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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	**koy** 'go'
CVV	**táa**su 'food'	VC	**áx**luk 'destruction'
V	**a**té 'he arrived'		
VV	**áa**ʒir 'nut'		

2.2 Consonants

General remarks about the phoneme inventories of the different varieties of Tagdal can be found in in Nicolaï (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 ʒaɣʒi ‘day’ is pronounced zaɣzi. 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	ṭ	ḍ			k	g	q			
Fricatives	f	s	z	ṣ	ẓ	ʃ	ʒ	x	ɣ		ħ	ʕ	h
Affricates													
Glides	w					y							
Laterals			l		ḷ								
Taps			r		ṛ								
Nasals	m		n		ṇ				ŋ				

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

	Labial	Alveolar		Pharyngealised		Palatal		Velar		Uvular	Pharyngeal		Laryngeal
Stops	b	t	d	ṭ	ḍ			k	g	q			
Fricatives	f	s	z	ṣ	ẓ	ʃ	ʒ	x	ɣ		ħ	ʕ	h
Affricates						tʃ	dʒ						
Glides	w						y						
Laterals			l		ḷ								
Taps			r		ṛ								
Nasals	m		n		ṇ				ŋ				

Table 2-4: consonant chart, Tabarog

	Labial	Alveolar		Pharyngealised		Palatal		Velar		Uvular	Pharyngeal		Laryngeal
Stops	b	t	d	ṭ	ḍ			k	g	q			
Fricatives	f	s	z	ṣ	ẓ			x	ɣ		ħ	ʕ	h
Glides	w						y						
Laterals			l		ḷ								
Taps			r		ṛ								
Nasals	m		n		ṇ				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'
	áblaɣ	'chunk of dirt'	ámlay	'minced bush meat'
	alʒíb	'pocket'	aggím	'thousand'
b/f	ber	'older sibling'	fer	'open'
	fəttəkət	'explode'	bəttəqət	'ruin completely'
	ʒíbbiitan	'types of dirt'	ʒíffaatan	'animal carcasses'
	səṭəb	'tie together'	səṭəf	'spit'
b/d	bay	'know'	day	'engage in commerce'
	əbər	'scratch'	ədər	'live'
	ədəb	'punish'	ədəd	'press down'
	ʕárab	'Arab'	ərəb	'almost catch'
	ərkəb	'pull'	əŋkəd	'be careful'
d/t	duudú	'spill much liquid'	dúuta	'pound it'
	əndɑb	'shoot'	əmbaq	'exit'
	əfəd	'borrow / lend'	əbət	'grab'
d/ḍ	dələg	'decorate'	ḍələm	'persecute'
	adágar	'half, portion'	aḍágal	'father-in-law'
d/ʒ	ʃindí	'part of something'	ʃinʒí	'rain'
	ʒindé	'neck'	ʒinʒiirí	'prayer'
g/k	guŋgú	'belly'	kuŋgú	'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'	aɣíri	'dark animal w/ white spots'
	əgba	'decompose'	əɣbəd	'worship'
	ərzəg	'move about'	ərzəɣ	'be successful'
q/k	əqbəl	'to fulfill	əkbəl	'to hold up'

		promise'		
q/ɣ	báaqa	'break it'	báaɣa-a	'want it'
	éɣad	'worry'	éqad	'raging fire'
	élaɣ	'male calf'	élaq	'shin'
f/h	íffaayan	'edges'	íhhaayan	'descendants'
s/z	́rəs	'descend'	́rəz	'repay'
	́rsəm	'tie closed'	́rzəg	'move about'
s/ʃ	sin	'be heavy'	ʃin	'say'
	ássaaɣal	'fonio'	aʃʃáɣal	'work'
	ʃaw	'demonstrate'	ʒaw	'help'
	ʃen	'over there'	ʒen	'old'
s/ṣ	amásir	'spy'	amáṣor	'forearm'
	ásak	'bird nest'	áṣək	'song'
s/ʒ	́rsəm	'tie closed'	́rʒəɣ	'bless'
	́nsay	'beg'	́nʒay	'get up early'
z/ẓ	zə́zgəg	'cause to play'	zəẓgəg	'cause to accept'
	ə́zləg	'carry on shoulder'	əẓləg	'search for lost thing'
x/ɣ	axárxar	'tearing apart'	aɣáryar	'desert plain'
	ə́xfəl	'lock up'	ə́ɣfər	'rent'
	ə́xsəs	'survive'	ə́ɣsər	'reside'
	áxluk	'creation'	áɣlay	'small secret'
x/ħ	ə́xlək	'create'	ə́ħkəm	'govern'
ħ/ʕ	alħál	'custom'	alʕár	'refusal'
	alħásəl	'briefly, nevertheless'	alʕánəb	'grape'
h/ħ	álhaq	'consequence'	alħál	'custom'
w/b	Áwa	'poper name'	ába	'father'
	tawáqas	'small wild animal'	tabárar	'girl'
	wánʒin	'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	ə́lbək	'be skinny, sickly'	ə́dbaq	'close opening'
	ámlay	'lean meat'	ámdaɣ	'giraffe'
	yel	'green grass'	yed	'return'
l/r	ə́lməɣ	'dip into'	ə́rməɣ	'be afraid'
	ázwal	'mark'	ázwar	'jujube fruit'
l/ḷ	ázwal	'mark'	ázwaḷ	'locust'
	éelaw	'elephant'	éeḷab	'pit for hiding / storing'
r/d	raɣə́s	'cheap'	dáɣna	'forget'

	tárab	'Arabic language'	tádad	'small finger'
	áwər	'shield'	áwəd	'boiling'
r/ɣ	báara	'LOC be verb'	báaɣa	'love'
	ərsək	'erase'	əɣsər	'move to s-place'
	aráʒʒad	'diarrhoea'	aɣáraf	'reunion'
	arəgan	'large male camel in heat'	aɣəɣi	'cave'
r/ṛ	əkrəm	'fold together'	əkṛəm	'rest animals'
	abákar	'young ram'	abáykoṛ	'street dog'
m/n	amádaf	'manager'	anádar	'jumping up and down'
	əmək	'lift up to cut'	ənəḍ	'control'
m/w	maw	'hear'	waw	'insult'
	áɣrəm	'town'	áɣraw	'yoke for ox'
n/ŋ	na	'give'	ŋa[27]	'eat'
n/ṇ	nes	'measurement'	ṇaṣ	'fat'
t/ṭ	əttəm	'number eight'	əṭṭəf	'to spit'
	ətrəm	'to do quickly'	əṭkəl	'to take'
	táwfooka	'headless carcass'	ṭáwna	'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 [fottokoˈfitan] and *projet* would be pronounced [faʀoːˈʒɛ] and the proper name Pascal [fasˈkal].

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

[27] *ŋa* 'eat' is the pronunciation most common in the Abargan variety of Tagdal; the kəl Illokoḍ 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	aggárəd	'granary'
2	ággoz	'achilles tendon'
3	ammádan	'shepherd'
4	awwákas	'wild animal'
5	ə́ddən	'graze'
6	ə́nnəz	'bend over'
7	fə́lləg	'to rebel'
8	húggu	'building'

The only consonants that cannot geminate are [ɾ], [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], [ɣ]) 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 Tadaksahak 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	tabărart	tabárar	'girl'
3	táɣlamt	táɣlam	'young female camel'
4	táɣmərt	táɣmur	'elbow'
5	tamə́grăwt	tamə́graw	'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.

Table 2-10 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.

Table 2-11, vowel contrasts, short

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'
	agírer	'gutter'	agə́rri	'wisdom'
i/a	báari	'horse'	báara	'LOC verb'
	híŋka	'wherever'	haŋgá	'accompany'
	hínʒin	'prepare'	hánʒi	'moon'
	taggírʃik	'victim of evil eye (f)'	tággarʃak	'evil eye'
i/u	hin	'prepare'	hun	'exit'
	fik	'to bury'	fur	'throw'
	alʒinní	'genie'	alʒanná	'cold'
i/o	aɣɣə́ɣi	'cave'	annóɣo	'skin rash'
	ṭin	'fig tree'	ṭon	'fill up'
	abbáykor	'hunting dog'	ibbíkar	'hunting dogs'
e/ə	éggən	'grouping'	ə́ggəd	'take off'
	taddáber	'dove'	támbər	'grazing at night'
	abbéla	'big fire'	abbə́ki	'beating out grain'
	afféli	'runt'	affə́ga	'discovery'
e/a	derén	'gum arabic'	derán	'wish / desire'
	kə́rəd	'clean out'	kárad	'three'
	nes	'measurement'	ṇaṣ	'fat'
	teʒíkan	'basket'	taʒík	'healing'
	tə́nəday	'fever'	tanáfrit	'suffering'
	téɣsay	'flock'	táɣmur	'elbow'
e/u	fer	'open'	fur	'throw'
e/o	les	'make dirty'	loq	'lick'
ə/o	də́nnəg	'up high'	dónnay	'fill container

				with small mouth'
	sə́rəs	'cause to submit'	sóora	'milk animal'
ə/a	əgləz	'hand over'	əglaz	'be left over'
	əftaɣ	'spread out'	áftək	'outer garment
	kə́rba	'mix together'	kar	'hit'
	səddəd	'cause to breast feed'	sáddas	'target'
ə/u	kə́rkər	'clean out'	kúrkur	'burn'
	sə́nfəs	'cause to breathe'	sənfu	'be at ease'
a/u	áɣlal	'valley'	áɣlul	'eternity'
	horrá	'be difficult'	hurrú	'search'
	kan	'fall'	kud	'take animals to pasture'
	səkla	'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/ii	míʒʒi[28]	'to separate'	ʃíiʒi	'night'
	íbbaatan	'types of chaff'	ibátan	'losses'
	íddəd	'chase closely'	íibət	'take quickly and run away'
e/ee	témmar	'moment'	téematay	'crowd'
	ékkaw	'root'	éelaw	'elephant'
	éeɣayt	'camel leather'	éɣɣaf	'worry'
ee/aa	éenar	'antelope'	áanar	'eyebrow'
	éemay	'folktale'	ammay	'3SG has'
a/aa	abbákad	'sin'	abbáara	'3SG is (loc)'
	abbárog	'person from the Ibároogan tribe'	ábbaawen	'wild cat'
	bárar	'boy'	ibáraadan	'young men'
aa/oo	báara	'LOC be verb'	bóora	'person'
	ʕárab	'Arab'	óoraɣ	'gold'

[28] 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'
	málluulu	'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. Theis 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	[ɨ]	aɣə́ɣi	'cave'	[ɑˈɣːʌɣɨ]
/e/	lowers to	[ɛ]	éeḷab	'pit for hiding or storing'	[ˈɛːḷˤɑb]
/a/	lowers to	[ɑ]	báaɣa	'to want'	[ˈbɑːɣɑ]
/o/	lowers to	[ɔ]	ḍos	'touch'	[dˤɔs]
/u/	lowers to	[o]	áħluk	'destruction'	[ˈɑħlok]
/ə/	lowers to	[ʌ]	əqbəl	'fulfill promise'	[ˈʌqbʌl]

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/. Nicolaï (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 [atiˈjarda]

verb		
a=	tə-	yarda
3SG	FUT	agree

'He will agree.'

2.2 phonetic realisation [atuˈwãʒin]

verb		
a=	tə-	wanʒin
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 aməmáay-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	ə́mbaq	'exit'	annábaq	'going out'
2	ə́ŋkəd	'to be careful'	annákad	'being careful'
3	áŋga	'3SG pron'		
4	ə́ndəb	'shoot'	annádab	'a good shot'
5	kubúŋkuubut	'to hide'	takubuŋkúbut	'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 *ɣa=*, 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	ɣa=	ŋ	kámba	'my hand'
2	ɣa=	ŋ	gánda	'my country'
3	ɣa=	n	tabárar	'my daughter'
4	ɣa=	n[29]	ʃaaráy	'my friend'
5	ɣa=	m	fárka	'my donkey'
6	ɣa=	m	bárar	'my son'
7	ɣa=	m	ber	'my older sibling'
8	ɣa=	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, ɣ, 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	[ˈə̃sej]	ə́nsay	'beg'
2	[ˈə̃fa]	ə́nfa	'benefit (v)'
3	[bãˈɣo]	banɣó	'head'
4	[ˈgõʃi]	gónʃi	'snake'
5	[ˈhãʃi]	hánʃi	'dog'
6	[ˈhãʒi]	hánʒi	'moon'
7	[ʒĩʒiːˈɾi]	ʒinʒiirí	'prayer'
8	[ˈsə̃fəs]	sə́nfəs	'breathe'
9	[ˈʃĩʒar]	ʃínʒar	'nose'
10	[ˈʃĩʃaːren]	ʃínʃaaren	'mucus'

2.4.3 Devoicing of /ɣ/ before fricatives

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

[29] In Examples 4 and 5, the nasal's surface realisation is as a nasalised vowel [ɣã].

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	aɣɣáfal	'lock up'
2	[ˈəxfər]	əɣfər	aɣɣáfar	'rent'
3	[ˈəxʃəd]	əɣʃəd	aɣɣáʃad	'ruin'
4	[ˈəxsər]	əɣsər	taɣɣásar	'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 intervocalically. 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	áɣɣəl right hand	'to the person's right side'
2.7	aaɣó 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	amáṣor arm	'his arm'

2.12	iiri=	nn	amáxlak	'our creator'
	1PL	GEN		
2.13	anʒi=	nn	imásraagan	'your (pl) water seekers'
	2PL	GEN	water seekers	
2.14	i=	nn	árrayda	'their blanket'
	3PL	GEN	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	verb				
	[ɣaˈbːəṭkəli]	ɣa=	b-	əṭkəl	=i	
		1SG	IMP	take	3PL.OBJ	
	'I was taking'					
2.16	phonetic realisation	verb				
	[aˈbːəgba]	a=	b-	əgba		
		3SG	IMP	rot		
	'It is rotting.'					
2.17	phonetic realisation	verb				
	[iːriˈmːəfrəd]	iiri=	m-	əfrəd		
		1PL	SBJ	walk backwards		
	'We should walk backwards.'					
2.18	phonetic realisation	verb				
	[ãʒiˈmːəfrəga]	anʒi=	m-	əfrəg	=a	
		2PL	SBJ	be able	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		
	[iːriˈfːaraːda]	iiri=	farad	=a
		1PL	sweep	3SG
	'We swept it away (i.e. won a victory over another team).'			

2.20	phonetic realisation	verb		
	[iˈyɨfːəda][30]	i=	əfəd	=a
		3PL	borrow	3SG
	'They borrowed it.'			

2.21	phonetic realisation	verb		
	[ɣatəˈkːoj]	ɣa=	tə-	koy
		1SG	FUT	go
	'I will go.'			

2.22	phonetic realisation	verb		
	[intəkːeːˈni][31]	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.

	phonetic realisation	underlying structure		
2.23	[siˈkːoj]	sa ikoy		
		sa	i=	koy
		SBDR	3PL	go
		'when they left'		

	phonetic realisation	underlying structure		
2.24	[siːɾɨˈtːe]	sa	iiri=	te
		SBDR	1PL	arrived
		'when we arrived'		

[30] Unlike Tadaksahak, 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.

[31] 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	[saˈyɨṭkəla]	sa	a=	əṭkəl	=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 ɣazːuːˈɾu]	sa	ɣa=	zuuru
		SBDR	1SG	run
		'when I ran'		

	phonetic realisation	underlying structure				
2.27	[sa niˈsədwəla]	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 ánʒi
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 involvethe 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	[dumˈbi]	'slaughter them'
2	ʒiiní + =a	[ʒiːˈna]	'seize it'
3	hurrú + =i	[huˈrːi]	'search for them'
4	dáɣna + = i	[ˈdaɣni]	'forget them'
5	gaŋgá + =i	[gaŋˈgi]	'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	ə́lku + =a	[ˈəlkuwa]	'scoop it up'
2	sə́nfu + =a	[ˈsə̃fuwa]	'put her at ease'
3	míʒi + =a	[ˈmiʒija]	'take him aside'
4	mə́ṭi + =a	[ˈməṭːija]	'change it'

Table 2-21 shows two exceptions[32] to the vowel elision rule with Songhay roots, the verbs *híimi* 'clean' and *háʃʃì* '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	[ˈhiːmija]	'clean it up'
2	háʃʃì + =a	[ˈhaʃːija]	'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	[ˈejgas]	'therefore'
2	bay	[bej]	'know'
3	ə́fray	[ə́frej]	'be sick'
4	takárbay	[taˈkarbej]	'pants'
5	táymaako	[ˈtejmaːko]	'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/ [aːj], as demonsrated in Table 2-23.

[32] 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	[ˈbaːja]	'know it'
2	əfray	əyifráayan	[əyɨˈfraːjan]	'sick (adj)'
3	takkárbay	ʃikárbaayan	[ʃiˈkarbaːjan]	'pants (pl)'
4	zay	záay-a	[ˈzaːja]	'steal it'

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

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

	word	phonetic realisation	gloss
1	ammáraw	[aˈmːaɾɔw]	'ancestor'
2	éezaw	[ˈeːzɔw]	'tassle'
3	haw	[hɔw]	'to tie up'
4	ʒaw	[ʒɔw]	'help'
5	ʃaw	[ʃɔw]	'call'
6	tamə́klaw	[taˈməklɔw]	'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	[iˈmaɾaːwan]	'ancestors'
2	éːzaw	ézzaawan	[ˈezːaːwan]	'tassles'
3	háw	háawa	[ˈhaːwa]	'tie him up'
4	ʒaw	ʒáaw-a	[ˈʒaːwa]	'help him'
5	ʃaw	ʃáaw-a	[ˈʃaːwa]	'call him'
6	tamə́klaw	ʃimə́klaawan	[ʃiˈməklaːwan]	'midday meals'
7	zaw	záaw-a	[ˈzaːwa]	'steal it'

2.5 Stress

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

Stress in Tagdal is primarily lexical (Nicolaï 1980), despite some limited grammatical function, especially with respect to Tuareg vocabulary.[33] Nevertheless,

[33] Also like in Tadaksahak (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 manupulating 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 a 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	ɔ́lwa	'add onto'
3	bundú	'stick'
4	dumbú	'slaughter'
5	fárka	'donkey'
6	gánda	'land / country'
7	gónʃi	'snake'
8	mándam	'someone'

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

	word	gloss
1	aaɣó	'DEM.DEF'
2	báara	'LOC verb "be"'
3	báari	'horse'
4	éelaw	'elephant'
5	éemay	'folk tale'
6	éenay	'colour'
7	fíiʒi	'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	ámɣar	'old man'
3	farkén	'donkeys'
4	harkúk	'always'
5	karfó	'rope'
6	tábsit	'acacia flower'
7	wánʒin	'refuse'

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

	word	gloss
1	árak	'old cloth'
2	óhhoḍ	'east wind'
3	ʃə́ʃʃəw	'cause to drink'
4	táḍḍad	'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	fəlliiwəs	'be happy'
2	gə́ruurus	'make noise like a camel'
3	káyyaatan	'things'
4	kə́rsəssi	'to have excess'
5	íkkurʃan	'prayer beads'
6	mármaaso	'peanuts'
7	mánzaaɣan	'mean-spirited'
8	ʒə́ʒʒərgən	'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	əllə́ŋgət	'carry on top of head'
4	ərə́bbət	'bite down and shake'

5	katáŋga	'wall'
6	kokə́ri	'perseverance, courage'
7	ləfáɣʃəd	'be disappointed by surprise'
8	nəttə́rmas	'to arrest'
9	səlləbat	'female animal, with baby dead, still producing milk'
10	ʃiɣúrad	'power'
11	tabarad	'young woman'
12	tazáryaf	'small brightly multi-coloured domestic animal'
13	təggúʒi	'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	hinʃiiní	'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	abəráɣbəraɣ	'applause'
3	aggənágən	'darkness'
4	kəbə́rkəbbər	'to limp'
5	igínnaawan	'heaven'
6	tadəwwəkʃəʃ	'happiness'
7	tammagégrət	'barren woman'
8	tamántaaka	'army'
9	waalaxáwli	'of course!'