leave.behind [3SgS ProgrNeg be.healthy]
 ‘Last I saw him, he was ailing.’

The version of this with overt main-clause object is *ì* $\hat{\uparrow}$ *kó:r-à* [*à* *sí:* *séllê*], with 3Sg object suffix *-a*. Informants seem to prefer the objectless type (546).

9.5.9.4 *dí*: ‘see (sb, doing sth)’

The verb *dí*: ‘see’ can be used with an imperfective complement clause in experiential rather than factive sense, as in (547). Similar examples of the type ‘I heard (=listened to) 3Sg sing’, with verb *má*: ‘hear’, are also used.

- (547) *ì dí: [â w̄ gâ:n]*
 1SgS see [3SgS Impf dance]
 ‘I saw (=watched) 3Sg dance.’

9.5.10 Right-edge marking in antecedents and background clauses

By “right-edge marker” I mean a morpheme whose function (perhaps among other things) is to delineate the boundary between the two parts of an interclausal construction by marking the right edge of a phrase, in this case a subordinated clause or clauses (Heath 2010). Consider a sequence like [Sub S₁ S₂ S₃] with a clause-initial subordinator such as ‘if’ or a relative-clause marker, followed by three indicative clauses. This could potentially be bracketed as [[Sub S₁ S₂] S₃] or as [Sub S₁] S₂ S₃], among other possibilities. In [[Sub S₁ S₂] S₃], S₂ is conjoined to S₁ under the scope of the subordinator, while in [Sub S₁] S₂ S₃] S₂ is a main clause conjoined to S₃, and S₁ is subordinated to S₂. If there were a clause-level ‘and’ conjunction this would not be a problem, but there is no such conjunction in HS. Unless S₂ and/or S₃ is expressed as an infinitival VP, i.e. overtly subordinated to the preceding clause, listeners can have difficulty determining where the scope of the subordinator ends. A conventionalized right-edge marker for the subordinated domain would therefore be useful to the listener.

In relative constructions, the subordinated clause (sequence) is embedded within a matrix clause, so the issue is not where the subordinated clause begins but where the matrix clause resumes. However, right-edge marking resolves the same functional problem as with preposed subordinated clauses.

Strong definite morpheme *H+di* (§5.7.1) is used as a right-edge marker in relatives (§8.3) and factive clauses (‘the fact that ...’, §9.5.9). See, for example, relative examples (104a-d) in §3.9.6.1.

In conditional antecedents, the common right-edge marker is *kûl* ‘all’. Prosodically, it can be pronounced as the final element of an antecedent, or at the beginning of the following consequent clause. Since *kûl* in quantifying sense is NP-final, I interpret it as clause-final in its right-edge marking function, while recognizing the possibility of delayed prosodic articulation. Such delays can allow the speaker to reflect before deciding that the antecedent (which may contain multiple clauses) is actually complete. Examples of *kûl* in this function are (521) in §9.5.1.1, (525) in §9.5.1.4, and (64a-b) in §3.9.4.5.

9.5.11 Biclausal causatives with *kàtè* ‘bring (about)’

kàtè ‘bring’ can be used in a more abstract sense ‘bring about’ with a propositional complement, but in my data the complement is expressed as a verbal noun (perhaps with a possessor NP) or as a subjunctive, as in (548a-b). I have no examples comparable to the occasional KS examples with indicative complements.

- (548) a. *hár-ó* *gá* *kàtè*
 water-Fin/DefSg Focus bring
 [sòŋ-ànc-èy ʔgór-‘m-ô né:ʔ-wò]
 [Songhay-DefPl sit-VblN-PossSg here]
 ‘It was water [focus] that induced the Songhays to settle here.’
- b. *ŋ* ʔ*kátè* [áʔ = m = à: *kárú*]
 2SgS bring [3SgS=Subju=3SgO hit]
 ‘You-Sg brought it about that he/she_x hit her/him_y.’

9.5.12 Particle *kàl + H* plus indicative clause (absent)

I have no HS examples comparable to KS constructions with *kala* plus indicative clause. For HS *kàl + H* in other constructions see §7.1.3, §8.5.2.2, and §9.6.2.

9.6 Subjunctive complements

The subjunctive morpheme is *m̂* ~ *ŋ̂*. For its combinations with pronominals and other details see §7.2.1.4. The <HL>-tone surfaces as H with a delinked floating L-tone (§3.9.5.8) that is realized as downstep on a following H-toned syllable. Furthermore, *m̂* ~ *ŋ̂* cliticizes to a preceding vowel, and if that vowel was previously not H-toned the syllable in question is flattened to H-tone to avoid a disallowed rising tone (§3.9.6.3).

By and large, the syntax of subordinated clauses in HS is similar to that in other Songhay languages. Normally the subjunctive is required by a **subjunctive trigger** such as a verb like ‘want’ that creates an irrealis modal space, often with future time reference. One important difference between HS and KS is that HS fails to show the partial merger of subjunctive and strong imperfective categories that typifies KS.

A subjunctive complement in any of the constructions described in the following sections may consist of more than one clause. Since the subjunctive morpheme occurs in each clause, there is usually little difficulty in identifying the boundaries of the subjunctive complement as a whole. Of course, a sequence of two subjunctive clauses could also be a case of stacking, whereby one of them is directly subordinated to the matrix clause but itself contains a trigger that takes a subjunctive complement at a lower level. Example (549) shows parallel subjunctive clauses, while (550) shows stacking.

- (549) à né=[Ø=m 'kóy [ʔáŋgá 'dô]]
 3SgS say=[2SgS=Subju go [3FullSg chez]]
 [ʔáy=y 'cìndí nè:]
 [1Sg=1SgS.Subju remain here]
 'He_x said that you should go to his_x place but that I should stay here.'
 (ʔáy in the second subjunctive clause is topical)
- (550) ká↑=[í↑=í 'wínjí [á↑=í 'kóy]]
 must=[2SgS= Subju refuse [3SgS=Subju go]]
 'You-Sg must refuse to let 3Sg go'.
 (phonetic [káw̃windzĩáŋkōj])

9.6.1 Subjunctive complements to matrix-clause verbs

Matrix-clause verbs that can take a subjunctive complement (in some cases, as one possibility among others) are those in (551).

(551) Matrix-clause verbs that trigger the subjunctive

verb	gloss with subjunctive
a. can take infinitival or subjunctive complements	
<i>bà</i>	'want'
<i>tà</i>	'accept; consent'
<i>wínjí</i>	'refuse'
<i>yèddà</i>	'consent'
b. take subjunctive complements	
<i>fúru</i>	'free (sb)'
<i>gá:bì</i>	'force, compel'
<i>hámbúru</i>	'fear'
<i>kàtè</i>	'bring about'
<i>nàŋ</i>	'let, allow'

For an example of *kàtè* see (548b) in §9.5.11 above. Examples of the others, with subjunctive-clause subject not coindexed to the matrix-clause subject, are in (552). The complement of 'fear' is negated (552e), cf. *lest* in (archaic) English and *ne* in French complements of 'fear' verbs.

- (552) a. í↑=í 'bà [á↑=í 'kóy]
 1SgS=Impf want [3SgS=Subju go]
 'I want 3Sg to go.'

- b. *à wínjí [ʼí zùmbù [ʔáŋgá ʼdò]]*
 3SgS refuse [1SgS.Subju go.down [3FullSg chez]]
 ‘He refused to let me lodge in his home.’
- c. *í↑ ↑nâm ↑nâŋ ʼfúró [∅=í dirà]*
 1SgS Fut 2SgO leave [2SgS=Subju walk]
 ‘I will let you-Sg go away.’
- d. *ì ↑nâŋ [á↑=í ñà: nè:]*
 1SgS let [3SgS=Subju eat here]
 ‘I let-Past him/her eat here.’
- e. *í↑=íʼ ʼhámbúró [màrów↑=í sù ↑ká*
 1SgS=Impf fear [leopard=Subju ImpfNeg come
[w̃ jáwd-è-nòŋ ↑ŋâ:]]
 [Infin animal-1Sg-Pl eat]]
 ‘I fear that/lest the leopard might come and eat my livestock.’
- f. *í↑=í=í ʼgá:bì [á↑=m ñà:]*
 1SgS=Tr=3SgO force [3SgS=Subju eat]
 ‘I compelled him/her to eat.’
- g. *nòŋ ↑yéddà [á↑=í ʼhí:jí [nòŋ ↑ʔíʼzé-wóy-ò]]*
 3SgS consent [3SgS=Subju wed [3Pl child-female-3PossSg]]
 ‘They consented that he marry their daughter.’
- h. *à sù ↑tá*
 3SgS ImpfNeg accept
[kò-t-íy-éy↑=í [ʼáŋgá jínèy] jèrè]
 [child-Dimin-DefPl= Subju [3FullSg gear.3PossSg] carry]
 ‘She_x won’t let the children carry her_x baggage.’

When the lower-clause subject is coindexed to that of the matrix clause, we get an **infinitival complement** (serial-verb construction) for the verbs listed in (552a): *bà* ‘want’, *tà* ‘accept’, *wínjí*, and ‘refuse’, and *yéddà* ‘consent’. Thus *í↑=íʼ bà [w̃ kóy]* ‘I want to go’, *ì ↑tá [w̃ kóy]* ‘I accepted to go’, *ì wínjí [w̃ kóy]* ‘I refused to go’, *ì ↑yéddà [w̃ kóy]* ‘I consented to go’.

This infinitival construction is not available with the verbs listed in (551b) above, which do not ordinarily take same-subject complements. With *hámbúró* ‘fear’, a subjunctive complement is used in the sense intended (553); again, the complement takes negative form.

- (553) *íŋ ↑gú ʼhámbúró [∅=í sù kâŋ]*
 2SgS Impf fear [2SgS=Subju ImpfNeg fall]
 ‘You are afraid that you might fall.’

The infinitival construction *ì hámbúró [ŵ kâŋ]* means ‘I was afraid and (therefore) fell’, with a different logic where the ‘fall’ VP is sequential rather than a complement. With *kâtè* ‘bring (about)’, when appropriate semantic contexts are constructed, we again get subjunctive rather than infinitival complements (554).

- (554) *wò* *↑kâtè* [*wó↑=íj* *kâŋ*]
 2PlS bring [2PlS=Subju fall]
 ‘You-Pl brought it about that you fell.’

For the ‘let’ verbs, no same-subject example could be elicited.

9.6.2 Subjunctive complements to obligational *kâl + H*

Obligational (deontic) ‘must’ is expressed by a matrix clause consisting of impersonal *kâl + H* plus a subjunctive clause (555). See also (359c) in §7.1.3.

- (555) *kâl* [*á↑=íj* *nèy* *bànà*]
 must [3SgS=Subju 1SgO pay]
 ‘He/She must pay me.’

This construction can sometimes be used as an epistemic ‘must’ construction, describing a certainty or near-certainty (556).

- (556) *hál* **hár-ó* *↑nân* *sí:* *s-êy,*
 if water-Fin/DefSg Prfct not.be Dat-1Sg,
ká↑=[íy **bú:]*
 must= [1SgSubju die]
 ‘Had I not had some water on me, I would certainly have died.’
 (counterfactual conditional, see §9.5.1.2)

Since *kâl + H* can also mean ‘except’ (§8.5.2.2), and in that function is commonly used in a kind of double negation ‘not other than’ (§8.5.2.3), one could argue that obligational *kâl + H* has been reduced from a fuller matrix clause roughly like ‘it is not other than [...]’. The general idea can be gotten by comparing (555) above with the idiomatic (557).

- (557) *ì* *sù* *↑bá* [*kâl* [*á↑=íj* *nèy* *bànà*]
 1SgS ImpfNeg want [except [3SgS=Subju 1SgO pay]]
 ‘I just want (lit. “don’t want other than”) that he/she pay me.’

9.6.3 Subjunctive clauses in jussive reported speech

A reported imperative or hortative takes the form of a matrix clause with ‘X said’ (the HS ‘say’ verb is *né*) plus a subjunctive clause. A dative postpositional phrase is optional (558).

- (558) a. *à né [[ʔáy = ndù ʔáŋgá] = ɲ 'kóy]*
 3SgS say [[1Sg=and 3FullSg]=Subju go]
 ‘He_x said that I and he_x should go.’ (i.e., ‘He said, let’s go!’)
- b. *à né [ɲòŋ sé] [ʔó = ɲ gòrò]*
 3SgS say [3Pl Dat] [3PlS=Subju sit]
 ‘He/She told them to sit.’

In (558a), the original utterance may well have been an already subjunctive *yóʔ = ɲ* ‘*kóy* ‘let’s go’ in hortative function (§9.6.7), but it has been restructured somewhat because of sloppy coindexation (cf. §10.4). In (558b), the original utterance was most likely an imperative *wòʔ gòrò* ‘sit-Pl!’

Another example is (578b) in §10.1.3.

9.6.4 Subjunctive clauses with *hâl*

hâl is a versatile particle. It is used as an ‘if’ conjunction in conditional antecedents (§9.5.1), and in the sense ‘until, all the way to’ with various types of complements (§5.9.8, §9.5.6.4). When the complement is subjunctive rather than indicative, the event in question is irrealis (its actualization is not asserted), though not necessarily counterfactual. Common contexts are waiting for an event (‘until’), and purposive (‘so that’). *hâl* can contract with a following 1Sg or 2Sg subject pronominal (559b).

- (559) a. *ì ʔnâm ʔbát-ànd-à*
 1SgS Fut wait-Caus-UnspecO
 [*hâl áʔ = m bèn-ànd-à*]
 [until 3SgS=Subju finish]
 ‘I’ll wait until he/she is finished.’
- b. *íʔ = ɲ fè:j-é-ɲòŋ né:rê*
 1SgS=Tr sheep-1SgP-IndefPl sell
 [*há = ý 'húw-ó dêy*]
 [so=1SgS.Subju house-Fin/DefSg buy]
 ‘I sold my sheep-Pl in order to buy a house.’

9.6.5 Subjunctive clauses under the scope of a distant negative

In a case like (560) below, an expression meaning ‘a fortiori’ (*sákò* or the phrase *màn tù há:lá*) following a negative statement can take a subjunctive complement.

- (560) *ì* \uparrow *máj* *‘béy* [*kù* *hámbúru*],
 1SgS PerfNeg know [Infin fear],
[màn tù há:lá] *í* *zùrù*
 [a.fortiori] 1SgS.Subju run
 ‘I was never afraid, much less did I run away (=flee).’
 [for *béy* ‘know’ as ‘have ever VP-ed’ see (566b)]

Here ‘I run’ is still under the logical scope of the negation, but the negative MAN morpheme is not repeated. Instead, the subjunctive serves as an index that the negative scope has not ended. However, one could also use an infinitival VP *kù* \uparrow *zùrù* ‘to run’ or a verbal noun instead of the subjunctive.

Similar examples can be constructed with other adjuncts to negative propositions, with e.g. *sàndà* ‘like, for example’ instead of ‘a fortiori’.

9.6.6 Purposive subjunctive clauses without complementizer

A subjunctive clause can be used, without *hâl* or other complementizer, in purposive sense immediately following another clause (indicative or imperative), sometimes with no intonational break. A typical example is (561). It is always possible to add *hâl* to make the purposive nuance explicit.

- (561) *té*=[*ý* *nàŋ* *nó:* \uparrow *bít-ò*]
 come!=[1SgSubju 2SgO give porridge-DefSg]
 ‘Come-Sg so I may give you some porridge!’ (*té, í*)

9.6.7 Bare subjunctive clauses in isolation

The subjunctive is regular in 1PI hortatives (562).

- (562) *yó* \uparrow =*ŋ* *‘kóy*
 1PlS=Subju go
 ‘Let’s go!’

Another relevant expression is \emptyset =*m* *‘béy*, mark-up [you-Sg Subjunctive know] (2PI equivalent *wó*=*m* *‘béy*) ‘know that ...’. a phrase used to frame a piece of news.

Other bare subjunctives with no subjunctive trigger in the vicinity are usually best analysed as reduced variants of fuller constructions. The most common type is an echo question, as when someone seeks confirmation, clarification, or further

specification in response to a command or suggestion from an interlocutor, as in the exchange (563).

- (563) X: *kóy* $\hat{\uparrow}$ *tú:r-ò* *kú:ŋ*
 go.Imprt firewood-Fin/DefSg gather
 ‘Go (in order to) gather some firewood!’
- Y: *í* *kà:-nd-á* *nè:*
 1SgS.Subju bring-3SgO here
 ‘Do/Should I (then) bring it here?’

In this example, since the queried action (‘bring it here’) is sequential to that of the imperative, an infinitival VP in sequential sense could also be used, so Y could have asked *kù* $\hat{\uparrow}$ *ká:-n'dâ nè:* instead.

9.7 Infinitival VPs and serial verbs

An infinitival VP consists of infinitive morpheme *kù + H* ~ *ŵ + H* followed by a VP, which begins either with a) an intransitive or VO verb or b) a preverbal direct object NP (without transitive $\hat{\eta}$) followed by a verb. The infinitival allomorph *ŵ + H* occurs after a vowel (except before 3Sg object $\hat{\eta}$). The allomorph *kù + H* occurs after a consonant, before 3Sg object $\hat{\eta}$ regardless of what precedes (producing *kú $\hat{\uparrow}$ = $\hat{\eta}$* , becoming *kú $\hat{\uparrow}$ = $\hat{\eta}$ + L*), and after a pause (e.g. in isolation).

kù between consonants is optionally dropped if the following verb is *kóy* ‘go’ or *kà* ‘come’, and is usually dropped if the preceding verb is *kóy* ‘go’. Examples: *hín kù $\hat{\uparrow}$ kâ* ~ *hín* \emptyset $\hat{\uparrow}$ *kâ* ‘can come’, *hín kù kóy* ~ *hín* \emptyset *kóy* ‘can go’, and *kóy kù $\hat{\uparrow}$ ŋâ:* ~ *kóy* \emptyset $\hat{\uparrow}$ *ŋâ:* ‘go and eat’. Even when dropped segmentally, the virtual presence of *kù + H* is revealed by tonal behavior, e.g. the initial surface H-tone of $\hat{\uparrow}$ *kâ* ‘come’ (from *kà*) and of $\hat{\uparrow}$ *ŋâ:* ‘eat’ (from *ŋâ:*) in the examples just given. In the cases of *kù $\hat{\uparrow}$ kâ* and *kù kóy*, the dropping of *kù + H* before another morpheme beginning in *k* suggests haplology, but in elicitation the dropping was not extended to other *k*- or *g*-initial verbs after *hín* ‘be able to’. In the case of *kóy kù + H* a haplological approach is less attractive. Some other Songhay languages allow or require dropping of the cognate infinitival morpheme in combinations involving the cognate verbs for ‘come’ and/or ‘go’. Specifically, KS omits infinitival *ka* after *koy* ‘go’.

Infinitival VPs are highly productive in HS. A common citation form for a verb or VP is its infinitival form (in the case of transitives, with 3Sg object $\hat{\eta}$), e.g. *kù $\hat{\uparrow}$ dírà* ‘walking, leaving, traveling’ (verb *dírà*), *kú $\hat{\uparrow}$ = $\hat{\eta}$ *kárú* ‘hitting’ (*kárú*). Infinitival VPs frequently occur instead of subjunctive complements provided that the (unstated) subject of the VP is coindexed to the matrix-clause subject.*

Infinitival VPs are used to serialize same-subject clauses denoting events in sequence, the first clause being a full-fledged finite clause with a subject. This is the closest thing HS has to an ‘and’ conjunction at clause-level. In such sequences there are no restrictions on the form of either the initial (finite) clause or following (infinitival) VPs.

Another function, not always easily distinguished from sequential, is purposive. However, there are also a number of specialized constructions involving a control verb that regularly takes infinitival complements, requiring subject coindexation. In some cases, the control verb follows rather than precedes the variable VP. There are also a few compound-like combinations of two verbs, the second being in infinitival form.

9.7.1 Infinitival VPs in event sequences or as purposives

In an example like (564), a string of same-subject events is expressed with an initial fully-inflected clause followed by one or more infinitival VPs.

- (564) à' kà [w̃ ↑gòrò] [w̃ ↑ŋâ:]
 3SgS come [Infin sit] [Infin eat]
 ‘He/She came, sat down, and ate.’

There is an issue whether $w̃ \uparrow\eta\hat{a}$: here should be treated as subordinated specifically to $gòrò$ ‘sit’, or whether $w̃ \uparrow gòrò$ and $w̃ \uparrow \eta\hat{a}$: are jointly subordinated in parallel to $kà$. Since the normal interpretation of such a sequence is sequential, there is no practical difference.

(564) can be taken either as a chance chronological sequence of unrelated events, or as a meaningful, causally related sequence: ‘He/She came in order to sit down, in order to eat’ or perhaps ‘He/She came and sat down, in order to eat’. If a distinction is necessary, a purposive can be expressed by $h\hat{a}l$ plus (finite) subjunctive clause, as in (559b) in (§9.6.4).

Other examples where temporal sequence seems to be an essential element include (345a) and (440). Examples where purpose plays a key role include (285) and (303b).

9.7.2 Inventory of control verbs

The few verbs used commonly in serial constructions as the second (infinitival) half are those in (565). In these lists I use the $k\hat{u} + H$ variant, which is always possible in at least some phonological environments. After a vowel, we usually get $w̃ + H$ (not shown).

- (565) Control verbs that follow a variable VP

Infinitival + verb	gloss	gloss of verb by itself
... $k\hat{u} \ b\acute{e}n$	‘finish VPing’	‘end, finish’
... $k\hat{u} \ \uparrow b\acute{i}s\grave{a} \ \dots$	‘VP more than ...’	‘pass’
... $k\hat{u} \ \uparrow d\acute{i}r\grave{a}$	‘VP and go away’	‘walk, travel, leave’
... $k\hat{u} \ \uparrow k\hat{a}$	‘VP and come (back)’	‘come’
... $k\hat{u} \ k\acute{o}y$	‘VP and go’	‘go’

For *bisà* in comparatives, see §9.7.7. The other cases in (565) are clearly iconic, the sequence of verb stems matching the sequence of events. For ‘finish VPing’ one can also use *bèn-ànd-à* ‘end’ with a following infinitival VP.

Most control verbs precede their infinitival complement (566). There is no sharp difference between a control verb and an ordinary high-frequency verb that happens to occur fairly often in infinitival combinations, but those in the list seem to be the most important. Almost all are also used in non-control sentences, but in some cases there is a semantic shift. After any verb, the variant of the infinitival morpheme *kù + H* ~ *w̃ + H* depends on the phonological form of the preceding and following morphemes. Control verbs ending in a consonant normally take *kù + H* regardless of the following morpheme. Those ending in a vowel usually take *w̃ + H*, except for transitives before 3Sg object *ǰ*, which requires *kù + H*.

(566) Control verbs that precede the infinitival VP

verb + Inf̃n	gloss	gloss of simple verb
a. modal		
<i>hìmà kù ...</i>	‘ought to VP’	‘resemble’
<i>hín kù ...</i>	‘be able to, can VP’	‘be stronger than’ (<i>hín VO</i>)
b. temporal/aspectual		
<i>bèn-ànd-à kù ...</i>	‘finish VPing’	‘finish’
<i>béy kù...</i>	‘have ever VP-ed’	‘know’ (<i>béy</i>)
<i>háv kù ...</i>	‘be about to VP’	‘tie’ (<i>háv</i>)
<i>kò-kòrù kù ...</i>	‘VP finally’	‘be last, recent’
<i>síntíŋ kù ...</i>	‘begin to VP’	‘begin’ (<i>síntíŋ</i>)
<i>tárú kù ...</i>	‘VP promptly’	‘hasten’ (<i>tárú</i>)
c. failure		
<i>mòŋgò kù ...</i>	‘be unable to VP’	‘fail, be unable’
<i>jén kù ...</i>	‘fail to VP’	‘fail (to do)’ (<i>jén ~ jêŋ</i>)
<i>dìndòw kù ...</i>	‘forget to VP’	‘forget’
d. motion		
<i>kà kù ...</i>	‘come and VP’	‘come’
<i>kóy kù ...</i>	‘go and VP’	‘go’ (<i>kóy</i>)
<i>tùn kù ...</i>	‘get up and VP’	‘get up’
<i>yò kù...</i>	‘VP again, re-VP’	‘go back’ (<i>yê</i> , note tone)
<i>~ yè kù</i> (optional before <i>kù + H</i> variant)		
e. time of day		
<i>hánáná kù ...</i>	‘do at night’	‘stay up at night’
<i>há:y kù ...</i>	‘do at mid-day’	‘spend mid-day’ (<i>há:y</i>)
<i>wé:té kù ...</i>	‘do in morning’	‘spend the morning’ (<i>wé:tê</i>)
<i>wòymèy kù ...</i>	‘do in late PM’	‘spend the evening’

f. desiderative and volitional

<i>bà kù ...</i>	‘want to VP’	‘want, like’
<i>(bùŋ-ò) gá:bì kù ...</i>	‘try hard to VP’	‘force oneself’
<i>gùná kù ...</i>	‘try to VP’	‘look’
<i>hénsé kù ...</i>	‘VP on purpose’	‘do on purpose’ (<i>hénsé</i>)
<i>tà kù ...</i>	‘consent to VP’	‘take, accept’ (cf. <i>yèddà</i>)
<i>márjí kù ...</i>	‘VP together’	‘assemble’ (<i>márjí</i>)
<i>wínjí kù ...</i>	‘refuse to VP’	‘refuse’ (<i>wínjí</i> etc.)
~ <i>wúnjí kù ...</i>		
<i>yèddà kù ...</i>	‘consent to VP’	‘consent’ (cf. <i>tà</i>)
~ <i>yàddà kù ...</i>		

Examples showing coindexed subjects are *bà* [*w̃* ↑*ŋâ:*] ‘want to eat’, *gùná* [*w̃* *zígí*] ‘try to go up’, *hénsé* [*w̃* ↑*néy* ↑*káru*] ‘hit me intentionally’, *tà* [*w̃* *kóy*] ‘accept to go’, *wínjí* [*w̃* ↑*gorò*] ‘refuse to sit’, and *yèddà* [*kú*↑=*ŋ* *yà:ri*] ‘consent to take it’. With *gá:bì*, an overt reflexive object is needed (567).

- (567) *á*↑=*ŋ* *bùŋ-ò* *gá:bì* [*w̃* *zígí*]
 3SgS=Tr head-3SgP force [Infin go.up]
 ‘He/She struggled (=made a strong effort) to go up.’

To the extent that these verbs allow different-subject complements, subjunctive clauses are used (§9.6.1).

9.7.3 Modal serial verbs

For the list of verbs, see (566a) in §9.7.2 above. Examples are *hìmà* [*w̃* ↑*dírà*] ‘ought to walk (or go away)’ and *hín* [*kù* ↑*ŋâ:*] ‘be able to eat’. Since *hín* ends in a consonant, it optionally omits *kù* before *kóy* ‘go’ and *kà* ‘come’, but even so the floating H of *kù* + *H* is audibly realized on ‘come’, as in *hín* (*kù*) ↑*kâ* ‘can come’, see the beginning of §9.7 above.

For deontic (and epistemic) ‘must’ see §9.6.2.

9.7.4 Temporal/aspectual control verbs

For the list of verbs, see (566b) in §9.7.2 above.

Examples are *bèn-ànd-à* [*w̃* ↑*fáru*] ‘finish farming’, *béy* [(*kù*) *kóy*] ‘have ever gone’ (more common in the negative: *màŋ béy* [*kù* *kóy*] ‘have never gone’), *háv* [*kù* *déré*] ‘nearly get lost, be on the verge of getting lost’, *kò-kòrù* [*w̃* ↑*kâ*] ‘come at last, be the last to come’, *síntín* [*kù* ↑*lâ:lâ*] ‘start to be naughty’, *táru* [*kù* *gúndê*] ‘get pregnant quickly’. There are no different-subject counterparts (in these or related senses).

9.7.5 Failure control verbs

For the list of verbs, see (566c) in §9.7.2 above. Examples are *mòṅgò* [*kú*↑=*íj* *dìn*] ‘fail (=be unable) to catch it’, *jén* [*kù* ↑*kátè* *kà:tíb-è-jòṅ*] ‘fail to bring my money’, and *dìnòw* [*kù* ↑*néy* ‘*nó*: ↑*círgòs-èy*] ‘forget to give me lunch’.

HS does not use a serial-verb construction for ‘VP very much’ (compare KS serial verb *hansa ka ...* ‘do very much’). Instead, HS uses any of several postverbal adverbs or adverbial phrases such as *sánné* ‘very much’.

9.7.6 Motion and time-of-day verbs as serial verbs

For the list of verbs see (566d-e) in §9.7.2 above

Any motion verb can be used in its normal meaning with a following infinitival VP. The only case of significant formal and semantic specialization among motion verbs is *yò* [*kù ...*] ‘do again, re-do’, as in *yò* [*w̃ húw-ó cín*] ‘rebuild the house’. This *yò* is a mutation from *yê* ‘go back’, cf. *yèkà* ‘come back’ and *yê* ‘*kóy* ‘go back’. The shift in vocalism from *e to o was probably generalized from the frequent combination *yò* [*w̃...*] with the *w̃+H* allomorph of the infinitival morpheme. The sequence *ew* is uncommon in HS, and especially difficult to distinguish from *ow* after *y* (§3.3.1).

Other examples with motion verbs show a sequential ordering of the motion and the other event (‘go/come and then VP’). Examples are *kà* [*w̃ góy*] ‘come and work’, *kóy* [*kú*↑=*íj gùnà*] ‘go look for him/her/it’, and *tùn* [*kù* ↑*hín-à*] ‘get up to cook’. When the motion is simultaneous with the activity, instead of an infinitival VP we get a fully-inflected imperfective second clause; see (527b) in §9.5.3.

With the time-of-day verbs, the sense is that the activity denoted by the infinitival VP takes place within the temporal limits defined by the serial verb. The activity may be durative, as in *hánáná* [*w̃ gâ:n*] ‘dance all night’, in which case the construction is interchangeable with an alternative construction where a finite imperfective clause appears instead of a (subject-less) infinitival VP; see (527a) in §9.5.3. However, the infinitival construction can also be used when a punctual event takes place at some point (unspecified or unknown) within the larger time interval, as in (568).

- (568) *jòṅ* *hánáná* [*kú*↑=*íj* ‘*wí*:]
 3PlS do.at.night [Infín=3SgO kill]
 ‘They killed him/her during the night.’

In this case, the best paraphrase would be of the type *jòṅ*↑=*íj* ‘*wí*: ‘they killed him/her’ followed by *cígín-ó+H* ‘(at) night’ in adverbial function. The other time-of-day verbs, such as *hâ:y* ‘do during the middle of the day’, have similar combinatory possibilities.

9.7.7 Comparative constructions

9.7.7.1 Asymmetrical comparisons

The productive, all-purpose asymmetrical comparative construction involves verb *bisà* ‘pass, surpass’. If the comparison is with reference to an act, capability, or quality expressible as a VP, *bisà* occurs in a serial-verb construction along with the substantive VP. When the comparanda are reduced to the focalized interrogative *fô* ‘which?’, whether or not the comparanda appear explicitly in a presentential topical NP, *bisà* precedes the other VP (569). In (569b) the comparanda are in direct-object function in the substantive VP.

- (569) a. *[màŋgór-ó↑ = ñdù* *↑fàlf-ò]*
 [mango-Fin/DefSg=and wild.grape-Fin/DefSg]
 ?à-fô *bisà* *[w̃ kâ:n]*
 Absol-which? pass [Infin be.sweet]
 ‘Which of mangoes and wild grapes is sweeter?’
- b. *?à-fô* *‘gâ* *[nòŋ* *↑bá:b-ù]*
 Absol-which? Focus [3Pl father-3PossSg]
 bisà *[kú↑ = ñ]* *‘kárú]*
 pass [Infin=3SgO hit]
 ‘Which one (=which child) did their father hit the most?’

When the comparanda are not reduced to ‘which?’, the second comparandum appears as a postverbal direct object of *bisà*, which functions here as a VO verb (§6.1.7). When the comparanda function as subject of the substantive VP, the *bisà* VP may precede the substantive VP (570).

- (570) a. *màŋgór-ò* *w̃* *↑bisà* *fàlf-ò*
 mango-Fin/DefSg Impf pass wild.grape-Fin/DefSg
 [w̃ *kâ:n]*
 [Infin be.sweet]
 ‘Mangoes are sweeter than wild raisins.’
- b. *í↑ = í* *bisà* *nóŋ* *[kù* *kú:]*
 1SgS=Impf pass 3PIO [Infin be.long]
 ‘I am taller than they (are).’

Alternatively, the *bisà* VP may follow the substantive VP. This is possible when the comparanda function as subject of the substantive VP (571a), and obligatory when they occur in non-subject functions (571b).

- (571) a. *í↑ = ñ* *‘hám-ó* *dúmbú* *[w̃* *↑bisà* *nî]*
 1SgS=Tr meat-Fin/DefSg cut [Infin pass 2Sg]
 ‘I cut up more meat than you-Sg (did).’

- b. *bà:b-èy-ndí↑=íj nèy kárú [w̃ ↑bìsà ní]*
 father-1SgP-1PIP=Tr 1SgO hit [Infin pass 2Sg]
 ‘Our father hit me more than (he hit) you-Sg.’

In the construction of type (571a-b), the second comparandum is of course explicit (the postverbal object of *bìsà*), but there may be an ambiguity as to which of two NPs in the preceding substantive clause is the first comparandum. This is finessed in (571a) since ‘you-Sg’ is more naturally compared with ‘I’ than with ‘meat’ (except in horror films), and in (571b) where ‘our father’ with (presumably inclusive) 1PI possessor makes it more natural for ‘you-Sg’ to be compared to the sibling ‘me’ than to the father. In (572), however, the ambiguity is more apparent and can only be resolved by contextual inference.

- (572) *kò-kòy-ó↑=íj nèy nó: ↑fè:j-èy [kù ↑bìsà ní]*
 chief-Fin/DefSg=Tr 1SgO give sheep-DefPl [Infin pass 2Sg]
 ‘The chief gave me more sheep than (he gave) you-Sg.’
 or: ‘The chief gave me more sheep than you-Sg (gave me).’

With some verbs of adjectival quality, instead of *bìsà* one can use instrumental *ńdù + H* as a ‘than’ particle. For *zé:ⁿ* ‘get old, be old’, any of the constructions in (573) is possible.

- (573) a. *à w̃ ↑bìsà ?áy [kù zé:ⁿ]*
 3SgS Impf pass 1Sg [Infin get.old]
 ‘3Sg is older than I (am).’
- b. *à zé:ⁿ [kù ↑bìsà ?áy]*
 3SgS get.old [Infin pass 1Sg]
 [=a)]
- c. *à zé:ⁿ= [ńdù ?áy]*
 3SgS get.old=[than 1Sg]
 [=a)]

In some cases it is possible to use a NP (in indefinite form) instead of the substantive VP. This NP then appears as an **unmarked postverbal NP** (§6.1.8) following *bìsà*.

- (574) *í↑=í bîs-â jáwdî*
 1SgS=Impf pass-3SgO wealth
 ‘I surpass him/her in wealth’

Other NPs that are attested as postverbal NPs in this construction are *gá:bì* ‘strength’, *ɲàndè bóry-à: + H* ‘beautiful wife’, and *hèyn-ò + H* ‘millet’. In HS, this construction seems to be confined to NPs involving possessions (concrete or abstract). Expressions involving simple adjectival qualities like ‘I am taller than him/her’ are sometimes expressed by construction of type (574) in other Songhay languages (‘I surpass

him/her (in) length'), but in HS they are expressed by the serial construction with substantive VP as in (570) above.

In interrogatives, reciprocal *cèrè* (originally 'friend') can be used as a place-holder for the second comparandum (575).

- (575) [ʔáy = *ndù* *nî*] *méy* [↑]*bísà* *cèrè* *kà:tíb-èy*
 [1Sg=and 2SgS] who? pass friend riyal-DefPl
 'Which of you-Sg and me has more money?'
 (lit., "[I and you-Sg], which passes friend (in) riyals?")

10 Anaphora, logophorics, and reported speech

10.1 Reported speech and logophoric pronouns

10.1.1 Reported speech and thoughts

There is no consistent formal difference between reported speech and reported thoughts. Both are readily expressed by a quotative frame involving the defective verb *nê* ‘say’, e.g. *à nê* ‘he/she said (or thought)’. In the case of speech addressed to an interlocutor, *nê* may be followed by a dative postpositional phrase, e.g. *à ‘né s-éy* ‘he/she said to me’. Datives do not typically occur in thought quotations, but articulate thoughts can be envisaged as self-directed (inner) speech. For the simple quotative ‘say’ verbs *nê* and *cì* (the latter is required in the imperative) and their morphosyntax, and for transitive *hárú* ‘tell (sth, to sb)’, see §6.1.9.

The verb *nê* ‘say’ is often followed by the particle combination *kèy dèy* or by the particle *há:ⁿ*. These particles should be disregarded in a free translation. The sequence *nê kèy dèy* or *nê há:ⁿ* may be followed by a brief pause, allowing the speaker to pause before uttering the quoted matter. There is interspeaker variation in usage of these particles (§9.5.8.2). An overt ‘that’ complementizer *gâ* (§9.5.8.1) is possible but uncommon after *nê* in quotative complements.

10.1.2 Logophorics and demonstrative shifts in reported speech

Reported speech (in this inclusive sense) can be “direct,” with no change in the original deictics. Usually, however, the pronominals and (to a lesser extent) spatiotemporal deictics are adjusted to the here-and-now of the speech event, and logophoric pronouns replace original 1Sg and 1Pl pronouns if the attributed speaker is not a current speech-event participant (speaker or listener). Since HS lacks a tense system, there is no need to modify the indicative MAN morphemes. However, reported imperatives are normally expressed as (jussive) subjunctive complements (§9.6.3).

Logophorics are not used to coindex pronominals with a first or second person attributed speaker (576).

- (576) a. *ní* *‘nê* [$\emptyset = \hat{1}nám$ *‘\hat{1}kâ]*
2Sg say [2SgS=Fut come]
‘You-Sg said you are/were coming.’
- b. *?áy* *‘nê* [*à* *sù* *\hat{1}bá* *‘?ây]*
1Sg say [3SgS ImpfNeg want 1Sg]
‘I said that he/she doesn’t like me.’

10.1.3 Syntax of logophorics

In (577a) but not (577b) the subject of the quoted clause is coindexed to the speaker to whom the quotation is attributed (here, the subject of *nê*). This is expressed by using a 3Full pronoun in logophoric function in (577a), versus an ordinary (clitic) third person pronominal in (577b). Although HS does not distinguish pronominal gender, I opportunistically use ‘she’ and ‘he’ in free translations as referential indexes. In interlinears, “Logo” is used instead of “3Full” when the semantics is clearly logophoric.

- (577) a. *à né* [[?]*áŋgá sù hín* [*kù* [?]*kâ*]]
 3SgS say [LogoS ImpfNeg be.able [Infín come]]
 ‘She_x said that she_x cannot (or: could not) come.’
- b. *à né* [*à sù hín* [*kù* [?]*kâ*]]
 [3SgS
 ‘She_x said that he_y cannot (or: could not) come.’

A logophoric pronoun may occur in any syntactic position in the quoted material, and at any degree of syntactic embedding, as long as it is coindexed to the attributed source of the quotation. The logophoric is a possessor of the direct object in (578a), and a direct object in a doubly-embedded clause in (578b).

- (578) a. *à né*
 3SgS say
 [*hâns-ò-nóŋ=ŋ* [[?]*áŋgá* *hâns-ò*] *nàmà*]
 [dog-PossSg-2SgP=Tr [LogoSg dog-3PossSg] bite]
 ‘She_x said that your dog bit her_x dog.’
- b. *à nê* [*ní* *nê* [*céyn-áŋ* *sê*]]
 3SgS say [2Sg say [younger.sib-2SgP Dat]
 [*á*[?]=*ŋ* [[?]*áŋgá wôw*]]
 [3SgS=Subju LogoSg insult]]
 ‘She_x says that you told your younger sibling to insult her_x.’

With doubly embedded quotations of type (578b), if both the higher- and lower-level attributed speakers are third persons, a logophoric in the second embedded clause has ambiguous reference (579a). One can even have two logophorics in the same clause, with distinct antecedents from different clauses (579b).

- (579) a. *à nê* [[[?]*áŋgá bà:b-ù*] *nê*]
 3SgS say [[LogoSgP father-3PossSg] say
 [[?]*áŋgá nàm kóy*]]
 [LogoSg Fut go]]
 ‘She_x said that her_x father_y said that he_y will go.’
 or: ‘... that she_y will go.’

- b. *à nê [[ʔáŋgá bà:b-ù] nê*
 3SgS say [[LogoSgP father-3PossSg] say
[ʔáŋgá nàm ʔáŋgá 'kárú]]
 [Logo Fut LogoSg hit]
 ‘She_x said that her_x father_y said that he_y will hit her_x.’
 or: ‘...that she_x will hit him_y.’

When the relevant position is some distance from the quotation introduction, the logophoric use of morphological 3Full pronouns is less rigorous in HS than in, say, KCh. Use of logophorics is most rigorous examples like (577a), and with respect to the ‘her father’ constituent in (579a-b). In cases like (578a-b), elicited examples show variation between logophoric (morphologically, 3Full) pronouns and simple third person clitics. In the doubly embedded quotations of (579), the use of a logophoric pronoun is most frequent when the subject of the clause is coindexed with the syntactically nearest attributed speaker (‘father’).

10.1.4 Discourse functions of logophorics and narrative fade-out

Since the *nê* ‘say’ phrase occurs at the beginning of a chunk of reported speech and is not intermittently repeated, if the quotation is long (e.g. an anecdote or story) it may not be obvious where the quotation ends; that is, at what point the here-and-now speaker ceases to qualify the content as hearsay (attributed to another person). Sprinkling logophorics throughout the quoted discourse reminds listeners periodically that the here-and-now speaker is not responsible for the truth of the content. This is especially important in recounting a lengthy but contentious or controversial statement by another person. However, in less uncomfortable situations, logophorics may fade into regular third person pronouns after the first few occurrences.

10.2 Reflexives and reciprocals

10.2.1 Compound reflexives with *bòŋ* ‘head’

Except in reflexive possessive function, on which see below, reflexives are normally expressed using definite possessed forms of the singular noun *bòŋ* ‘head’. The syntax is detailed in §10.2.5 below. The paradigm with pronominals is shown in (580).

(580) Pronominal paradigm of reflexive *bòŋ*

	1st	2nd	3rd	3Full
Sg	<i>bùŋ-èy</i>	<i>bùwⁿ-àŋ</i>	<i>bùwⁿ-ò</i> ~ <i>ʔáŋgá bòŋ</i>	<i>ʔáŋgá bòŋ</i>
Pl	<i>bùŋ-èy-ndì</i>	<i>bùwⁿ-àn-dôŋ</i>	<i>ŋòŋ</i> ↑ <i>bôŋ</i> ~ <i>ŋjéy bòŋ</i>	<i>ŋjéy bòŋ</i>

The paradigm has affinities both to that of inalienably possessed ‘head’ and to that of the etymologically related postposition *bòŋ* ‘on’ (§5.9.5). Like the postposition, the reflexive forms are based on singular ‘head’ even when the possessor is plural, whereas in the literal sense ‘head’ one would expect plural ‘heads’ with plural possessors (cf. English *themselves*, *ourselves*). However, the 3Sg form of the postposition is à *bòŋ* ‘on him/her/it’, which does not occur in reflexive function. The usual 3Sg reflexive form *bùwⁿ-ò* is identical the form for ‘his/her head’.

The simple third person reflexives, 3Sg *bùwⁿ-ò* and 3Pl *nòŋ* *↑bòŋ*, are optionally replaced by their 3Full counterparts *ʔáŋgá bòŋ* and *̀njéy bòŋ*, respectively. The latter are obligatory in logophoric function.

10.2.2 3Full possessor pronouns in reflexive function

A compact third person reflexive form is expressed by using a 3Full form such as 3FullSg *ʔáŋgá* (without *bòŋ* ‘head’), instead of a simple third person clitic. This is typical of constructions of the type ‘X found X’s dog’, where a pronominal is coindexed to the clause-mate subject, but functions as possessor of a nonsubject NP rather than, say, object or adpositional complement. For more details on the syntax see §10.2.5.

10.2.3 Conjunction of pronoun with its own reflexive

An independent pronoun can be conjoined to its reflexive counterpart. The sense is the emphatic ‘(by) myself’, ‘by ourselves’, etc., implying that no-one else was involved. The left conjunct has the same form it has in other conjunctions; 1Pl *yérí* therefore may contract phonologically, but other pronouns have their full independent form. The reflexive is based on *bòŋ* ‘head’; it takes 1st/2nd person inalienable suffixal morphology. For third person, the left conjunct is in 3Full form because it is in independent form, and the possessor of ‘head’ as second conjunct also uses the 3Full form because it is reflexive. ‘Head’ remains singular regardless of pronominal number.

- (581) a. *yé* = [*́ndù* *↑búŋ-èy-ndì*] *gá* = *í* *’hó:r-ó* *té:*
 1Pl=[with head-1SgP-1PIP] Focus=Tr fun-Fin/DefSg do
 ‘It was we ourselves [focus] who did (=organized) the festivities.’
- b. *̀njéy* = [*́ndù* [*̀njéy* *bòŋ*]] *gá* = *í* *’hó:r-ó* *té:*
 3FullPI=[with [3FullPIP head] Focus=Tr fun-Fin/DefSg do
 ‘It was they themselves [focus] who did (=organized) the festivities.’
- c. *wàráŋ* = [*́ndù* *↑búw-àn-dòŋ*]
 2Pl=[with head-2SgP-2PIP]
 ‘you yourselves’

10.2.4 Reflexive verbs (absent)

HS has no reflexive verbs of the KCh type.

10.2.5 Syntax of reflexives

10.2.5.1 Clause-internal syntax of reflexives

Like logophorics and reciprocals, reflexives involve coindexing a pronominal to a “higher” NP. For reflexives, this is specifically the clause-mate subject. The compound reflexive type (§10.2.1) is used when the coindexed pronominal is direct object, dative adpositional complement, or instrumental complement within the same clause (582).

- (582) a. $\acute{a}\hat{\uparrow}=\acute{\eta}$ $b\acute{u}w^n-\acute{o}$ $d\acute{u}mb\acute{u}$
 3SgS=Tr head-3SgP cut
 ‘He cut himself.’ (also: ... [$?\acute{\eta}g\acute{a} \acute{b}\acute{o}\eta$] $d\acute{u}mb\acute{u}$)
- b. \acute{a} $s\acute{\imath}:$ $n\acute{a}:n\acute{e}y$ $\hat{\uparrow}b\acute{u}w^n-\acute{o}$
 3SgS ProgrNeg trust head-3SgP
 ‘He does not trust himself.’ (also ... [$?\acute{\eta}g\acute{a} \acute{b}\acute{o}\eta$])
- c. $\acute{a}\hat{\uparrow}=\acute{\eta}$ $h\acute{\imath}:r-\acute{o}$ $\hat{\uparrow}h\acute{e}ns\acute{e}$ [$b\acute{u}w^n-\acute{o}$ $s\acute{e}$]
 3SgS=Tr necklace-Fin/DefSg make [head-3SgP Dat]
 ‘He made the necklace for himself.’ (also ... [$\acute{\eta}g\acute{a} \acute{b}\acute{o}\eta$] $s\acute{e}$)
- d. \acute{a} $f\acute{o}k\acute{a}:r\acute{e}y=[n\acute{d}\acute{u}$ $\hat{\uparrow}b\acute{u}w^n-\acute{o}$
 3SgS converse=[with head-3SgP]
 ‘She is conversing with herself.’ (also ... $n\acute{d}\acute{u}$ [$?\acute{\eta}g\acute{a} \acute{b}\acute{o}\eta$])

In serial-verb constructions, the subject NP of the first verb appears to bind a reflexive in the infinitival VP. However, since this is a same-subject construction it could be that the (logical but unexpressed) subject of the infinitival VP is directly responsible for the binding (583).

- (583) $n\acute{o}\eta$ $\hat{\uparrow}h\acute{\imath}m\acute{a}$ [\acute{w} $h\acute{e}n\acute{j}\acute{e}\eta$ [[$n\acute{o}\eta$ $\hat{\uparrow}b\acute{o}\eta$] ‘ $s\acute{e}$]]
 3Pl ought [Infin listen [[3Pl head] Dat]]
 ‘They ought to listen to themselves.’ (also ... [$n\acute{\eta}j\acute{e}y \acute{b}\acute{o}\eta \acute{s}\acute{e}$])

Compound reflexives with ‘head’ are not used in possessor function. 1st/2nd person possessors have their regular nonreflexive form in clauses like ‘I found my dog’ and ‘you found your dog’. For third persons, either the regular nonreflexive forms (3Sg and 3Pl) or, in reflexive function, 3FullSg and 3FullPl pronouns are used. There may be a semantic nuance distinguishing the two possibilities for third-person possessors (584a-b).

set engaged with one member of the second set. In exceptional instances the noncommutative logic of a verb makes it impossible for any given pair of individuals to be involved in two-way reciprocity, as in giving birth, but the reciprocal is used loosely (587).

- (587) *dá:b-èy* $\hat{\uparrow}$ *gú* \uparrow *cêr* *háy*
 animal-DefPl Impf RecipO bear
 ‘(The) animals give birth to each other.’

10.2.7 Morphosyntax of reciprocals

To begin with, the reciprocal noun is used when the reciprocally coindexed plural NPs consist of the subject of a clause, and either a nonsubject constituent (object, complement of PP) or the possessor of a nonsubject constituent.

When the reciprocal noun occurs at the end of a phrase, i.e. when it is the postverbal object of a VO transitive verb (588a) or the complement of the instrumental-comitative preposition *ńdù + H* (588b), the form is bisyllabic *cèrè ~ kèrè*.

- (588) a. *ɲòŋ* *dí:* $\hat{\uparrow}$ *cèrè*
 3PIS see Recip
 ‘They saw each other.’
- b. *wó* $\hat{\uparrow}$ =*w* $\hat{\uparrow}$ *ŋá:*=[*ńdù* $\hat{\uparrow}$ *cèrè*]
 2PIS=Impf eat=[with Recip]
 ‘You-Pl eat together.’
- c. *yò* $\hat{\uparrow}$ *dínòw* *cèrè*
 1PIS forget Recip
 ‘We forgot each other.’

When the reciprocal noun occurs nonfinally in a phrase, it takes the reduced form *cèr + H ~ kèr + H*. This is the case when the reciprocal functions as preverbal object of an OV transitive verb (589a), as complement of a postposition (589b), or possessor of a noun (589c).

- (589) a. *ɲóŋ* $\hat{\uparrow}$ =*ŋ* *cèr* *kárú*
 3PIS=Tr Recip hit
 ‘They hid-Past each other (=they fought).’
- b. *yò* $\hat{\uparrow}$ *gá:rà* [*cèr* *sé*]
 1PIS bless [Recip Dat]
 ‘We blessed each other.’

- c. $yó\hat{\uparrow} = w$ [$\hat{\uparrow}c\hat{e}r$ ʔiz-èy] $béy$
 1PIS=Impf [Recip child-3PossPl] know
 ‘We (each) know each other’s children.’
- d. $yò$ $nó$ [w $góy$ [$\hat{\uparrow}c\hat{e}r$ ‘sè]
 1PIS Progr [Infin work[verb] [Recip Dat]
 [[$c\hat{e}r$ $\hat{\uparrow}f\hat{a}:\text{‘r-èy}$] $g\hat{a}$]
 [[RecipP field-3PossPl] in]
 ‘We work for each other in each other’s fields.’
- e. $nò\eta$ $\hat{\uparrow}gú$ $\text{‘}\hat{\uparrow}c\hat{e}r$ $\hat{\uparrow}f\hat{a}:\text{bà}$
 3PIS Impf Recip help
 ‘They help each other.’
- f. $nò\eta$ $\hat{\uparrow}c\hat{i}n\text{‘}d\hat{i}$ [$c\hat{e}r$ $\hat{\uparrow}b\hat{a}n\hat{d}\hat{e}$]
 3PIS remain [Recip behind]
 ‘They stayed with each other.’

With transitive (or VO) verbs like ‘see’ and ‘put’, we can get reciprocal adpositional phrases that take a plural direct object, rather than the subject, as antecedent (590).

- (590) \hat{i} $d\hat{i}:$ $nó\eta$ [$c\hat{e}r$ $\hat{\uparrow}b\hat{a}n\hat{d}\hat{e}$]
 1SgS see 3PIO [Recip behind]
 ‘I saw them together (=with each other).’

In more complex embeddings, informants used forms other than simple $c\hat{e}r(\hat{e}+H)$, namely possessed forms of hàn-sìn ‘companion’, in reciprocal-like contexts (591).

- (591) a. [$b\hat{o}r\downarrow$ $kú\hat{l}$] $sù$ $\hat{\uparrow}b\hat{a}$
 person all ImpfNeg want
 [[$\text{ʔá}\eta g\hat{a}$ hàn-sìn-ó]= $\hat{\eta}$ $dù$]
 [3FullSgP companion-3PossSg]=Subju get]
 ‘None of them wants the other (lit. “his companion”) to win.’
- b. ʔi-fó:-kámá ‘nè [$\text{ʔá}\eta g\hat{a}$ hàn-sìn-ó ‘sè]
 Absol-one-each say [3FullSgP companion-3PossSg Dat]
 [$\hat{a}\hat{\uparrow} = \hat{\eta}$ ‘húrá $\text{jíná}\eta$]
 [3SgS=Subju enter first]
 ‘Each (of them) said to the other_x that he_x should go in first.’

10.3 Generic and indefinite reference

10.3.1 ‘Person’ (*bòr + H*) and 2Sg pronouns

The expressions for generic human referent are the 2Sg pronoun (592a), and the impersonal *bòr + H*, related to the noun *bòr-ò + H* ‘person’ (592b). The usual nonfinal form of ‘person’ (e.g. before an adjective or numeral) is *bòr*, but we also get L-toned in *bòr↓ kâ* ‘anyone who ...’.

- (592) a. $\dot{\eta}$ $\uparrow g\acute{u}$ ${}^{\prime}h\acute{in}$ [$k\grave{u}$ $\uparrow d\acute{u}$
 2SgS Impf be.able [Infin get
 [$h\grave{a}$: $k\acute{u}l$] ${}^{\prime}g\acute{a} = \uparrow \dot{\eta}$ ${}^{\prime}\uparrow b\acute{o}$ [${}^{\prime}k\acute{u}\uparrow = \dot{\eta}$ $w\acute{u}r\acute{í}$]]
 [thing all] Rel=2SgS XImpf [Infin=3SgO seek]]
 ‘You-Sg can get anything you want.’
- b. *bòr* $\uparrow g\acute{u}$ ${}^{\prime}h\acute{in}$ [$k\grave{u}$ $d\acute{o}r\text{-}\acute{o}$ $\uparrow h\grave{a}\eta$]
 person Impf be.able [Infin beer-Fin/DefSg drink]
 ‘Someone can drink (millet) beer.’

In my data, *bòr* has 3Sg (and, for reflexives, 3FullSg) rather than 2Sg agreement, as in ‘someone_x can leave his/her_x dog here’.

- (593) *bòr* $\uparrow g\acute{u}$ ${}^{\prime}h\acute{in}$ [$k\grave{u}$ $\uparrow k\acute{a}t\grave{e}$ [${}^{\prime}\acute{a}ng\acute{a}$ $c\grave{e}r\grave{a}$]]
 person Impf be.able [Infin bring [3FullSgP friend.PossSg]]
 ‘One can bring one’s (own) friend.’

10.3.2 Indefinite human *kóy-ó + H* as informal discourse-anaphoric

The noun *kóy-ó + H* ‘the owner’ (hence ‘the aforementioned fellow’) can be used to denote an indefinite human referent that has recently been introduced into the discourse (594). Compare French *l’intéressé*, English *the fellow*, etc.

- (594) $b\acute{o}r\text{-}\acute{o}\uparrow = \dot{\eta}$ $n\grave{e}y$ $z\grave{e}y$ $c\acute{í}j\acute{í}\eta$,
 person-Fin/DefSg =Tr 1SgO rob night,
 $h\acute{a}l$ \grave{a} $\uparrow d\acute{u}$ ${}^{\prime}k\acute{o}y\text{-}\acute{o}$,
 if 1SgS get owner-Fin/DefSg,
 \acute{a}^{\prime} $s\grave{u}$ $\uparrow b\acute{o}r\acute{ì}$ [\acute{a} $s\acute{e}$]
 3SgS ImpfNeg be.good [3Sg Dat]
 ‘Somebody robbed me last night; if I get (ahold of) the fellow, it won’t be pleasant for him.’

10.4 Sloppy (partial) coindexation

Serial constructions with infinitival VPs require complete coindexation of the two (logical) subject NPs (595a). If the coindexation is partial (sloppy), alternative expressions such as subjunctive constructions are used (595b).

- (595) a. $\hat{i}\hat{\uparrow} = \hat{\uparrow}i$ $\hat{\uparrow}b\hat{a}$ [\hat{w} $\hat{\uparrow}d\hat{i}r\hat{a}$]
 1SgS=Impf want Infin walk
 ‘I want to go away.’
- b. $\hat{i}\hat{\uparrow} = \hat{\uparrow}i$ $\hat{\uparrow}b\hat{a}$ [$y\acute{o}\hat{\uparrow} = \hat{\uparrow}j$ $c\hat{e}r$ $\hat{\uparrow}k\hat{u}b\hat{e}y$]
 1SgS=Impf want [1PlS=Subju friend meet]
 ‘I want for us (=you and me) to meet.’

10.4.1 Sloppy coindexation in reflexives

Constructions of the type ‘X hit Y’ have compound reflexives like 1Sg $\hat{?}\hat{a}y\ b\hat{o}\hat{\eta}$ ‘myself’ when X and Y are exhaustively coindexed (§10.2.1). I have no examples or elicited data of the type ‘they_{xy} hit himself_x’ or ‘he_x hit themselves_{xy}’ with sloppy coindexation.

With noncompound (=simple) reflexives, 3Full pronouns are optionally used instead of simple 3rd person pronominals (§10.2.2). In this construction, a singular antecedent can trigger the optional use of 3FullPl in reflexive function if the plural pronominal denotes a set of which the antecedent is a member (596).

- (596) $\hat{a}\hat{\uparrow} = \hat{\uparrow}j$ [$\hat{n}j\acute{e}y$ $\hat{?}h\hat{a}ns-\hat{o}$] $w\hat{i}$:
 3SgS=Tr [3FullPl dog-3PossSg] kill
 ‘He_x killed their_{xy} dog.’

This can also be expressed with simple 3Pl $j\hat{o}\hat{\eta} + H$ instead of 3FullPl $\hat{n}j\acute{e}y$, which is not surprising since simple reflexive forms are often optional.

10.4.2 Sloppy coindexation in logophorics

A singular antecedent (attributed speaker) is commonly paired with a plural logophoric pronominal (597).

- (597) \hat{a} $n\acute{e}$ [$\hat{n}j\acute{e}y$ $n\hat{a}m$ $\hat{\uparrow}k\hat{a}$]
 3SgS say [LogoPlS Fut come]
 ‘He_x said that they_{xy} (he_x and she_y) would come.’

10.4.3 Sloppy coindexation in relative clauses

HS does not like sloppy coindexation in relative clauses. In some other Songhay languages, one can use a plural form of the relative pronoun to indicate that the relativized NP strictly includes the referent of the head NP. In HS this would be #*gá-jòŋ + H* (cf. KS *kaŋ-yaŋ*). However, in HS *jòŋ + H* is the 3Pl subject clitic, and the sequence *gá jòŋ* is common in such relatives as ‘the woman whom they saw’ (*wòy-ò gá jòŋ díy-à*). Efforts to elicit #*gá-jòŋ + H* in strict-inclusion cases were not successful.

Instead, when sloppy coindexation was involved, a “loose” relative clause using *márijí* ‘assemble, unite’ as a serial verb (‘do together’) emerges. The relative-clause subject denotes the members of the set minus the one(s) denoted by the head NP, which is represented within the clause in the comitative form *úd-à* ‘with 3Sg’ (598).

- (598) a. *wòy-ò* *gá jòŋ márijí* [*w̃* $\hat{k}á=[úd-à]$]
 woman-Fin/DefSg Rel 3PlS assemble [Infin come=[with-3SgO]]
 ‘the woman with whom they came (together)’
- b. *bòr-èy* *gá=ỹ* *márijí* [*w̃* $\hat{k}á=[úd-à]$]
 people-DefPl Rel=1SgS assemble [Infin come=[with-3SgO]]
 ‘the people with whom I came (together)’

References

- Christiansen-Bolli, Regula. 2010. *A grammar of Tadaksahak, a Northern Songhay language of Mali*. University of Leiden Ph.D. dissertation.
- Heath, Jeffrey. 1998a. *Dictionnaire songhay-anglais-français*. Vol. 3, *Koyraboro Senni*. (Langues d'Afrique 6). Paris: L'Harmattan.
- . 1998b. *Texts in Koroboro Senni: Songhay of Gao, Mali*. (Wortkunst und Dokumentartexte in afrikanischen Sprachen 6). Köln: Köppe.
- . 1999b. *A grammar of Koyraboro (Koroboro) Senni: The Songhay of Gao, Mali*. (Westfrikanische Studien Bd. 19). Köln: R. Köppe
- . 2005. *Tondi Songway Kiini (Songhay, Mali): Reference Grammar and TSK-English-French Dictionary*. (Stanford Monographs in African Languages). Stanford: CSLI.
- . 2007. Bidirectional case-marking and linear adjacency. *Natural Language and Linguistic Theory* 25:83-101.
- . 2010. Typology of clausal boundary marking devices. *Linguistic Typology* 14:127-51.
- . 2011. Innovation of head-marking in Humburi Senni (Songhay, Mali). *Diachronica* 28(1):1-24.
- Nicolai, Robert. 1979. Le songhay central. *Études linguistiques* (Niamey) 1(2)33-69.
- . 1981. *Les dialectes du Songhay*. Paris: SELAF.
- Souag, Lameen. 2012. The subclassification of Songhay and its historical implications. *Journal of African Languages and Linguistics* 33(2):181-213.

Abbreviations and symbols

3PossSg	form used by singular inalienably possessed noun with third person possessor
3PossPl	form used by plural inalienably possessed noun with third person possessor
Absol	absolute (prefix on adjective or numeral with no noun present)
Adj	adjective
Agent	agentive
C	consonant
Caus	causative
Centr	centripetal
Char	characteristic (nominal derivation)
Dat	dative
Def	definite
Dem	demonstrative
DF	discourse-functional
Dimin	diminutive
DjCh	Djenné Chiini, Songhay language (or dialect of KCh) of Djenné, Mali
Emph	emphatic
Fin/Def	final/definite
Ful	Fulfulde (language of the Fulbe people)
Fut	future
H	high (tone)
+H	followed by a floating H-tone
H+	preceded by a floating H-tone
HS	Humburi Senni, Songhay language of Hombori and surrounding area, Mali
Impf	imperfective
Imprt	imperative
Indef	indefinite
Infin	infinitive (before VP)
KCh	Koyra Chiini, Songhay language of Timbuktu, Goundam, Dire, Tonka, and Niafouké, along Niger R. in Mali
KS	Koyraboro Senni (aka Koroboro Senni), Songhay language of Gao, Bamba, Bourem, and Ansongo, along Niger R. in Mali
L	low (tone)
Logo	logophoric
LP	locational phrase
MAN	mood-aspect-negation (clausal inflections, following the subject)
N	a) nasal consonant; b) noun
Neg	negative
NF	nonfinal (form of noun before adjective or numeral)
NP	noun phrase
Num	numeral
O	object (in e.g. 1SgO = first singular object)

OV	verb that follows a direct object
P	possessor (in e.g. 1SgP = first singular possessor)
Partpl	participle
Perf	perfective
Pl	plural
Poss	possessed
PossSg	form used by singular alienably possessed noun
PossPl	form used by plural alienably possessed noun
PotPass	potential passive
PP	postpositional phrase
Presv	presentative (§7.2.3.1)
Prfct	perfect
Progr	progressive
Recip	reciprocal
Refl	reflexive
Rel	relative marker
RON	Republic of Niger
S	a) subject (in e.g. 1SgS = first singular subject) b) sentence
Sg	singular
StDef	strong definite
Sub	subordinator (in §9.5.10 only)
Subju	subjunctive
Tr	transitive (bidirectional case marker between adjacent nonzero subject and object)
TSK	Tondi Songway Kiini, Songhay language spoken in Kikara and surrounding villages north of Douentza, Mali
UnspecO	unspecified-object (derivation from transitive verb)
V	vowel
VblN	verbal noun
VO	verb that precedes the object noun
VP	verb phrase
WTopic	weak topic (<i>kèy + H ~ kày + H</i>), §8.4.3
X	extraction (<i>X.be</i> = 'be' after extraction)
XImpf	imperfective after extraction

tones (using x as prop)

acute x	H[igh]
grave x	L[ow]
circumflex x	<HL>, i.e. falling
check x	<LH>, i.e. rising (not allowed in HS)
tilde x	<LHL>, i.e. bell-shaped

other tone/pitch symbols

downstep	↓
weak downstep	↘
upstep	↑
tone-raising to H	↗
tone-lowering to L	↙

other symbols

{...}	a) encloses a stem- or word-level tone melody, e.g. {LHL}; b) encloses a set, e.g. {u a i}
#	ungrammatical (followed by italicized transcription)
*	reconstructed (followed by nonitalicized transcription)
%	phrasal boundary blocking Rightward Floating-H Docking, see (81).

Index of categories and terms

- absolute (prefix when noun is absent)
 - adjectives, §4.6.3
 - numerals, §4.7.1
- Adjectival Tone Raising, §3.9.4.2
- adjectives, §4.6.2
 - deverbal, §4.6.2.10
 - verbs of adjectival quality, §4.6.1
- adpositions, §5.9
 - prepositions
 - instrumental, comitative, ‘and’
 - with pronominals, §4.3.6
 - ‘since’ and ‘until’, §5.9.8
 - postpositions (but 1st/2nd person pronominal suffixes)
 - dative §5.9.2
 - pronominal paradigm, (296) in §5.9.2
 - locative, §5.9.4
 - pronominal paradigm, (300) in §5.9.4
 - ‘on’, §5.9.5
 - pronominal paradigm, (302) in §5.9.5
 - ‘chez, at the place of’, §5.9.6
 - pronominal paradigm, (304) in §5.9.6
 - of spatial position, §5.9.7.1-2
 - temporal, §5.9.10
 - focalized, §8.1.1.3
 - in relative clauses, §8.3.3
- adverbs, §9.3.1
 - spatial, §5.13.1
 - temporal, §5.13.2
 - verbs with adverbial complements, §6.1.5
 - focalized, §8.1.1.2
 - adverbial relative clauses, §8.3.6, §8.3.11
- adversative
 - ‘but’, §9.5.5
- ‘again’, §9.5.6.1
 - with negation, §9.3.5
- agentive, §4.5.7
 - in compounds, §4.8.2, §4.9.7
- alienable, see possession*
- ‘all’, §5.4.3, §4.7.1
 - with pronouns, §5.4.8
- ‘also’, §5.8.3
- anaphora (see also “definite” and “coindexation”)
 - reflexives, §10.2-5
 - reciprocals, §10.2.6
 - logophorics, §10.1.1-4

- Anticipatory HH-Dissimilation, §3.9.4.4
- apposition, §5.10
- approximative (with demonstrative), §4.4.5
- aspect, see also “perfective,” “imperfective,” “perfect,” “progressive”
 - temporal/aspectual control verbs, (566b) in §9.7.2
 - ‘begin’, (566b) in §9.7.2
 - ‘finish, (565) and (566b) in §9.7.2
 - ‘be about to’, (566b) in §9.7.2
 - ‘finally do’, (566b) in §9.7.2
 - ‘do promptly’, (566b) in §9.7.2
- assimilation, §3.6.1-3
- Atonal Suffix Spreading, §3.9.5.1
- bahuvrihi compound, §4.8.3
- ‘between’, §5.9.7.2
- body parts, (159) in §4.2.2.1
- case*, see “*subject*,” “*object*,” “*adposition*”
- causative, §6.2.2
- characteristic (nominal derivation), §4.5.5
- ‘child’, §4.1.3.5
 - in compounds, §4.8.5
- clitic
 - subject and object pronominals, §4.3.4.1-6
 - transitive =*ŋ*, §7.2.6
 - instrumental-comitative =*ndù + H*, §6.2.5, §6.1.6
- coindexation (see also “anaphora”)
 - sloppy coindexation, §10.4
- color adjectives, §4.6.2.5-7
- comitative, §5.11
- comparatives, §9.7.7
 - ‘than’, §5.11.5
- complement clauses
 - indicative (factive) complements, §9.5.8-9
 - subjunctive complements, §9.6
 - subjunctive trigger, §9.6
 - purposive subjunctive clause, §9.6.4, §9.6.6
 - infinitival VP complements, §9.7
 - ‘because’, §9.5.7
- compounds
 - nominal compounds, §4.8
 - agentive, §4.8.2
 - bahuvrihi, §4.8.3.1-2
 - tight versus loose, §4.8.1
 - tones, §3.9.7
 - containing a verb, §4.8.10-11
 - compound verbs, §6.3
- conditionals, §9.5.1

- conjunction, §5.11.3-4
 - clausal, §9.5.1.4
- consonants, §3.1
 - clusters, §3.5.7-8
- contractions
 - vowels, §3.7.1
- control verbs, §9.7.2
- currency, §5.4.7.1
- dative
 - postposition, §5.9.2
 - verbs with dative complements, §6.1.4
 - double datives, §9.1.4
- definite
 - definite plural, §4.1.1.2
 - final/definite singular, §4.1.1.1
 - strong definite, §5.7.1
- degemination, §3.6.6
- demonstratives, §4.4.1-5
 - presentative verbs, §7.2.3.1-3
- diminutives, §4.9
 - adjectives, §4.6.2.8
 - compounds (mostly noun-adjective), §4.9.4-7
 - nouns, §4.9.1-3, §4.1.3.3
- diphthongs, §3.3
 - historical, §3.10.1
 - deletion or preservation before suffix, §4.1.2.10
- discourse-functional markers, §5.8
- disjunction
 - NPs, §5.12
 - clauses, §9.5.4
- dissimilation
 - pitch (at word-boundary), §3.9.4.4
- distal (demonstrative), §4.4.4
- distributive
 - ‘each, every’, §5.4.3.2
 - iteration of numerals, §5.4.4, §4.7.3
- ditransitive, §6.1.4
- downstep
 - word-medial, §3.9.5.7
 - at word boundary, §3.9.5.9
- edge
 - right-edge marking, §9.5.10
- emphatic
 - emphatic demonstratives, §4.4.5
 - emphatic particles, §5.8.3, §8.5.1, §8.5.5
- enclitic, see “clitic”*

- 'even', §8.5.7
- extraction
 - focalization, §8.1-2
 - relativization, §8.3
- 'female', §4.8.6
- final/definite singular (nouns), §4.1.1.1
- Final <HL> Flattening (final/definite nouns), §3.9.5.5
- Final-L Delinking, §3.9.5.8
- floating tones, §3.9.1.5
 - following floating H
 - after nouns, §4.1.1.1-2, §4.2.2.5, §5.5
 - after pronominal clitics, §4.3.4.2
 - after instrumental-comitative, §4.3.6
 - preceding floating H
 - before demonstratives, §5.6
 - before strong definite, §5.7.1
 - before 'be' quasi-verb, §7.1.2
 - following floating L after delinking, §3.9.5.8
- focalization, §8.1-2
 - focus particle, §5.8.1
- full* (see *pronouns*)
- future, §7.2.4.1
- gender*, see 'male' and 'female'
- greetings, middle of §5.4.7.2
- {H}/{HL} type (numerals), §4.1.2.2
- {H}/{L} type (nouns), §4.1.2.3
- {HL}/{H} type (nouns), §4.1.2.2
- {HL}/{L} type (nouns), §4.1.2.3
- Idiosyncratic Noun-Stem V-Lengthening, §3.7.5.2
- imperatives, §7.3
- imperfective
 - imperfective positive, §7.2.1.5, §7.2.2
 - with pronominal subject, §4.3.4.3
 - imperfective negative, §7.2.1.3
 - extraction-indexing, §7.2.4.2
- indefinite
 - indefinite plural, §5.4.11, §4.1.1.2
 - complementary subsets of a set, §5.4.5
- indicative
 - indicative (factive) complements, §9.5.8-9
 - juxtaposed indicative clauses, §9.5.3
- infinitival VP, §9.7
- instrumental-comitative, §5.11
 - focalization, §8.1.1.4
- intensifiers (adjectival), §9.2

- interrogatives, §8.2
 - polar (yes-no), §8.2.1
 - embedded, §8.2.5
- Intervocalic *y/w*-Insertion, §3.7.1.9
- iteration (full reduplication)
 - adjectives, §4.6.2.4
 - distributive iteration of numerals, §4.7.3
- jussive complement, §9.6.3
- kinship terms, (160) in §4.2.2.1
 - semi-segmentable and compound, §4.8.9
- ‘know’
 - complement clauses of, §8.2.5, §9.5.8.1
- Leftward Floating-H Docking, §3.9.6.1
- <LH> → H Flattening, §3.9.6.3
- L.L.<HL> → L.H.L (final/definite forms of trisyllabic nouns), §3.9.6.2
- locative
 - postposition, §5.9.4
 - locational phrase, §7.1.2, §5.13.1
- logophorics, §10.1.1-4
- ‘male’, §4.8.6
- metathesis, §3.6.5
- mood and modality
 - capability and incapability
 - ‘can, be able to’, (566a) in §9.7.2
 - ‘be unable to’ and ‘fail to’, (566c) in §9.7.2
 - hortative, §9.6.7
 - imperative, §7.3.1
 - reported imperative (jussive), §9.6.3
 - obligational
 - ‘ought to’, (566a) in §9.7.2
 - ‘must’, §7.1.3
 - subjunctive, §7.2.1.4
 - volition
 - ‘want to’, (566f) in §9.7.2
 - ‘try to’, (566f) in §9.7.2
 - ‘do on purpose’, (566c) in §9.7.2
 - ‘consent to’, (566c) in §9.7.2
 - ‘refuse to’, (566c) in §9.7.2
- ‘mother’ (*nâ*)
 - in compounds, §4.8.5
- motion
 - motion verbs in serialization
 - with following infinitival complement, (566a) in §9.7.2, §9.7.6
 - with preceding infinitival complement, (565) in §9.7.2
- nasalized vowels, §3.4
- negation, §9.3.2-5

- nominalization
 - deverbal, §4.5 (see also verbal noun)
- NP
 - unmarked postverbal NP, §6.1
- numerals, §4.7
- oaths, §8.5.6
- objects, §9.1
 - pronominal, §4.3.4.2
 - of OV verbs, §6.1.3
 - of VO verbs, §6.1.7
 - of imperatives, §7.3.4
 - focalized, §8.1.1.1
- obligational, §7.1.3
- ‘only’, §5.8.3
- OV transitives, §6.1.3
- overwriting (tonal), §3.9.2
- palatalization, §3.6.4
- participle, §4.5.6
- partitive, §5.4.10
- paronyms, (159) in §4.2.2.1
- passive
 - resultative passive (-à), §6.2.3
 - potential passive (-éyndí), §6.2.4
- past
 - cindî* ‘was/were’, §7.1.2
- perception verbs
 - with imperfective complements, §9.5.9.4
- perfect, §7.2.5
- perfective
 - perfective positive (unmarked), §7.2.1.1, §7.2.2
 - perfective negative, §7.2.1.2
- person (pronominal), §4.3.1
- plural
 - nouns*, see *definite plural and indefinite plural*
 - pronouns, §4.3.2-3
 - indefinite plural, §5.4.11, §4.1.1.2
 - definite plural, §4.1.1.2, §5.5
- possession
 - alienable possession, §4.2
 - inalienable possession, §4.2.2
 - possessive predicates, §7.1.4
 - possessor relatives, §8.3.5
- postposition*, see *adposition*
- potential passive*, see “*passive*”
- preposition*, see *adposition*
- presentative (verbs), §7.2.3.1-3

- Presuffixal *Cv*: Tone-Raising (monosyllabic noun before suffix), §3.9.3
- progressive, §7.2.4.3-6
- Pronominal-Clitic Upstep, §3.9.4.3
- pronouns, §4.3
 - 3Full pronouns, §4.3.1, §8.4.2
 - possessors, §4.2.1.5
 - logophoric function, §10.1.1-4
 - reflexive function, §10.2.2
 - quantification over, §5.4.8
- purposive
 - infinitival VPs as purposives, ¶9.7.1
- quantification, §5.4
 - ‘all’, §5.4.3, §4.7.1
 - with pronouns, §5.4.8
 - weak quantifiers (e.g. ‘many’), §5.4.6
 - events (‘X times’), §5.4.9
 - and negation, §9.3.3
- quotation
 - ‘say’ and ‘tell’ verbs, §6.1.9
- reciprocal, §10.2.6-7
 - ‘do together’, (566f) in §9.7.2
- reduplication (see also iteration)
 - adjectives, §4.6.2.5
- reflexives, §10.2.105
- relativization, §8.3
- resultative passive*, see “*passive*”
- rhetorical pitch dropping, §3.9.4.5.
- Rightward Floating-H Docking, §3.9.5.2
- Rightward H-Spreading (word boundary), §3.9.5.3
- serialization (verbs, VPs), §9.7
- similative
 - ‘like’, §8.5.4
 - ‘believing that...’, §9.5.8.3
 - ‘resemble’, §8.5.4.2
 - ‘the likes of X’, §8.5.4.3
- strong definite, §5.7.1
- subjects
 - referentiality, §6.1.1
 - pronominal, §4.3.4.2
 - of imperatives, §7.3.1-3
 - focalized, §8.1.2
- subjunctive, §7.2.1.4
- syllabification, §3.5
- Syncope, §3.7.3
- temporal*, see “*time*”
- tense*, see “*future*,” “*past*”

- time, §5.4.7.2
 - temporal/aspectual control verbs, (566b) in §9.7.2
 - time-of-day verbs, (566e) in §9.7.2
- ‘together’
 - ‘do together’, (566f) in §9.7.2
- Tonal Rhythm, §3.9.4.1
- tones, §3.9
 - lexical tones, §3.9.1.1
 - floating, §3.9.1.5
 - derivation by tone shift, (330) in §6.2.1
 - derivation by suffix plus tone overlay, §6.2.2-4
- ‘too’, §5.8.3
- topicalization
 - topic particle, §8.4.1, §5.8.2
 - weak topic, §8.4.3
- transitive
 - transitive verbs, §6.1.3
 - ditransitive verbs, §6.1.4
 - “transitive” morpheme (bidirectional case suffix) (*fj*), §7.2.6
 - with subject pronominals, §4.3.4.4
- Word-Internal <HL> → H+L, §3.9.5.4
- unmarked postverbal NP, §6.1.8
- upstep, §3.9.4.3
- valency, §6.1.2-4
- verbal noun, §4.5.1-2, see also nominalization
- verbs, §6.1
 - of adjectival quality, §4.6.1
 - compound verbs, §6.3
- VO verbs, §6.1.7
- vocative, §5.14
- vowels
 - deletion, §3.7.1.7-8, §4.1.2.5-6, §4.1.2.9
 - lengthening, §3.7.5.1-3
 - long, §3.5.6-7
 - nasalized, §3.4
 - oral, §3.2
- VV-Fusion
 - at word-boundary, §3.7.1.1
 - within words, §3.7.1.6
- ‘whatchamacallit?’, §8.2.6
- ‘without’, §5.9.9
- zero-derivation, §4.5.4

Index of Humburi Senni forms

- à* ~ *à:* ~ *-â* 3Sg proclitic pronoun, §4.3.4.2
 à 3Sg possessor (chiefly alienable), subject, or imperative preverbal object, §4.2.1.5
 subject to upstep, §3.9.4.3
 -à ~ *-â* 3Sg postverbal object or instrumental prepositional complement, §4.3.4.2
 tone pattern, §4.3.4.7
 subjunctive *m̄ = à:*, §4.3.4.2
 future *nàm = â:*, §7.2.4.1
- â:* + *H*
 final/definite singular with nouns, §4.1.3.2
 possessed noun with third person alienable possessor, §4.2.1.3
- ?â* + *H* absolute prefix with ‘one’ and ‘all’, §4.7.1, §5.4.3.1
- ?âmmá:* ‘but, however’, §9.5.5
- ând-à* causative and intransitivising suffixes, §6.2.3
- ân-dòŋ* + *H* 2Pl inalienable possessor, §4.2.2.2
- âŋ* + *H* 2Sg inalienable possessor, §4.2.2.2
- ?âŋgâ* ~ *ŋgâ* ~ *?âŋâ* ~ *ŋâ*
 3FullSg pronoun, §4.3.4.1-2
 logophoric singular pronoun, §10.1.1
- ânt-ò* + *H*
 a) ordinal, §4.5.6
 b) participle, §4.5.6
- ?ây* 1Sg independent and postverbal object pronoun, §4.3.4.1
- bâ* ‘want, like’, (566f) in §9.7.2
 bâ:g-à with 3Sg object, (372c) in §6.1.7
 bâ kù ... ‘want to VP’, (566f) in §9.7.2
- bâ:*
 a) ‘share, portion’, (170a) in §4.2.2.4
 b1) ‘be better than’, §6.1.7
 bâ:-Ø with 3Sg object, (372a) in §6.1.7
 b2) ‘respect [noun]’, §4.2.1.4
- bâ:* ‘be much, many; abound’ (cf. *bò:-b-òw*), §5.4.6, (332a) in §6.2.2
- bâ:* ‘even’, §8.5.7
 ‘even if’, (484) in §8.5.7
- bâ:bè* ‘father’, (137a) in §4.1.2.9, (160a) in §4.2.2.1
- bândé*
 adverb ‘behind, in the rear’, (322c) in §5.13.1
 postposition ‘after’, §5.9.10
- bândè*
 noun ‘back (of body)’, (159a) in §4.2.2.1
 postposition ‘behind, following; after’, in §5.9.7.1
 pronominal paradigm, (306a) in §5.7.9.1
- bârâ* extraction-indexing ‘be (in a place)’, §7.1.2
 bâ-ndù + *H* ‘have’, (335a) in §6.2.5
- bè:* ‘borassus palm’, §4.2.3.2, §4.2.1.4

- bén* ‘finish, end’, (565) in §9.7.2
 ‘finish’ with preceding complement, (565) in §9.7.2
bèn-ànd-à ‘finish’, (566b) in §9.7.2
bèn-ànd-à kù ... ‘finish VPing’ with following complement, (566b) in §9.7.2
bé:né ‘top; above’, (307) in §5.9.7.1
bè:rì ‘big’, §4.6.2.3
béy ‘know’
 in tag question (*ŋ béy*), §8.2.1
bí-bî ‘black’, §4.6.2.5
bìn-ò + H and 3PossSg *bìn-ò* ‘heart’
bìn-ò gâ(:) complex postposition ‘in the center/midst of’, §5.9.7.2
bén ‘VP more than’ with preceding complement, (565) in §9.7.2
béy ‘know’, (566b) in §9.7.2
béy kù ... ‘have ever VPed’ with following complement, (566b) in §9.7.2
bìsà ‘pass by, go past’
 in comparatives, §9.7.7
 ... *kù* $\hat{\uparrow}$ *bìsà* ... ‘VP more than ...’ with preceding complement, (565) in §9.7.2
bò: + H, see *bò w + H*
bò w + H ~ *bò: + H* extraction-indexing imperfective
bò kú $\hat{\uparrow}$ = *ŋ* with 3Sg object, §7.2.4.2
bò:-b-òw ‘much, many’ (cf. verb *bá:*), (332a) in §6.2.2
bòŋ
 ‘head’, (159d) in §4.2.2.1
 ‘on’ postposition, §5.9.5
 pronominal paradigm, (302) in §5.9.5
 in reflexives, §10.2.1
bòr and final/definite singular *bòr-ò + H* ‘person’, (132b) in §4.1.2.3
bòr \downarrow *kâ* ‘the person who ...’, §8.3.6
bòr \downarrow *kûl* ‘every person’, (275b) in §5.4.3.2
bòr + H ‘someone, anyone’ with 2Sg agreement, §10.3.1
bòrì ‘be good’ and adjective *bòr-y-òw* ‘good’, §4.6.2.8
bów ~ *bó:* ‘(day) break’, §4.2.3.3
bò:-b-òw ‘many, much’, §5.4.6, §4.6.2.1; see also *bá:*
 verb *bá:* ‘be much, many; abound’
bùŋ- ~ *bùŋ-* ~ *bùwⁿ-*, see *bòŋ*
cè: ‘time(s)’, §5.4.9
cè: and possessed *cìy-ò + H* ‘foot’, (136a) in §4.1.2.8, (159e) in §4.2.2.1
cé: ‘call’
 unspecified-object *cìy-à*, (333a) in §6.2.3
cèr and *cèrê*
cèrê ‘friend’, (169b) in §4.2.2.3, (160a) in §4.2.2.1
cèr $\hat{\uparrow}$ *gâ(:)* complex postposition ‘beside, next to’
 pronominal paradigm, (309) in §5.9.7.2
cèr + H and *cèrè* reciprocal, §10.2.6-7
cì ‘say’, §6.1.9
 supplettes *nê* in imperatives, §7.3.3

- cíléy fô* ‘what kind?’, §8.2.3.1
X cíl-ò ‘the likes of X’, §8.5.4.3
cíndí past-time ‘be (in a place)’, §7.1.2
cìṅṅà + H ‘rain’, §4.1.3.4
cìrè postposition ‘under’, §5.9.7.1
 pronominal paradigm, (306c) in §5.7.9.1
dâ emphatic (precise identity), §5.8.3
dàngà
 ‘like’, §8.5.4.1
 ‘believing that’, §9.5.8.3
dèy clause-final admonitive particle, §8.5.5.1
dèy ~ dôy and definite *dúw-ó + H* ‘place’, §5.9.6, end of §4.1.2.9
 in compounds, §4.8.10
dèy↓ kâ ‘a/the place where ...’, §8.3.6
dèy↓ kûl ‘every place’, (275b) in §5.4.3.2
dì strong definite, §5.7.1
dí: ‘see’
díy-à with 3Sg object, (372c) in §6.1.7
 resultative passive, *díy-éyndí* ‘be seen’, §6.2.4
 ‘see (sb, doing sth)’, §9.5.9.4
dìn and *dìn dî* in adverbs, §5.7.2
dî(n) ‘catch’, §3.5.3
dî(n) ‘fire be lit’, §3.5.3
 causative *dín-éyndí* ‘light (fire)’, (331a) in §6.2.2
dìnòw ‘forget’, (566c) in §9.7.2
dìṅṅ-â with 3Sg object, (372b) in §6.1.7
dìnòw kù ... ‘forget to VP’ with following complement, (566c) in §9.7.2
díy-, see *dí:*
dô, see also *dèy ~ dôy*
 ‘chez, at the place of’ postposition, §5.9.6
 pronominal paradigm, (304) in §5.9.6
-dòṅ, see *-ndòṅ* (2Pl possessor)
dù ‘get’
dùw-â with 3Sg object, (372c) in §6.1.7
dùcciyà ‘be short’ and adjective *dùcc-iy-ôw* ‘short’, §4.6.2.8
dùṅgùryà ‘be short’ and adjective *dùṅgùr-y-ôw* ‘short’, §4.6.2.8
dùw-â, see *dù*
dúw-éyndí ‘be available’, §6.2.4
dúw-éy-ndî ‘at our place’, §5.9.6
dúw-ó + H, ‘see *dèy ~ dôy*
 -e
 1Sg alienable possessor, §4.2.1.1
 -è: variant with a-final nouns, §4.2.1.3
 common final vowel of inalienable nouns, §4.2.2.1
 -ey
 a) -ey deverbil nominalizer, §4.5.3

b) plural

-ey + *H* definite plural of nouns and adjectives, §4.1.1.2

-ey + *H* plural possessed noun, §4.2.1.7

c) -ey + *H* 1Sg inalienable possessor, §4.2.2.2

fâr and definite *fâ:r-ò + H* ‘field’, (133) in §4.1.2.4

fô ‘which?’, §8.2.2.5

fó: and definite *fíy-à: + H ~ fúw-à: + H* ‘one’, §4.7.1, end of §4.1.2.2

gâ

focus particle, §5.8.1, §8.1

relative particle, §8.3

variant *kâ* after certain high-frequency light nouns, §8.3.6

in adverbial relative clauses, §8.3.11

‘that’ complementizer, §9.5.8.2

gâ: ‘body’, (170a) in §4.2.2.4, (159g) in §4.2.2.1

gâ: ~ *gâ* locative postposition, §5.9.4

pronominal paradigm, (300) in §5.9.4

gám-ó + H and 3PossSg *gám-ò* ‘middle’

gám-ò gâ(:) complex postposition ‘between; in the middle of’, §5.9.7.2

gàrù ‘find, encounter (that ...)', §9.5.9

H + gò: ‘be (in a place)', §7.1.2

in progressives, §7.2.4.3

in presentatives, §7.2.3.1

gò:† = nò(η) ‘be there, be present’, §5.4.2

gùnà ‘look’, (566f) in §9.7.2

gùnà kù ... ‘try to VP’, (566f) in §9.7.2

gùndê ‘belly’, (169b) in §4.2.2.3

gù + H ~ w̃ + H imperfective (positive), §7.2.1.5

with pronominal subject, §4.3.4.3

hà:, see *hàyà*

hâl ‘until’, §5.9.8

with subjunctive clause, §9.6.4

hán ‘day’, §5.7.4.2

hàn↓ kâ ‘the day when...’, §8.3.6, (5) in §1.4

hàn↓ kûl ‘every time’, (275b) in §5.4.3.2

hán-ê postposition ‘on the day of’, §5.9.10

hánáná ‘stay up at night’, (566e) in §9.7.2

hánáná kù ... ‘do at night’, (566e) in §9.7.2

hâr and definite *hâ:r-ò + H* ‘man’, (133) in §4.1.2.4

in compounds, §4.8.6

in kinship compounds, §4.8.9

hárú ‘tell’, §6.1.9

hâw ‘tie’, (566b) in §9.7.2

hâw kù ... ‘be about to VP’ with following complement, (566b) in §9.7.2

hâ:y ‘spend mid-day’, (566e) in §9.7.2

hâ:y kù ... ‘do at mid-day’, (566e) in §9.7.2

hàyà and *hà*: ‘thing’

hà: kâ ... that which ..., §8.3.6

hà: kûl ‘every thing’, (275) in §5.4.3.2

hè:ⁿ and possessed *hìyⁿ-ò + H ~ hìjⁿ-ò + H* ‘tooth’, (136a) in §4.1.2.8, (159e) in §4.2.2.1

hénsê ‘want, like’, (566f) in §9.7.2

hénsé kù ... ‘VP on purpose’, (566f) in §9.7.2

hìmà ‘resemble’, (566a) in §9.7.2

hìmà kù ... ‘ought to VP’ with following complement, (566a) in §9.7.2

hín ‘be stronger than’, (566a) in §9.7.2

hín kù ... ‘can VP’ with following complement, (566a) in §9.7.2

hó:ⁿ imperative ‘take (this)!’, §7.3.3

hû and *húw-ó + H* ‘house’, (127) in §4.1.2.2, (170b) in §4.2.2.4

-i deverbial nominalizer, §4.5.3

ì ~ í 1Sg pronominal proclitic

ì + H 1Sg subject, §4.3.4.2

í 1Sg subject subjunctive, §4.3.4.5

ʔi- + *H* absolute prefix (if noun is absent)

adjectives, §4.6.3

numerals, §4.7.1

-iya diminutive, §4.9

ʔizê ‘child’, §4.1.3.4, (137) in §4.1.2.9

variably alienable or inalienable, §4.2.2.1 after (160)

já:tîŋ emphatic (confirmation), §5.8.3

jên ~ jêŋ ‘fail, be unable’, (566c) in §9.7.2

jén kù ... ‘fail to VP’ with following complement, (566c) in §9.7.2

-jêŋ-éy ‘lack of’, §4.8.8

jér-ó + H and 3PossSg *jér-ò* ‘part, half’

jér-ò bònŋ complex postposition ‘at the side of’, §5.9.7.2

jìnè

noun ‘front’, §5.9.7.1

postposition ‘in front of; before’, §5.7.9.1

pronominal paradigm, (306b) in §5.7.9.1

kà ‘come’

suppletive imperative *tê*, §7.3.3

kù *↑kâ* ‘VP and come (back)’ with preceding complement, (565) in §9.7.2

kà kù ... ‘come and VP’ with following complement, (566d) in §9.7.2

kà:-ndù + H ‘bring’, (355b) in §6.2.5

kâ: ‘but’, §9.5.5

kâ:-ní: ‘but’, §9.5.5, §8.5.1.3

kâl + H

obligational, §7.1.3

subjunctive complements, §9.6.2

‘except’, §8.5.2.2

‘not except’, §8.5.2.3

- kàtè* ‘bring, take, convey’, (372d) in §6.1.7
 zero imperative suffix, §7.3.3
yé kàtè ‘bring (sth) back’ (*yê*), §6.3.4
 causal clauses (‘bring it about that ...’), §9.5.11
- kàtin* ~ *kàsìn* ‘again’, §9.5.6
- kàtiyà* ‘be small’ and adjective *kàt(t)-íy-ôw* ‘small’, §4.6.2.8
- kèy + H* ~ *kày + H* weak topic, §8.4.3
- kô* ~ *kô-tí* ~ *kô-t-íy-à: + H* ‘child’, §4.1.3.4
 -*k-ò + H*, see -*kôw*
- kò-kòrù* ‘be last, recent’, (566b) in §9.7.2 (see also *kò:rù*)
kò-kòrù kù ... ‘VP finally’ with following complement, (566b) in §9.7.2
- kòm* characteristic nominal, §4.5.5
- kò:n-ô + H* ‘empty, bare’, §4.6.2.9
- kò:rù* ‘have left (sb, in a situation)’, §9.5.9.3
- kôw* and final/definite singular -*k-ò + H* agentive, §4.5.7
- kóy*
 a) ‘owner’, §4.5.5
kóy-ó + H as informal discourse-anaphoric, §10.3.2
 b) ‘go’
kù kóy ‘VP and go’ with preceding complement, (565) in §9.7.2
kóy kù ... ‘go and VP’ with following complement, (566d) in §9.7.2
 zero suffix in imperative, §7.3.3
- kóy* clause-final emphatic particle, §8.5.5.3
- kóynê* ‘again’, §9.5.6
- kòynì* characteristic nominal, §4.5.5
- kòyrà + H* ‘village, town’, §4.1.3.4, §4.2.2.4
- kù + H* ~ *w + H* infinitive (before VP), §9.7
 reduced to just floating H, §9.7
bò kú↑ = ñ extraction-indexing imperfective with 3Sg object, §7.2.4.2
nò kú↑ = ñ progressive positive with 3Sg object, §7.2.4.4
nà bò kú↑ = ñ progressive positive with 3Sg object, §7.2.4.5
sí: kú↑ = ñ progressive negative with 3Sg object, §7.2.4.6
- kú-kú* ‘long’, §4.6.2.5
 related verbs, (332a) in §6.2.2
- kûl* ‘all’, §5.4.3, §4.7.1
 with pronouns, §5.4.8
- kún-ó + H* and 3PossSg *kún-ò* ‘interior’
kún-ò gà(:) complex postposition ‘inside’, §5.9.7.2
- láy* clause-final emphatic particle, §8.5.5.4
- m̂* ~ *ñ* subjunctive, §7.2.1.4
m̂ sù + H subjunctive negative, §7.2.1.3
- má:* ‘hear’
má:r-à with 3Sg object, (372c) in §6.1.7
- mâ:* ‘name’, (170a) in §4.2.2.4
- mán* ~ *máj* ~ *máyⁿ* ‘where?’, §8.2.2.3

- márjí* ‘assemble’, (566f) in §9.7.2
márjí kù ... ‘VP together’, (566f) in §9.7.2
- mê*
 a) *mê* and *míyⁿ-ó + H* ‘mouth’, (127) in §4.1.2.2, (159e) in §4.2.2.1
míyⁿ-ò gà(:) complex postposition ‘at the entrance to’, §5.9.7.2
 b) *mê* clause-final emphatic particle, §8.5.5.2
- mè*
mè kâ ... ‘a/the time when ...’, §8.3.6
mè kûl ... ‘every time ...’, (275b) in §5.4.3.2
mè fô ‘when?’, §8.2.2.3
mè hérê ‘(around/toward) where?’, §8.2.2.3
-mè in *wòy-mè* ‘sister’ and *hâr-mè* ‘brother’, §4.8.9
mèrjè ‘how much?, how many?’, §8.2.2.4
méy ‘who?’, §8.2.2.1
-mî deverbial nominalizer, §4.5.4
mínê topic particle, §8.4.1, §5.8.2
mî:ŋ ~ mihîŋ ‘what?’, §8.2.2.2
mí:n ‘sê’ ‘why?’, §8.2.3.2
míyⁿ-ó + H (‘mouth’), see *mê*
mô ‘also, too’, §5.8.3
mò: and possessed *mùwⁿ-ò + H ~ mùŋ-ò + H* ‘eye’, (159f) in §4.2.2.1
mòŋgò ‘hasten’, (566c) in §9.7.2
mòŋgò kù ... ‘be unable to VP’ with following complement, (566c) in §9.7.2
mótê ‘how?’, §8.2.3.1
môy ‘namesake’, §4.2.3.1
mùwⁿ-ò ~ mò: ~ *mòm* plus verb *bów ~ bó:* ‘day break’, §4.2.3.3
nà bò w + H progressive, §7.2.4.5
nà bò kú↑ = ŋ with 3Sg object, §7.2.4.5
nàm + H ~ nàŋ + H future, §7.2.4.1
nàŋ
 a) 2Sg preverbal object, §4.3.4.2
 b) perfect, §7.2.5.1-2
 c) *nàŋ + H* variant of future *nàm + H*
- ndi(-)* 1Pl possessor suffix
-ndi-ya: alienable, §4.2.1.6
-ndì inalienable, §4.2.2.2
-ndòŋ ~ -dòŋ 2Pl possessor
-ndòŋ + H alienable, §4.2.1.6
-àn-dòŋ + H inalienable for singular noun, §4.2.2.2
-ey-ndòŋ + H for plural noun, §4.2.2.2
- ńdù + H* ‘with; and’, §5.11
 with following pronominal, §4.3.6.1
 with preceding pronominal, §4.3.6.2
 in focalized clauses, §8.1.1.4
 in relative clauses, §8.3.4
- nê* ‘say’, §6.1.9

- nè*: ‘here’, §4.4.3
né: \uparrow -wò ‘here’, §4.4.3
 cliticized = *nè*, §4.4.3
 in presentatives, §7.2.3.3
- nèy* 1Sg object, §4.3.4.2
- nî* 2Sg independent and postverbal object pronoun, §4.3.4.1
- ñjêy*
 3FullPl pronoun, §4.3.4.1-2
 logophoric plural pronoun, §10.1.1-4
- nôŋ* and *nón-dì*
nôŋ ‘it is ...’, §7.1.1.4
 in possessive predicates, §7.1.4
nôŋ or *nón-dì* ‘there’, §4.4.3
- noŋ* 2Sg possessor
-noŋ alienable possessor, §4.2.1.1
-ey-nòŋ + H for plural noun for alienable or inalienable, §4.2.2.2
- ñ*
 a) “transitive” particle (bidirectional case suffix), §7.2.6
 b) 3Sg object, §4.3.4.2
 c) variant of subjunctive *m̂*, §7.2.1.4
- ŋ* singular-subject imperative, §7.3.1
- ñ + H* 2Sg subject clitic, §4.3.4.2
- ŋà*: ‘eat’
 etymology, §3.10.2
ŋá: -y-éyndí ‘feed’, (331b) in §6.2.2
ŋàndè ~ wàndè ‘wife’, (169a) in §4.2.2.3
- ŋónê* ‘possession’, §5.2.1.2, §5.9.3
 in possessive predicates, §7.1.4
 etymology, (119b) in §3.10.2
- ŋâ* and *ŋó*: +H ‘mother’, (127) in §4.1.2.2, (160c) in §4.2.2.1
- ŋoŋ*
 a) plural
-ŋoŋ + H indefinite plural, §5.4.11
-ŋoŋ plural of noun after 1Sg alienable possessor -e, §4.2.1.1
 b) 3Pl pronominal
ŋòŋ + H 3Pl pronominal (subject, preverbal object, adposition, possessor),
 §4.3.4.2, §4.2.1.5
ŋóŋ + H 3Pl VO object, §4.3.4.2
 c) *-ŋoŋ + H* verbal noun, §4.5.1
- o*
-o + H final/definite singular of nouns and adjectives, §4.1.1.1
-o + H singular noun with third person possessor
 alienable, §4.2.1.1, §4.2.1.7 (see also 2Sg *-o-noŋ*)
 inalienable, §4.2.2.1
- ô*: ‘this/that’, §4.4.1-2
- o-noŋ* 2Sg alienable possessor, §4.2.1.1

- ów* deverbial nominalizer, §4.5.4
- ow* nominal suffix
 - diminutive *-iy-ow*, §4.9.1
 - with adjectives, §4.6.1-2
- réy* and final/definite *-r-o + H* deverbial nominalizer, §4.5.4
- rî* and final/definite *-r-o + H* verbal noun, §4.5.2
- r-o + H*, see *-r-u*, *-rî*, and *-réy*
- r-u* and final/definite *-r-o + H* verbal noun, §4.5.2
- sà* clause-final emphatic particle, §8.5.5.2
- sábá-ńdù + H* ~ *sáwá-ńdù + H* 'coincide (with)', §9.5.9.2
- sé* dative postposition, §5.9.2
 - pronominal paradigm, (296) in §5.9.2
- sí*: 'not be (in a place)', §7.1.2
 - sí*: *+ H* progressive negative, §7.2.4.6
 - sí*: *kú*↑ = *ń* with 3Sg object, §7.2.4.6
 - nàń* *sí*: *+ H* perfect negative, §7.2.5.2
- sinè* in compound kin terms, §4.2.2.1 before (161), §4.8.9
- sintîŋ* 'begin', (566b) in §9.7.2
 - sintîŋ kù* ... 'begin to VP' with following complement, (566b) in §9.7.2
- sù + H* imperfective negative, §7.2.1.3
 - m sù + H* subjunctive negative, §7.2.1.3
- tà* 'receive, take, accept', (566f) in §9.7.2
 - tàŋ-â* with 3Sg object, (372c) in §6.1.7
 - tà kù* ... 'consent to VP', (566f) in §9.7.2
- târêy* 'hood' (abstractive), §4.8.7, (139) in §4.1.2.10
- tárú* 'hasten', (566b) in §9.7.2
 - tárú kù* ... 'VP promptly' with following complement, (566b) in §9.7.2
- tè* 'become (adverb)', §7.1.1.2
- tê*
 - a) 'happen, take place', §7.1.1.3
 - b) imperative 'come', (399b) in §7.3.3
- té*:
 - transitive verb 'do, make', (324a) in §6.1.1, (425-6) in §8.2.3.1
 - resultative passive *tîy-à* 'be done', (333a) in §6.2.3
 - 'become (noun)', §7.1.1.1
 - tîy-à* with 3Sg object ('become it'), (372c) in §6.1.7
 - stative 'be (noun)', §7.1.1.1, (425) in §8.2.3.1
 - 'be done', §7.1.1.1
- tîy-à*, *tîy-à* see under *té*:
- tó*:
 - a) 'become full', (331b) in §6.2.2
 - < **tó:n*, §3.4.10
 - tó:-y-éyndí* 'fill', (331b) in §6.2.2
 - b) 'arrive'
 - < **tó:*, §3.4.10
 - tó:r-à* with 3Sg object, (372c) in §6.1.7

- tó:-y-éyndí* ‘deliver’, §3.7.1.9
 in time expressions, §5.4.7.2
tùn ‘get up’, (566d) in §9.7.2
tùn kù ... ‘get up and VP’ with following complement, (566d) in §9.7.2
 -*u* third person possessor with certain kin terms, (160a) in §4.2.2.1, (171c) in §4.2.2.5
w + H
 a) variant of imperfective *gù + H*, §4.3.4.3, §7.2.1.5
 b) variant of infinitival *kù + H*, §9.7
wà: ‘milk’, (152) in c.2.1.4, end of §4.2.2.4
 diminutive compounds, (256b) in §4.9.6
wàlà ‘or’, §5.12, §9.5.4
 in polar interrogatives, §8.2.1
wàndè ~ ñàndè ‘wife’, (169a) in §4.2.2.3
wàràŋ 2Pl independent and object pronoun, §4.3.4.1-2
wát-ê postposition ‘in the time of’, §5.9.10
wé:tê ‘spend the morning’, (566e) in §9.7.2
wé:tékù ... ‘do in morning’, (566e) in §9.7.2
w-êy ‘these/those’, §4.4.1
wínjí ‘refuse’, (566f) in §9.7.2
wínjí kù ... ~ wúnjí kù ... ‘refuse to VP’, (566f) in §9.7.2
wò
wò + H 2Pl subject pronoun, §4.3.4.2
wò (without floating H) plural-subject imperative, §7.3.2
 upstepped to *wòʔ*, §3.9.4.3
wô ‘this/that’, §4.4.1
wôŋ ‘there is’, §5.4.2
wóy and definite *wóy-ò + H* ‘ten’, end of §4.1.2.2
 in compound decimal numerals (‘ten’, ‘twenty’, ...), (235d) in §4.7.1
wòy ‘woman; female’
 in compounds, §4.8.6
 in kin compounds, §4.8.9
wòymèy ‘spend the evening’, (566e) in §9.7.2
wòymèy kù ... ‘do in late PM’ with following complement, (566e) in §9.7.2
 -*ya* (diminutive), see -*iya*
yá emphatic, §8.5.5.5
yá: distal demonstrative, §4.4.4
yê ‘go back’, §6.3.4 (see also *yò kù ...*, *yèkà*)
yèddà ~ yàddà ‘consent’, (566f) in §9.7.2
yèddà kù ... ~ yàddà kù ... ‘consent to VP’, (566f) in §9.7.2
yèkà ‘come back’, §6.3.4
yélà ‘whether’, §8.2.1
yérí 1Pl independent and object pronoun, §4.3.4.1-2
yò kù ... ~ yè kù ... ‘do again’ with following complement (see *yè*), (566d) in §9.7.2
yò + H 1Pl subject pronoun, §4.3.4.2
zá: ‘since’, §5.9.8

zùmbù ‘go down’

causative *zúm-éyndí* ‘take down’, (331d) in §6.2.2