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**A grammar of Tagdal: a Northern Songhay language**  
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## Chapter 2

### 2.0 Phonological structure

#### 2.1 Syllable structure

The following are the most common syllable patterns in Tagdal.

Table 2-1, most common syllable structures in Tagdal

open syllables	example	closed syllables	example
CV	wa 'eat'	CVC	<b>koy</b> 'go'
CVV	<b>táasu</b> 'food'	VC	<b>áxluk</b> 'destruction'
V	<b>até</b> 'he arrived'		
VV	<b>áazir</b> 'nut'		

#### 2.2 Consonants

General remarks about the phoneme inventories of the different varieties of Tagdal can be found in in Nicolai (1979), though all of the remarks in the following sections concerning the dialectal data are from my own field research. As was stated in the previous chapter, the most common varieties of Tagdal are the Kəl Amdid, the Abargan / Kəl Illokoḍ variety, and Tabarog (see also Benítez-Torres, forthcoming). The consonant inventories will be described in Section 2.2.1.

##### 2.2.1 Inventory

Tables 2-2 through 2-4 detail the consonant inventories in the major varieties of Tagdal. Table 2-2 gives the general inventory of consonants in the Kəl Amdid / Tarbun varieties. On the other hand, the consonant inventory of the Abargan and Kəl Illokoḍ, given in Table 2-3, is more akin to that of Tadaksahak in Mali (Christiansen-Bolli 2010). One of the key differences is the presence of [tʃ] and [dʒ], which are contrastive with ʃ and ʒ. For example, tʃin 'say' and ʃin 'heavy', whereas in the Kəl Amdid / Tarbun variety these are pronounced ʃin 'say' and ʃin 'heavy'. Table 2-4 describes the consonants in Tabarog. The main difference between Tabarog and Kəl Amdid / Tarbun is the absence of ʃ, ʒ, tʃ and dʒ. For example, ʃin 'say' or 'heavy' is pronounced sin, and ʒayzi 'day' is pronounced zayzi. Otherwise, Tabarog is similar to other Tagdal varieties.

Table 2-2: consonant chart, Tarbun, kəl Amdid

	Labial	Alveolar	Pharyngealised	Palatal	Velar	Uvular	Pharyngeal	Laryngeal		
Stops	b	t	d	ɸ	ɖ	k	g	q		
Fricatives	f	s	z	ʃ	ʒ	x	ɣ	ħ	ʕ	h
Affricates										
Glides	w			y						
Laterals		l		ɭ						
Taps		r		ɽ						
Nasals	m	n		ɳ		ŋ				

Table 2-3: consonant chart, Abargan, Kəl Ilokkod

	Labial	Alveolar	Pharyngealised	Palatal	Velar	Uvular	Pharyngeal	Laryngeal		
Stops	b	t	d	ɸ	ɖ	k	g	q		
Fricatives	f	s	z	ʃ	ʒ	x	ɣ	ħ	ʕ	h
Affricates				tʃ	dʒ					
Glides	w			y						
Laterals		l		ɭ						
Taps		r		ɽ						
Nasals	m	n		ɳ		ŋ				

Table 2-4: consonant chart, Tabarog

	Labial	Alveolar	Pharyngealised	Palatal	Velar	Uvular	Pharyngeal	Laryngeal		
Stops	b	t	d	ɸ	ɖ	k	g	q		
Fricatives	f	s	z	ʃ	ʒ	x	ɣ	ħ	ʕ	h
Glides	w			y						
Laterals		l		ɭ						
Taps		r		ɽ						
Nasals	m	n		ɳ		ŋ				

## 2.2.2 Consonantal contrasts

Table 2-5 gives evidence for some key consonant contrasts in Tagdal.

Table 2-5, consonant contrasts

consonants		gloss		gloss
b/m	bay	'know'	may	'have'
	bun	'die'	mun	'spill'
	abbákad	'sin'	amádan	'shepherd'
	áblay	'chunk of dirt'	ámlay	'minced bush meat'
b/f	alzib	'pocket'	aggím	'thousand'
	ber	'older sibling'	fer	'open'
	féttəkət	'explode'	bóttəqət	'ruin completely'
	zíbbiitan	'types of dirt'	ziffaatan	'animal carcasses'
b/d	sətəb	'tie together'	sətəf	'spit'
	bay	'know'	day	'engage in commerce'
d/t	əbər	'scratch'	ədər	'live'
	ədəb	'punish'	ədəd	'press down'
	ʔarab	'Arab'	ərab	'almost catch'
	ərkəb	'pull'	əŋkəd	'be careful'
	duudú	'spill much liquid'	dúuta	'pound it'
d/ð	əndəb	'shoot'	əmbaq	'exit'
	əfəd	'borrow / lend'	əbət	'grab'
	dələg	'decorate'	dələm	'persecute'
d/ʒ	adágar	'half, portion'	aɖágal	'father-in-law'
	ʃindí	'part of something'	ʃinzi	'rain'
g/k	zindé	'neck'	zinziiri	'prayer'
	gunɖú	'belly'	kuɖú	'fill up'
	guugú	'iron'	kuurú	'leather'
	səgbəs	'cause to wear'	səkbəl	'cause to hold up'
g/ʒ	gen	'lose'	ʒen	'be old'
	gárfat	'kneeling'	karfó	'cord'
g/ɣ	agírəd	'granary'	aɣiri	'dark animal w/ white spots'
	əgba	'decompose'	əɣbəd	'worship'
q/k	ərzəg	'move about'	ərzəɣ	'be successful'
	əqbəl	'to fulfill'	əkbəl	'to hold up'

		promise'		
q/ɣ	báaqa	'break it'	báaɣa-a	'want it'
	éɣad	'worry'	éqad	'raging fire'
	élay	'male calf'	élaq	'shin'
f/h	íffaayan	'edges'	íhhaayan	'descendants'
s/z	órsəs	'descend'	órzəs	'repay'
	órsəm	'tie closed'	órzəg	'move about'
s/ʃ	sin	'be heavy'	ʃin	'say'
	ássaayal	'fonio'	a[ʃ]áyal	'work'
	ʃaw	'demonstrate'	zaw	'help'
	ʃen	'over there'	zen	'old'
s/ʂ	amásir	'spy'	amáʂor	'forearm'
	ásak	'bird nest'	áʂək	'song'
s/ʒ	órsəm	'tie closed'	órzəɣ	'bless'
	ónsay	'beg'	ónzay	'get up early'
z/z	zəzɣəg	'cause to play'	zəzɣəg	'cause to accept'
	əzləg	'carry on shoulder'	əzləg	'search for lost thing'
x/ɣ	axárɣar	'tearing apart'	aɣáɣar	'desert plain'
	əxfəl	'lock up'	əɣfər	'rent'
	əxsəs	'survive'	əɣsər	'reside'
	áxluk	'creation'	áɣlay	'small secret'
x/h	əxlək	'create'	əhkəm	'govern'
h/ɣ	alhál	'custom'	alʃár	'refusal'
	alhásəl	'briefly, nevertheless'	alʃánəb	'grape'
h/h	álhaq	'consequence'	alhál	'custom'
w/b	Áwa	'poper name'	ába	'father'
	tawáqas	'small wild animal'	tabárar	'girl'
	wánzin	'refuse'	bánda	'behind'
w/y	way	'woman'	yay	'cold'
	hay	'animal giving birth'	haw	'tie up'
	yay	'cold'	yaw	'female camel'
	ékay	'pass by'	ékaw	'root'
l/d	əlbək	'be skinny, sickly'	ədbaq	'close opening'
	ámlay	'lean meat'	ámday	'giraffe'
	yel	'green grass'	yed	'return'
l/r	əlməɣ	'dip into'	ərməɣ	'be afraid'
	ázwal	'mark'	ázwar	'jujube fruit'
l/	ázwal	'mark'	ázwal	'locust'
	éelaw	'elephant'	éelab	'pit for hiding / storing'
r/d	rayəs	'cheap'	dáyna	'forget'

	tárab	'Arabic language'	tádad	'small finger'
r/ɣ	áwər	'shield'	áwəd	'boiling'
	báara	'LOC be verb'	báaya	'love'
	ársək	'erase'	áysər	'move to s-place'
r/ɾ	arázzad	'diarrhoea'	ayáraf	'reunion'
	arəgan	'large male camel in heat'	ayəyi	'cave'
m/n	əkrəm	'fold together'	əkrəm	'rest animals'
	abákar	'young ram'	abaykor	'street dog'
m/w	amádaf	'manager'	anádar	'jumping up and down'
	əmək	'lift up to cut'	ənəd	'control'
	maw	'hear'	waw	'insult'
n/ŋ	áyɾəm	'town'	áyraw	'yoke for ox'
	na	'give'	ŋa <sup>27</sup>	'eat'
n/ŋ	nes	'measurement'	naʃ	'fat'
	t/ʈ	əttəm	'number eight'	əttəf
t/ʈ	ətrəm	'to do quickly'	ətkəl	'to take'
	táwfooka	'headless carcass'	táwna	'cheese curds'

### 2.2.3 Distributional restrictions

#### Labials b and f in borrowed vocabulary

French loan words beginning with /p/ are regularly pronounced with /f/ in Tagdal. For example, *photocopies* would be pronounced [fottoko'fítan] and *projet* would be pronounced [faro:'ʒe] and the proper name Pascal [fas'kal].

#### Gemination

It is common in words in isolation with more than one syllable for the first consonant in the second syllable to be long, if it is followed by a vowel (i.e. if the consonant is intervocalic). There are two situations, however, where gemination is prevented from happening. First, in words where stress falls on the antepenultimate syllable and the vowel and consonant in the penultimate syllable elongate (see Section 3.1.2), gemination does not occur. Second, the presence of a long vowel in the first syllable (see Section 2.4.1) seems to prevent gemination from occurring. Finally, stress tends

<sup>27</sup> *ŋa* 'eat' is the pronunciation most common in the Abargan variety of Tagdal; the *kəl* Ilokod pronounce it *ŋwa*. Most other Tagdal speakers would pronounce this *wa* 'eat'.

to shift in different contexts, especially in the case of the verb, where a number of bound morphemes may occur in sequence. Therefore, in some contexts gemination would occur in different places in some words than it would occur in the isolated word or root. Other than the exceptions given above, gemination occurs in most words, especially in isolation. Table 2-6 demonstrates presents a few examples.

Table 2-6, examples of gemination

	word	gloss
1	aggóræd	'granary'
2	ággöz	'achilles tendon'
3	ammádan	'shepherd'
4	awwákas	'wild animal'
5	éddøn	'graze'
6	énnæz	'bend over'
7	fóllæg	'to rebel'
8	húggü	'building'

The only consonants that cannot geminate are [r], [h], [ħ] and [ʕ].

## [ʕ] and [h]

[ʕ] and [h] are the only fricatives that do not occur in word final position. All other fricatives ([f], [s], [ʂ], [z], [ʐ], [ʃ], [ʒ], [x], [ç]) are attested in all word positions. (See Section 2.4.1.4 for a discussion of sibilant harmony.)

## Nasals

Assimilation of /n/ is discussed in Section 2.4.1. Otherwise, all nasals can occur in any word position except for /ŋ/, which only occurs in syllable-initial, syllable-final or word-final position. My database has only three examples of this phoneme, given in Table 2-7. Of these, Examples 1 and 2, *ŋa* 'eat' and *kaŋ* 'fall', are in the Abargan variety of Tagdal; the Kəl Amdid / Tarbun and Tabarog varieties would pronounce these *wa* 'eat' and *kan* 'fall'.

Table 2-7, examples /ŋ/ in syllable-final or word-final position

	word	gloss
1	ŋa	'eat'
2	kaŋ	'fall'
3	tammasáŋat	'woman who cooks'

## 2.2.4 Consonant clusters

### Word-initial

Unlike a number of mainstream Songhay languages, in Tagdal the combination of consonants 'nasal + C' does not occur in word-initial position. For example, *nda\** 'and, with' in mainstream Songhay, is pronounced *ənda* 'and, with' in Tagdal.

### Word-final

Words can only end in /t/ if it is preceded by a vowel. Therefore, many Tuareg cognates that would normally end with /t/ in Tadakshak and in a mainstream Tuareg languages would instead end with another a single consonant in Tagdal. Table 2-8 demonstrates.

Table 2-8, Tuareg cognates that do not end with /t/ in Tagdal

	word in Tamajaq	Tagdal	gloss
1	tágdalt	tágdal	'name of Tagdal language'
2	tabārt	tabárar	'girl'
3	táylamt	táylam	'young female camel'
4	táymərt	táymur	'elbow'
5	taməgrāwt	taməgraw	'supplication'

## 2.3 Vowels

All varieties of Tagdal have the same set of short and long vowels. The short vowels are given in Table 2-9. Essentially, Tagdal has the five vowels /a/, /e/, /i/, /o/, and /u/, plus the central vowel /ə/. All vowels except ə have a long counterpart. Nevertheless, in light of the findings in Chapter 3, this question might need to be revisited.

Table 2-9 short vowels in Tagdal

	Front	Mid	Back
High	i		u
Mid-high	e	ə	o
low		a	



Table 2-10 describes the long vowels in Tagdal.

	Front	Mid	Back
High	ii		uu
Mid-high	ee		oo
low		aa	

### 2.3.1 Vocalic contrasts

Table 2-11 gives evidence for some key short vowel contrasts in Tagdal.

vowels		gloss		gloss
i/e	ʃin	'say'	ʃen	'over there'
	ʃiraw	'bird'	ʃéraw	'spoon'
i/ə	áabit	'chaff'	íibət	'take quickly and run away'
	íilis	'tongue'	íiləs	'repeat'
i/a	agírer	'gutter'	agérri	'wisdom'
	báari	'horse'	báara	'LOC verb'
	híŋka	'wherever'	haŋgá	'accompany'
	hínzín	'prepare'	hánzi	'moon'
	taggírʃík	'victim of evil eye (f)'	tággarʃák	'evil eye'
i/u	hin	'prepare'	hun	'exit'
	fík	'to bury'	fur	'throw'
i/o	alzinní	'genie'	alzanná	'cold'
	aʃʃáyi	'cave'	annóyo	'skin rash'
	ʃin	'fig tree'	ʃon	'fill up'
e/ə	abbáykör	'hunting dog'	ibbíkar	'hunting dogs'
	éggæn	'grouping'	éggəd	'take off'
	taddáber	'dove'	támbər	'grazing at night'
	abbéla	'big fire'	abbóki	'beating out grain'
e/a	afféli	'runt'	afféga	'discovery'
	derén	'gum arabic'	derán	'wish / desire'
	kórəd	'clean out'	kárad	'three'
	nes	'measurement'	naş	'fat'
	teziikan	'basket'	taziík	'healing'
	ténəday	'fever'	tanáfrit	'suffering'
e/u	téysay	'flock'	táymur	'elbow'
	fer	'open'	fur	'throw'
e/o	les	'make dirty'	loq	'lick'
ə/o	dónnəg	'up high'	dónnay	'fill container'

				with small mouth'
ə/a	sérəs	'cause to submit'	sóora	'milk animal'
	égləz	'hand over'	églaz	'be left over'
	éftay	'spread out'	áftək	'outer garment'
	kórba	'mix together'	kar	'hit'
	sóddəd	'cause to breast feed'	sáddas	'target'
ə/u	kárkər	'clean out'	kúrkur	'burn'
	sónfəs	'cause to breathe'	sónfu	'be at ease'
a/u	áyłal	'valley'	áyłul	'eternity'
	horrá	'be difficult'	hurrú	'search'
	kan	'fall'	kud	'take animals to pasture'
	sákla	'cause to spend the day'	səglu	'cause to go'
a/o	dar	'place on top of'	dor	'hurt'
	abbárkaw	'calf'	abbáŋkor	'temporary well'
u/o	dut	'pound grain'	dor	'hurt'
	húggu	'house'	húkkot	'stand from sitting position'
	əddəkúd	'measure out land'	əddəkot	'number'

Table 2-12 gives evidence for long vowel contrasts in Tagdal.

Table 2-12, vowel contrasts, long

vowels		gloss		gloss
i/i	míʒi <sup>28</sup>	'to separate'	ʒiʒi	'night'
	íbbáatan	'types of chaff'	ibátan	'losses'
	iddəd	'chase closely'	íibət	'take quickly and run away'
e/ee	témmar	'moment'	téematay	'crowd'
	ékkaw	'root'	éelaw	'elephant'
	éeyayt	'camel leather'	éyyaf	'worry'
ee/aa	éenar	'antelope'	áanar	'eyebrow'
	éemay	'folktale'	ammay	'3SG has'
a/aa	abbákad	'sin'	abbáara	'3SG is (loc)'
	abbárog	'person from the Íbároogan tribe'	ábbaawen	'wild cat'
aa/oo	bárar	'boy'	ibáraadan	'young men'
	báara	'LOC be verb'	bóora	'person'
	ʒárab	'Arab'	óoray	'gold'

<sup>28</sup> The long consonant likely reflects gemination in words with two syllables. Nevertheless, the fact that consonants never geminate following long vowels is very telling.

u/uu	dumbú	'slaughter (lit. slit throat)'	duudú	'spill much liquid'
	hurrú	'search'	húuru	'fire'
	gúgga	'iron'	gúugut	'polish'
uu/oo	gúugut	'polish'	kóorat	'tear apart'
	mólluulu	'shine, clean'	sálloolot	'spend time'
o/oo	goorá	'sit'	korrá	'be hot'
	aaró	'man'	ároori	'back'

### 2.3.2 Vowel realisations

Vowels are subject to a number of factors in their particular environments. In this section, pharyngealisation and its effects on vowels will be discussed, as well as how stress affects how vowels are realised phonetically. This section ends with a discussion of the central vowel /ə/.

The presence of a pharyngealised consonant, or of the phonemes /x/, /ɣ/, /q/, /ʕ/ and /ħ/ lowers the phonetic placement of the vowels surrounding it, as Table 2-13 shows.

Table 2-13, pharyngeal lowering of vowels

		example	gloss	phonetic realisation
/i/	lowers to	[i̠]	aɣəɣi 'cave'	[a'ɣ:ʌɣi]
/e/	lowers to	[ɛ̠]	éɛlab 'pit for hiding or storing'	[ 'ɛ:ʌb]
/a/	lowers to	[a̠]	báaya 'to want'	[ 'ba:ɣa]
/o/	lowers to	[ɔ̠]	ɖos 'touch'	[dʰɔs]
/u/	lowers to	[o̠]	áħluk 'destruction'	[ 'aħlok]
/ə/	lowers to	[ʌ̠]	əqbəl 'fulfill promise'	[ 'ʌqbʌl]

In unstressed syllables, especially in longer words such as the verb, where a number of morphemes can occur in sequence, the low vowel /a/ and the high vowels /u/ and /i/ often become lax and tend to centralise toward the direction of /ə/. Nicolai (1980: 235) states:

"...il est souvent difficile de cerner le timbre exact des voyelles, du moins en ce qui concerne certaines voyelles brèves lesquelles sont réalisées de manière "lâche" et se confondent aisément avec la voyelle centrale /ə/".

On the other hand, in unstressed syllables the realisation of the central vowel /ə/ assimilates to the placement of the following vowel. This is most noticeable when

preceding either high or low vowels, as in examples 2.1 and 2.2.

2.1 phonetic realisation verb  
 [ati'jarda] a= tə- yarda  
 3SG FUT agree  
 'He will agree.'

2.2 phonetic realisation verb  
 [atu'wāzɪn] a= tə- wanzɪn  
 3SG FUT refuse  
 'He will refuse.'

Further, where the Imperfective *b-* and the Subjunctive *m-* precede a verb root that begins with /b/ or /m/ respectively, an epenthetic /ə/ appears between them. Examples 2.3 and 2.4 illustrate this.

2.3 abəbáy  
 a= b- bay  
 3SG IMP know  
 'He knows.'

Example 2.4 demonstrates the normal SVO word order of the Tagdal clause.

2.4 aməməáy-a  
 a= m- may =a  
 3SG SBJ have 3SG.OBJ  
 'He should have it.'

## 2.4 Sound rules

### 2.4.1 Assimilation of place of articulation of /n/

When it occurs before a stop, /n/ assimilates to the point of articulation of the stop. This occurs both within the word, and across word boundaries. Table 2-14 shows examples of the nasal assimilating to its environment within the word.

Table 2-14, assimilation of /n/, within word

	word	gloss	verbal noun	gloss
1	émbaq	'exit'	annábaq	'going out'
2	éɲkəd	'to be careful'	annákad	'being careful'
3	áɲga	'3SG pron'		
4	éndəb	'shoot'	annádab	'a good shot'
5	kubúɲkuubut	'to hide'	takubuɲkúbut	'hiding'

Table 2-15 demonstrates that nasal assimilation can occur across syllable boundaries as well. In this case, the examples have the first person singular pronominal clitic *ya=*, a bound morpheme, followed by the Genitive *n*. The resulting construction is the default way to indicate ownership.

Table 2-15, assimilation of /n/ across word boundaries

	clitic	Genitive	noun	gloss
1	ya=	ŋ	kámba	'my hand'
2	ya=	ŋ	gánda	'my country'
3	ya=	n	tabárar	'my daughter'
4	ya=	n <sup>29</sup>	jaaráy	'my friend'
5	ya=	m	fárka	'my donkey'
6	ya=	m	bárar	'my son'
7	ya=	m	ber	'my older sibling'
8	ya=	m	qáaran	'my studies'

## 2.4.2 Nasalisation of vowel before /n/

When a vowel occurs before /n/, which is then followed by /f, s, z, ʃ, ʒ, or ʒ/, in the surface phonetic realisation, the vowel is nasalised, as illustrated in Table 2-16.

Table 2-16, nasalisation of vowels before /n/

	phonetic realisation	word	gloss
1	[ˈãsej]	ónsay	'beg'
2	[ˈãfa]	ónfa	'benefit (v)'
3	[bãˈyo]	banyó	'head'
4	[ˈgõjĩ]	gónjĩ	'snake'
5	[ˈhãjĩ]	hánjĩ	'dog'
6	[ˈhãzi]	hánzi	'moon'
7	[ʒĩziːˈri]	zĩzĩirĩ	'prayer'
8	[ˈsãfəs]	sánfəs	'breathe'
9	[ˈʃĩzar]	ʃĩzar	'nose'
10	[ˈʃĩʒa:ren]	ʃĩʒaaren	'mucus'

## 2.4.3 Devoicing of /y/ before fricatives

/y/ loses its voicing when it occurs before the voiceless fricatives /f/, /ʃ/ or /s/. Otherwise, when occurring before other voiceless consonants, /y/ maintains its normal

<sup>29</sup> In Examples 4 and 5, the nasal's surface realisation is as a nasalised vowel [yã].

form. Table 2-17 demonstrates some examples of /ɣ/ becoming voiceless before /f/, /ʃ/ or /s/.

Table 2-17, devoicing of /ɣ/, word internal

	phonetic realisation	verb	verbal noun	gloss
1	[ˈəxfəl]	əɣfəl	ayɣáfal	'lock up'
2	[ˈəxfər]	əɣfər	ayɣáfar	'rent'
3	[ˈəxʃəd]	əɣʃəd	ayɣáʃad	'ruin'
4	[ˈəxsər]	əɣsər	tayɣásar	'move to s-place'

One instance in which /ɣ/ loses its voicing across boundaries in Tagdal is when the first person singular clitic *ɣa=* attaches onto the Dative *sa*. In the process, the *ɣa=* inverts to *aɣ=*, placing /ɣ/ next to the sibilant in *sa*, in turn causing the construction *áɣsa* 'for me' or 'to me' to have the phonetic realisation [axsa].

#### 2.4.4 lengthening of Genitive *n*

The Genitive *n* is long when it occurs intervocally. Examples 2.5 through 2.8 illustrate this process.

2.5	húggu house	nn GEN	ámmas middle	'interior of the house'
2.6	bóora person	nn GEN	áyɣəl right hand	'to the person's right side'
2.7	aayó DEF	nn GEN	aafóoda only one	'only one of that'
2.8	aaró man	nn GEN	ammázor forearm	'the man's forearm'

The same happens when the Genitive is attached onto a vowel-final pronominal clitic (Examples 2.9 through 2.14).

2.9	ɣa= 1SG	nn GEN	ízze child	'my child'
2.10	ni= 2SG	nn GEN	annárag spouse	'your spouse'
2.11	a= 3SG	nn GEN	amáʃor arm	'his arm'

2.12	iiri= 1PL	nn GEN	amáxlak	'our creator'
2.13	anzí= 2PL	nn GEN	ímásraagan water seekers	'your (pl) water seekers'
2.14	i= 3PL	nn GEN	árrayda blanket	'their blanket'

### 2.4.5 Long consonants at morpheme boundaries

In the verb, the Mood marker *m-* and the Imperfective marker *b-* are normally lengthened when the root begins with a vowel. If the Subjunctive is negated, in which case the Negation marker follows the *m-*, the aspect marker does not become long. If the aspect is Perfective, which has no marker, or after the Future marker *tə-*, the first consonant of the root is lengthened.

All of these things occur unless stress falls on the antepenultimate syllable of the root (see Section 3.1.2). In this case, consonant lengthening in the penultimate syllable cancels out all other consonant lengthening. Examples 2.15 through 2.18 demonstrate lengthening of the Imperfective *b-* and the Subjunctive *m-*.

2.15	phonetic realisation [ya'b:ətkəli]	verb ya= 1SG	b- IMP	ətkəl take	=i 3PL.OBJ	'I was taking'
2.16	phonetic realisation [a'b:əgba]	verb a= 3SG	b- IMP	əgba rot		'It is rotting.'
2.17	phonetic realisation [i:ri'm:əfrəd]	verb iiri= 1PL	m- SBJ	əfrəd walk backwards		'We should walk backwards.'
2.18	phonetic realisation [āzi'm:əfrəga]	verb anzí= 2PL	m- SBJ	əfræg be able	=a 3SG	'You(pl) should be able to do it.'

In Examples 2.19 through 2.22 the aspect Perfective or Future (with the prefix *tə-*). In this context, it is the first consonant of the verb root which becomes long.

- 2.19 phonetic realisation      verb  
 [i:ri'f:ara:da]              iiri=    farad    =a  
    1PL    sweep    3SG  
 'We swept it away (i.e. won a victory over another team).'
- 2.20 phonetic realisation      verb  
 [i'yif:əda]<sup>30</sup>                i=    əfəd    =a  
    3PL   borrow   3SG  
 'They borrowed it.'
- 2.21 phonetic realisation      verb  
 [yatə'k:oj]                    ya=    tə-    koy  
    1SG   FUT   go  
 'I will go.'
- 2.22 phonetic realisation      verb  
 [intək:e:'ni]<sup>31</sup>                ni=    tə-    keeni  
    2SG   FUT   sleep  
 'You will sleep.'

## 2.4.6 Final vowel elision

The final vowel is elided at word boundaries, if the following word begins with a vowel, as shown in Examples 2.23 through 2.25, where the final vowel of the Subordinator *sa* is elided.

- 2.23      phonetic realisation      underlying structure  
 [si'k:oj]                            sa ikoy  
    sa                            i=                            koy  
    SBDR                        3PL                            go  
    'when they left'
- 2.24      phonetic realisation      underlying structure  
 [si:ri't:e]                            sa                            iiri=                            te  
    SBDR                        1PL                            arrived  
    'when we arrived'

<sup>30</sup> Unlike Tadahsahak, where verbs of Tuareg origin begin with /y/ as a default, in Tagdal /y/ is epenthetic. Therefore, it is the first consonant of the root which is elongated, not /y/, since it is not part of the root.

<sup>31</sup> The second person singular *ni=* inverts to *in=* before the Future *tə-* or the Negations *sə-* or *nə-* (see Section 3.1.1).



	phonetic realisation	underlying structure		
2.25	[sa'yitkəla]	sa            a=	ətəkəl	=a
		SBDR        3SG	take	3SG
			'when he took it'	

In Examples 2.26 and 2.27, the final vowel in *sa* is not elided because the verb begins with a consonant.

	phonetic realisation	underlying structure		
2.26	[sa ɣaz:u:'ru]	sa                    ɣa=		zuuru
		SBDR                1SG		run
			'when I ran'	
	phonetic realisation	underlying structure		
2.27	[sa ni'sədwəla]	sa        ni=        s-	ədwəl	=a
		SBDR    2SG    CAUS	grow	3SG
			'when you raised him'	

The dative marker *sa* is another word in which vowel elision commonly occurs. When it is followed by a word beginning with a vowel, or has the pronominal clitic bound morpheme attached as an Direct Object, the final vowel in *sa* is elided:

Table 2-18 non-NP Direct Object pronouns and clitics following Dative *sa*

	singular	plural
first	sa ɣaay	s íiri
second	sa nin	s ánzɪ
third	s-a	s-i

Vowel elision also occurs at word boundaries, especially at the end of the verb, almost always in verbs of Songhay origin. In Table 2-19, the final vowel in the verb root is elided when the following morpheme begins with a vowel. In the resulting construction, stress remains on the same syllable of the root. The examples provided here involve the vowel of the third person plural Direct Object clitic =*i*, or if the final vowel of the root is /i/, the third person singular Direct Object clitic =*a*.

Table 2-19, vowel elision in morpheme boundaries

	verb root + =i/a	phonetic realisation	gloss
1	dumbú + =i	[dum'bi]	'slaughter them'
2	ziini + =a	[zi:'na]	'seize it'
3	hurrú + =i	[hu'r:i]	'search for them'
4	dáyna + =i	['dayni]	'forget them'
5	ganǵá + =i	[gan'gi]	'forbid them'

In general, Tuareg roots end in consonants and, therefore, vowel elision does not

apply. However, there are a few exceptional Tuareg roots that end in vowels, usually either /a/, /u/ or /i/. In those cases, the vowel does not elide. Instead, the addition of a Direct Object vowel leads to epenthesis of /w/ or /j/ before the final vowel, as shown in Table 2-20.

Table 2-20, lack of vowel elision Tuareg roots

	verb root	phonetic realisation	gloss
1	ólku + =a	[ 'əɫkuwa]	'scoop it up'
2	sónfu + =a	[ 'sə̌fuwa]	'put her at ease'
3	mízi + =a	[ 'miʒija]	'take him aside'
4	máṭi + =a	[ 'məṭ:ija]	'change it'

Table 2-21 shows two exceptions<sup>32</sup> to the vowel elision rule with Songhay roots, the verbs *híimi* 'clean' and *háǰǰi* 'look'. Interestingly, in both cases the verb ends in an unstressed /i/. This may or may not have something to do with the lack of elision.

Table 2-21, exceptions, Songhay roots

	root plus suffix	phonetic realisation	gloss
1	híimi + =a	[ 'hi:mija]	'clean it up'
2	háǰǰi + =a	[ 'haʃ:iʒa]	'look at it'

## 2.4.7 short /ay/, /aw/

The vowel /a/, when followed by the semi-vowels /y/ and /w/ is realised as [ej] and [ɔw] respectively. Table 2-22 provides examples of [ej].

Table 2-22, ay realises phonetically as [ej]

	word	phonetic realisation	gloss
1	áygas	[ 'ejgas]	'therefore'
2	bay	[bej]	'know'
3	éfray	[éfrej]	'be sick'
4	takárbay	[ta 'karbej]	'pants'
5	táymaako	[ 'tejma:ko]	'aid'
6	way	[wej]	'woman'
7	zay	[zej]	'steal'

Vowel length is discussed in Section 2.4.1, and the phenomenon is described in greater detail in Section 3.5.1. Here, I will only discuss the effect of vowel length before /y/, where in certain contexts, /a/ lengthens before /y/, leading to pairs of words where non-lengthened /ay/ [ej] corresponds to lengthened /aay/ [a:j], as demonstrated in Table 2-23.

<sup>32</sup> I do not make any claim to these two being the only exceptions, simply the ones I could find.

Table 2-23, ay lengthens to aay

	word with short /ay/	with long /aay/	phonetic realisation	gloss
1	bay	báay-a	[ 'ba:ja]	'know it'
2	éfray	əyifráayan	[əyi'fra:jan]	'sick (adj)'
3	takkárbay	ʃikárbaayan	[ʃi'karba:jan]	'pants (pl)'
4	zay	záay-a	[ 'za:ja]	'steal it'

Likewise, lengthening the /a/ before /w/ results in a phonetic realisation [a:w]. Tables 2-24 and 2-25 demonstrate some examples.

Table 2-24, aw realises phonetically as [ɔw]

	word	phonetic realisation	gloss
1	ammáraw	[a' m:arɔw]	'ancestor'
2	éezaw	[ 'e:zɔw]	'tassle'
3	haw	[hɔw]	'to tie up'
4	zaw	[zɔw]	'help'
5	ʃaw	[ʃɔw]	'call'
6	tamóklaw	[ta' mɔklɔw]	'midday meal'
7	zaw	[zɔw]	'bring / take'

Table 2-25, aw lengthens to aaw

	word with short /aw/	with long /aaw/	phonetic realisation	gloss
1	amáraw	imáraawan	[i' mara:wan]	'ancestors'
2	é:zaw	ézzaawan	[ 'ez:a:wan]	'tassles'
3	háw	háawa	[ 'ha:wa]	'tie him up'
4	zaw	záaw-a	[ 'za:wa]	'help him'
5	ʃaw	ʃáaw-a	[ 'ʃa:wa]	'call him'
6	tamóklaw	ʃimóklaawan	[ʃi' mɔkla:wan]	'midday meals'
7	zaw	záaw-a	[ 'za:wa]	'steal it'

## 2.5 Stress

Like Tadakshak, from a phonetic standpoint, the features of stress in Tagdal can be defined as having "higher pitch contour and a more powerful airstream than an unstressed syllable." (Christiansen-Bolli 2010: 44).

Stress in Tagdal is primarily lexical (Nicolai 1980), despite some limited grammatical function, especially with respect to Tuareg vocabulary.<sup>33</sup> Nevertheless,

<sup>33</sup> Also like in Tadakshak (Christiansen-Bolli 2010: 44), Tagdal speakers are aware enough of stress to make riddles or create humour by placing stress on the wrong syllable, even to the point of creating jokes by manipulating stress and, thereby, making different grammatical

grammatical function of stress in Tagdal is not as expansive as it is in, say, Tetserret (see, for example, Lux 2011: 265).

Stress in Tagdal is unpredictable. Most lexical items carry stress on one syllable, almost never on pronominal clitics and other bound morphemes, with some exceptions in cases of the Causative, Passive and Reciprocal prefixes. This section will concentrate primarily on how stress functions in isolated roots. However, it is much more complicated than this, since stress tends to shift in different contexts. Section 3.1.2 in the next chapter will include a discussion of how various morphemes affect stress placement, as well as how stress placement affects other phenomena such as gemination, consonant length and vowel length.

## 2.5.1 Monosyllabic, disyllabic words

In words with two syllables, stress falls on either the penultimate or on the final syllable, as Tables 2-26 through 2-29 demonstrate.

Table 2-26, stress in (C)VC.CV(C) words

	word	gloss
1	áwta	'youngest child'
2	élwa	'add onto'
3	bundú	'stick'
4	dumbú	'slaughter'
5	fárka	'donkey'
6	gánda	'land / country'
7	gónjĩ	'snake'
8	mándam	'someone'

Table 2-27, stress in (C)VV.CV(C) words

	word	gloss
1	aayó	'DEM.DEF'
2	báara	'LOC verb "be"'
3	báari	'horse'
4	éelaw	'elephant'
5	éemay	'folk tale'
6	éenay	'colour'
7	fíizi	'sheep'
8	gúusu	'hole'
9	hiimí	'clean'
10	táasu	'batter / dough'

---

categories. The phenomenon needs to be studied in more detail, however, to be described.

Table 2-28, stress (C)VC.CV(C) in words

word	gloss
1 ágdal	'member of the Igdaalen tribe'
2 ámyar	'old man'
3 farkén	'donkeys'
4 harkúk	'always'
5 karfó	'rope'
6 tábsit	'acacia flower'
7 wánzin	'refuse'

Table 2-29, stress (C)V.CVC in words

word	gloss
1 árak	'old cloth'
2 óhhoð	'east wind'
3 ʃəʃʃəw	'cause to drink'
4 táðdad	'small finger'

## 2.5.2 Trisyllabic words, words with 4+ syllables

In words with three or more syllables, stress typically falls on either the penultimate or the antepenultimate syllable. In the examples in Table 2-30, stress falls on the antepenultimate.

Table 2-30, 3 syllables, stress on antepenultimate syllable

word	gloss
1 fálliwəs	'be happy'
2 góruurus	'make noise like a camel'
3 káyyaatan	'things'
4 kársæssi	'to have excess'
5 íkkurfán	'prayer beads'
6 mármaaso	'peanuts'
7 mánzaayan	'mean-spirited'
8 zəzərgən	'make dirty'
9 ʃáwwaara	'decision'
10 tákkootay	'contribution'
11 táaraywat	'honey'

In Table 2-31, stress is on the penultimate syllable.

Table 2-31, 3 syllables, stress on penultimate syllable

word	gloss
1 affárag	'animal enclosure'
2 amánsay	'food'
3 əlləngət	'carry on top of head'
4 ərabbat	'bite down and shake'

5	katán̄ga	'wall'
6	kokéri	'perseverance, courage'
7	láfáɣfəd	'be disappointed by surprise'
8	nəttérmas	'to arrest'
9	səlləbat	'female animal, with baby dead, still producing milk'
10	ʃiyúrad	'power'
11	tabarad	'young woman'
12	tazáryaf	'small brightly multi-coloured domestic animal'
13	təggúzi	'tree'

Stress rarely falls on the final syllable in words with three or more syllables. However, it is not impossible. Table 2-32 gives a few examples of this.

Table 2-32, final stress

	word	gloss
1	əddəkúd	'measure out land'
2	hinʃiini	'goat'
3	matalxér	'incense'
4	məzzuurú	'wild cat'

Finally, Table 2-33 gives some examples of words with four or more syllables. In this case, stress falls either on the penultimate or antepenultimate syllable, never before.

Table 2-33, stress in words w/ 4+ syllables

	word	gloss
1	abbarkóray	'man from Ibarkóraayan tribe'
2	abəráybəray	'applause'
3	aggənágən	'darkness'
4	kəbərəkəbbər	'to limp'
5	igínnaawan	'heaven'
6	tadəwwəkʃəf	'happiness'
7	tammagégrət	'barren woman'
8	tamántaaka	'army'
9	waalaxáwli	'of course!'

