

The Velar Ejective in Proto-Agaw

Paul D. Fallon

University of Mary Washington

1. Introduction

David Appleyard (2006) has recently reconstructed Proto-Agaw (or Proto-Central Cushitic—see Hetzron 1976), one of the major branches within the Cushitic family. The exact position of Agaw within Cushitic is subject to some debate. The traditional view is that Cushitic is divided into a Northern branch represented only by Beja, the Agaw or Central Cushitic branch, a large Eastern family, and Southern Cushitic (Sasse 2003; see Palmer 1971 for a summary of earlier treatments). Hetzron (1980) proposed removing Beja from Cushitic, placing South Cushitic within East Cushitic, and joining Agaw with the Highland East Cushitic (Rift Valley) languages. Though Appleyard (1996a) found no special genetic link between Agaw and Highland East Cushitic, Zaborski (2001) puts Agaw as a branch of East Cushitic. Voigt (1996) groups all the Cushitic languages except Beja into a Southern group, which has three main branches: Saho-ʿAfar, Omo-Tana, and then Agaw, Highland East Cushitic, etc. Tosco (2000) envisions three main branches for Cushitic: Beja, Agaw, and a large Eastern branch, with Lowland East Cushitic showing a number of complex branches. Hayward (2000) divides the family into six groups: Northern, Central, Highland East Cushitic, Lowland East Cushitic, Dullay chain, and Southern Cushitic. Whatever its position within Cushitic, all scholars recognize the unity of Agaw languages, and Appleyard, the leading expert on this family who has worked on a number of living, moribund, and extinct languages in this family, has made an important contribution to both Agaw and Cushitic studies with his outstanding and long-awaited (Appleyard 1996b) comparative dictionary.

In this paper, I will question one detail in Appleyard’s reconstruction, which does not attribute glottalized consonants to Proto-Agaw. Instead, using both comparative reconstruction and inverted reconstruction (Anttila 1972) with data from other Cushitic languages, I will argue that Proto-Agaw did contain glottalized (ejective) consonants. I will further argue that this reconstruction provides a more natural set of sound changes in the Agaw languages. In the next section, I will provide some of the background on the Agaw languages. In section 3, we will examine Appleyard’s overall reconstruction of Proto-Agaw, while in section 4, we will focus on the reconstruction (or absence) of ejectives. Section 5 will examine correspondence sets of ejectives in other Cushitic languages, with a focus on the velar ejective. Section 6 will conclude that the velar ejective should be reconstructed for Proto-Agaw, will discuss the significance of this for Afroasiatic, and will outline directions for future research.

2. Background

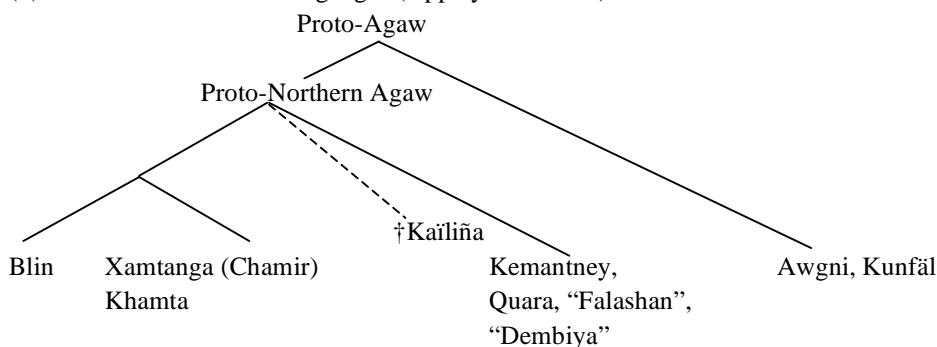
Appleyard divides the Agaw languages into two main branches, a Northern Agaw group, which contains the majority of languages, and a branch containing Awngi and Kunfāl. Awngi (also called Awiya or Southern Agaw) is spoken in the Agāwmədər and eastern Mätäkkäl districts of the former Gojjam province with estimated speakers varying between 100,000 and 279,000. Closely related Kunfāl, with an estimated 2,000 speakers, is the most poorly documented of the Agaw languages and is spoken west of Lake T’ana.

The next branch of Agaw is Kemantney, the proper term for the language, but which is more commonly known by the ethnonym Kemant. This language has only 1,650 speakers, all bilingual in Amharic, in the regions of Č'älga and Kärkär, north and northwest of Gondär. Within this dialect cluster is the moribund liturgical language spoken by the Betä Isra'el (commonly known as Falashan and also as Quara/Quarenya), and the dialect once spoken on the northern shore of Lake T'ana known as Dämbiya. There is evidence of a dialect known as Kailiña, probably spoken in the Sömen in the early 20th century, which forms a link between the Kemantney cluster and the following branch.

The last major branch is between Blin and the Xamtanga cluster. Xamtanga (or Khamtanga or Chamir) is spoken in the northern part of the Wag region in the former province of Wällo, with approximately 143,000 speakers. A similar variety is known as Khamta. Blin (the native speaker preference) is also referred to in the literature as Bilin, or by its EthioSemitic term Bilen, or by the former province in which it is spoken, Bogos. It is centered around the Kärän (Keren), Eritrea, and is spoken by approximately 100,000 speakers in Senhit province.

Appleyard's family tree is reproduced in (1) below:

(1) The Central Cushitic Languages (Appleyard 2006:4)



In a lexicostatistical analysis of the Cushitic languages, Blažek (1997) provides a table showing the percentage of shared cognates, which is given in (2):

(2) Percentage Cognates of 100-word list for Agaw (Blažek 1997:173)

Bilin						
80.4	Khamir					
77.9	80.1	Khamta				
85.7	74.4	70.4	Kemant			
81.5	78.8	75.9	88.7	Qwara		
53.2	54.7	57.1	56.6	63.1	Awngi	
45.8	45.8	48.1	46.3	48.7	80.1	Kunfäl

This list corresponds quite closely to Appleyard's more thorough classification of the Agaw languages using a much larger vocabulary set. We turn next to Appleyard's reconstruction of Proto-Agaw.

3. Reconstruction of Proto-Agaw

Although Appleyard's comparative dictionary is replete with data for around 720 entries across 130 pages, the justification for the consonant correspondences is discussed in just over eight pages. More details of the actual reconstruction may be found in Appleyard's earlier papers (especially 1984, 1991). In the forms below, I have normalized Appleyard's transcriptions to conform to the

International Phonetic Alphabet, especially for the consonants. The Proto-Agaw phonemic inventory is given in (3) below:

(3) Inventory of Proto-Agaw (Appleyard 2006:13, 11)¹

	*t	*ts	*tʃ	*k	*k ^w	*q	*q ^w	*ʔ
*b	*d	*ɖ		*g	*g ^w	*G	*G ^w	
*f	*s			*x	*x ^w			
	*z							
*m	*n			*ŋ	*ŋ ^w			
	*l, *r							
*w			*j					
			*i	*i	*u			
				*ə				
				*a				

The detailed correspondence sets are as follows. Among the sonorants, there is relatively little change, except for positional variants. For example, Blin and Kemantney changed the velar nasal to an alveolar one in word-initial position. The proto-phonemes *m *n *l *w *j correspond perfectly among the daughter languages, while *r is preserved only medially.

The set of reconstructed fricatives also shows fairly straightforward correspondence sets, with no change in the voiceless labiodental or dental/alveolar fricatives *f and *s. The plain and labialized voiceless velar fricatives show several changes, being preserved in Blin only medially, where they underwent voicing in Awngi, and deletion in Xamtanga and Kemantney, except for the labialized velar, which is realized as the labiovelar glide. Finally, the only voiced fricative, *z, is preserved in Xamtanga and Kemantney, devoiced in Awngi, and stopped in Blin. A summary is given in (4).

(4) Fricative Correspondence Sets

Proto-Agaw	Blin	Xamtanga	Kemantney	Awngi
*f	f	f	f	f
*s	s	s	s	s
*x	-x-	∅	∅	-ɣ-
*x ^w	-x ^w -	-w-	-w-	-ɣ ^w -
*z	d	z	z	s

The voiced stops and affricates are also fairly stable, with cognate sets for the bilabial, dental, and velar stops showing no changes. A summary of the voiced plosive correspondences is given in (5).

(5) Voiced Stop and Affricate Correspondence Sets

Proto-Agaw	Blin	Xamtanga	Kemantney	Awngi
*b	b	b	b	b
*d	d	d	d	d
*ɖ (3)	ɖ	z	ɖ	z/ ɖ
*g	g	g	g	g

¹ Appleyard [c] = IPA [ts]; [ɟ] = [ɖ] (both identified as a pair of alveolar affricates 2006:14); [č] = [tʃ]; [ɣ] = [G]; [y] = [j]. For vowels, Appleyard's [ə] = [i], and [ä] = [ə].

*g ^w	g ^w	g ^w	g ^w	g ^w /g
*G	-x-	∅	-ɣ-	-ɣ-
*G ^w (ɣ ^w)	-x ^w -	-w-	-ɣ ^w -	-ɣ ^w -

The affricate *ɟ underwent both palatalization in Blin and Kemantney, and deaffrication in Xamtanga and Awngi, which also preserves a few reflexes of the original affricate. The reconstructed uvular stops will be discussed below.

The most complicated correspondence sets in Agaw involve the voiceless stop and affricate. The correspondences are listed in (6):

(6) Voiceless Stop and Affricate Correspondence Sets

Proto-Agaw	Blin	Xamtanga	Kemantney	Awngi
*t	t-/r-	t-/r-	t-/j-	t-/r-/t-
*ts (c)	ʃ	s'	ʃ	ts
*tʃ (č)	ʃ	tʃ'	ʃ	tʃ
*k	k	k/q/k'	k	k
*k ^w	k ^w	k ^w	k ^w	k ^w /k
*q	k'	χ-/q-	χ-	ɣ-/q-
*q ^w	k''	χ ^w -/q ^w -	χ ^w	ɣ ^w -
*ʔ	ʔ	∅	∅	∅

There is no native voiceless bilabial set in any of the daughter languages. The alveolar and velar stops are generally stable in initial position, though in several languages, there is lenition, either rhoticization in Blin and Xamtanga, or yotization in Kemantney. The affricates often deaffricated, and palatalized in Blin and Kemantney. The status of the glottal stop is dubious, occurring only in Blin, and its status within the language may not be contrastive, since it is often inserted to fill onsetless syllables, and it is the allophonic remnant of debuccalization of velar ejectives (Fallon 2001).

One of the most striking things about Appleyard's reconstruction is that he proposes no ejective series, although ejectives are found in the daughter languages, indicated in bold in (7). Let us compare the current phonemic obstruent inventories of the Agaw languages:

(7) Obstruent Phonemic Inventories of Agaw:

Blin	t	k	k ^w	b	d	ɟ	g	g ^w	t'	tʃ'	k'	k''	(?)	f	s	ʃ	x	x ^w	ħ	h	ʔ	
Xamtanga	t	tʃ	k	k ^w	q	q ^w	b	d	g	g ^w	t'	tʃ'	k'	k''	s'	f	s	ʃ	x	x ^w	z	h
Kemantney	t	tʃ	k	k ^w	b	d	ɟ	g	g ^w	t'	tʃ'	k'	s'	f	s	ʃ	x	x ^w	ɣ	ɣ ^w		
Awngi	p	t	ts	tʃ	k	k ^w	q	q ^w	b	d	ɟ	g	g ^w	f	s	ʃ			ɣ	ɣ ^w	z	ʒ

The inventories come from the following sources: Blin (Palmer 1960); Xamtanga (Appleyard 1987); Kemantney (Zealelem 2003); Awngi (Hetzron 1997). As even Appleyard admits, "consonants with glottalized articulation occur in all the Northern Agaw languages" (2006:17). The question is, Why does Appleyard exclude them from his reconstruction of Proto-Agaw? In the next section, we will examine the role of ejectives within each of the main Agaw languages.

4. Role of Ejectives

One of the most logical reasons to exclude ejectives from a reconstruction is because they are borrowed from other languages. Indeed, ejectives are a feature of all of the Ethio-Semitic languages

with which Agaw languages are in contact, principally Tigre, Tigrinya, and Amharic. Because Tigrinya and Amharic are the culturally dominant languages, it is natural to expect some borrowings from them into Agaw. Kemantney, whose ejectives are found only in borrowed words, illustrates such loans to Agaw from Amharic in (8):

- (8) t'ena 'health' < Amharic t'ena
 tʃ'äräs- 'finish' < Amharic tʃ'ärräsä
 bāk'ela 'beans' < Amharic
 k'ura 'crow' < Amharic

Other Agaw languages have, of course, borrowed from Ethiopian Semitic languages as well, as shown by the following sample data culled from Appleyard (2006):

	---Northern Agaw----			----Ethiopian Semitic-----		
	Blin	Xam.	Kem.	Ge'ez	Tigrinya	Amharic
'yellow'	bit'a	bis'a	biʃ'a	bes'a	bäjjäs'ä, biʃ'a	biʃ'a
'animal'	ʔinsus	insisa	insisa	ʔinsisä		
'sweep, wipe'	tʃ'ärəg-			s'araga	s'ärägä	t'ärrägä
'try'	wət'an-				wät'nä	
'locust'	ʔanbat'a	abta	ambija	ʔanbatä	ʔanbät'a	ʔanbät'a

Appleyard claims that “most of the occurrences of glottalized consonants in Agaw languages can be explained as contact features” (2006:17).

In addition to borrowings *from* Ethiopian Semitic, the Agaw languages form the largest substratal influence of Ethiopian Semitic. Appleyard notes that there are occasional borrowings from Agaw into Ethiopian Semitic languages, a few of which are shown below:

- (10) a. 'tongue' in PNA *lanq- was borrowed as Amharic *lank'a* (Appleyard 2006:139).
 b. 'millet' PA *tab-/taf- borrowed into EthSem, Tigrinya *t'af*, Amharic *t'ef* (2006:99)
 c. 'ashes' PNA *tsVbVr- occurs as a loan in EthSem, Ge'ez *s'abal* 'dust, powder', Tigre *tʃ'äbäl* 'ashes', Tigrinya *tʃ'äblaj* 'ashen' (2006:25)

It is therefore possible that some of the glottalization which Appleyard attributes to borrowings might in fact be of Agaw origin. Note in (10b) in the form for 'millet' that although both Tigrinya and Amharic show the alveolar ejective, Appleyard did not reconstruct the Proto-Agaw (PA) form with glottalization. Likewise, the affricates in 'ashes' (10c) in the Ethiopian Semitic forms were not reconstructed with ejection, nor was the 'uvular' in 'tongue' (10a), though it contains an ejective in Blin.

In Xamtanga, there are some minimal pairs which show a contrastive function of ejection: *k'əb-* 'cut' vs. *kəb-* 'help', *tʃ'ij-* 'call' vs. *tʃij-* 'find', *s'ibra* 'ashes' vs. *s'ibra* 'snake'. In addition, there is apparently much free variation, especially when Appleyard consults Reinisch's data, e.g. *tʃw-/tʃw-* 'enter', *kʃw-/kuw* 'kill' and so on. Yet Appleyard claims that “the existence of contrasting pairs...does not require that both the glottalized and the unglottalized consonants be ranked as phonemic” (2006:18). The minimal pair test is a fundamental test of the phonemic status of sounds (e.g. Swadesh 1934, *inter alia*) and so Appleyard's claim is difficult to accept.

Furthermore, Appleyard admits that both Blin and Xamtanga have ejectives in “lexemes of indubitable Agaw origin” (2006:17). The Blin phonemes *t'* and *tʃ'* occur in native Agaw lexemes such as *bʃʃ'ik* 'saliva', *ʔintʃ'a* 'that', *fint'ira* 'goat'. Far more frequent in Blin is the velar ejective *k'*, the normal reflex of what Appleyard reconstructs as PNA **q*.

We have therefore seen that (1) some native Agaw words contain ejectives, which are contrastive in some Agaw languages like Xamtanga; and (2) some words borrowed into Ethiopian Semitic from Agaw contain ejectives. Therefore, although many of the Agaw ejectives might be from Ethiopian Semitic borrowings, we cannot so easily attribute their presence solely to “contact features.”

Given the correspondence set Blin/Xamtanga/Kemantney/Agaw $k'/x/x/\gamma$ in initial position and $k'/q/x/q$ in medial, Appleyard chose to reconstruct PA $*q$. A uvular articulation was favored because what is usually transcribed as γ in Awngi is not the voiced velar fricative, but the voiced uvular stop [G] (Appleyard 2006:15). In addition, there is reported free variation between the velar ejective and the uvular articulation in Blin dating as far back as Reinisch (1882:592). Lamberti and Tonelli (1997:91) also observe that in Blin “/k'/ and /k^w/' now and then alternate freely with the uvulars [q] and [q^w] respectively”:

- | | | | |
|------|---|------------------------------|---|
| (11) | mak'əla ~ maqəla
fik ^w ir- ~ fik ^w ir- | ‘female friend’
‘whistle’ | ʕamək'a ~ ʕaməqa ‘dirt’
ʕik ^w ida ~ ʕiq ^w ida ‘sickness’ |
|------|---|------------------------------|---|

I have observed a velar/uvular alternation, though both were ejective, in one speaker from Ashera, described in Fallon (2001:52), though I have not observed it in other speakers. In those cases, the variation seemed to occur before back vowels /a/ and /u/, as in $k'af \sim q'af$ ‘bark’ and $k'uʃa \sim q'uʃa$ ‘sand’. In the following section, we will review the different sound changes involved with an eye on typological plausibility and methods in reconstruction.

5. Sound changes and inverted reconstruction

Appleyard’s reconstruction of $*q$, $*q^w$ requires the following sound changes (and the corresponding labialized equivalents):

- | | | |
|------|----|---|
| (12) | a. | PA $*q > k'$ in Blin |
| | b. | PA $*q > \chi/\#_ _$ in Xamtanga and Kemantney;
preserved medially in Xamtanga and Awngi |
| | c. | PA $*q > G/\#_ _$ in Awngi |

Appleyard’s methodology, demonstrated most fully in his 1984 paper, relies on the traditional methods of comparative reconstruction. However, this is not the only technique of reconstruction. As Anttila (1972: 346) distinguishes, “one speaks of reconstruction when one makes inferences from below into earlier stages, and of inverted reconstruction, if there is evidence from a higher node with respect to the one which is our target.” Appleyard employed reconstruction, using the four main branches of Agaw (Blin, Xamtanga, Kemantney, and Awngi) to construct Proto-Agaw. Although he made many observations of possible cognates in other Cushitic languages, he did not use the data systematically as a check to do an inverted reconstruction (what Hock (1986:578) calls ‘reconstructing backward’, “a very important tool in testing the accuracy of reconstructions and in trying to refine them” (609)). Inverted reconstruction, as Fox (1995:88) points out, allows us to use, for example, the accentuation of Indo-European languages and Proto-Indo-European to reconstruct an earlier stage of Germanic with a variable accent, which can explain Verner’s Law. The comparative method works backwards in time, while an inverted reconstruction works forwards from a proto-language.

There are currently two reconstructions of Proto-Cushitic: Dolgopol’skij (1973) and Ehret (1987). However, because of a lack of documentation of some languages, and a lack of intermediate reconstructions of proto-branches, in part for reasons discussed in the introduction, neither of these is fully satisfactory. However, additional grammars and reconstructions, many of which are published in the series *Kuschitische Sprachstudien/Cushitic Language Studies* by Rüdiger Köppe Verlag, will

contribute to a more definitive reconstruction. Until that time, however, we may make use of the reconstructions and data to use as the basis of an inverted reconstruction of Proto-Agaw.

I will suggest that the presence of especially the velar ejective in Blin, coupled with cognate forms in other Cushitic languages with which Blin could not have borrowed the feature of glottalization, suggests that Proto-Agaw should be reconstructed with a velar ejective.

6. Blin/Agaw ejective correspondences in other Cushitic languages

I use the following data from Ehret's (1987) reconstruction of Proto-Cushitic. In the data below, I use E as shorthand for Ehret (1987) and follow it by his number of the relevant reconstructed lexical item. Note that where Ehret used <q> for Agaw, I have retranscribed it as [k'] in Blin and in reconstructions in order to facilitate comparison. Other transcriptions are essentially left unchanged. I have not included Beja in Ehret's data because Beja has no ejectives.

PC	Agaw	E. Cushitic	So. Cushitic	
* <i>bark</i> '-/birk'- 'to flash'	B. <i>bārak</i> '- 'flash, glimmer, shine'	* <i>bark</i> '-/birk'- 'lightning'	Dahalo <i>βirik'ina</i> 'lightning'	E6
* <i>p'its'ak</i> '- 'saliva; moisture'	* <i>bəsk</i> '- 'saliva'	PSom * <i>fisaq</i> - 'wet'	PSC * <i>tsip'ak</i> '- 'saliva'	E109
* <i>k'aaf</i> - 'hull, rind'	* <i>k'ab-/k'af</i> - 'bark, hull, rind'	* <i>k'olf</i> - < * <i>k'off</i> - ² PR * <i>k'af</i> - 'crust'		E145
* <i>k'ac</i> '- 'to be damp'	NA * <i>k'äck'äc</i> - 'to become cold'	Oromo <i>qac'qac</i> '- Alagwa <i>qantsa</i> 'to drizzle for many hours' ⁴		E147 ³
* <i>k'ar</i> - 'period of time'	* <i>k'ar-/k'ir</i> - 'night'	* <i>k'ar</i> - 'period of time'		E151
* <i>k'ay</i> - 'to hunt; look for'	B <i>k'äy</i> - 'to hunt; chase after' Xamir <i>xäy</i> - 'to watch'	Yaaku <i>-qai</i> - 'to kill' Dopache <i>qay</i> - 'to wait'	* <i>k'at</i> - 'to go and see' (stem + -t- continuative)	E153
* <i>-k^w</i> - 'thin'	* <i>ək^wt-/k^wət-t</i> 'to be thin, small'	Şaamakko <i>qonn-e</i> * <i>k'o</i> - 'thin' (stem + 'slender' -n- nom. suffix)		E158

² Form from Blažek's (1997:176) list of Common Cushitic cognates. He does not mention the source of this reconstruction.

³ The transcribed <q> for Oromo and Alagwa both seem to be the velar ejective.

⁴ Blažek's (1997:177) adds for cold₂ the Proto-Agaw form *qäz, i.e. *k'əḏz with the HEC *k'iida.

*-k ^{w2} - 'to swallow'	*k ^{w2} - 'to eat'	Yaaku -eq- 'to drink' PLEC *-k'(o)m- 'to chew, bite'		E159
*-k ^{w2} - 'to be wet'	*ak ^{w2} 'water'; NA *ak ^{w2} äl/*ak ^{w2} ar 'river' (Xamir aq ^{wal} , Xamta q ^{wära} 'river'; Blin k ^{w2} äla 'valley' (stem + *r or *l noun suffix)	*k'oyy- 'wet'	Iraqw qoqo?amo 'mist'	E160
*k ^{w2} al- 'to move in regular, short movements'	Blin k ^{w2} äk'al 'to move to and fro'		*k ^{w2} al- 'to copulate'	E163
*bak ^{w2} -/*buk ^{w2} - 'to curdle, clot'	NA *bäk ^{w2} - 'to curdle, sour (of milk)'	Soomaali baq- 'to be curdled (of milk)'	WR *buq- 'hard lump'	E166
*dede(e)k ^{w2} - 'clay'	NA *däarak ^{w2} - 'mud'	Oromo deddeeqaa 'subsoil'		E168
*faak ² -/*fiik ² - ⁵ 'to cut apart, break open'	Blin fak ² - 'to breach, tear open'	Yaaku -paaq- 'to break' (tr.)	Iraqw fiqit- 'to slice yams'	E178
*zaak ² - 'to eat up'	*zak ² -/zək ² - 'to drink'	Som-III *zaak ² - 'to graze'		E195
*šak ^{w2} - 'to become full'	NA *säk ^{w2} - 'to be fat'	Yaaku -šaq- 'to be full'		E246
*lak ² -/aik ² - 'to lap up'	*lank ² - 'tongue, palate'	*lak ² -/*lik ² -/ *luk ² - 'to swallow' *luk ² m- 'neck'	Dahalo lak ² a ⁶ 'area under chin'	E328

⁵ cf. Diakonoff et al. 1993 no. 16 *pVḳ 'to peel, scratch', no. 17 *paḳ 'to split, to cut up'.

⁶ Form from Blažek (1997:180).

* <i>k^wat-</i> 'to find'	NA * <i>k'(^w)al-</i> 'to see'	Dullay <i>qol-</i> 'to choose, select'	Alagwa <i>kwahl-</i> 'to come upon, bring to light' (PSC * <i>k^w</i> > WR * <i>k^w/*q^w /#_VL-</i>)	E340
* <i>k'adl-</i> 'to split apart' (tr)	* <i>k'ädäd-</i> 'to tear'		* <i>k'atl-</i> 'to separate'	E355
* <i>?ark²-</i> 'to see'	NA * <i>ärk'-</i> 'to know' (Xamir <i>ärq-</i> , Bilin <i>?ar²-</i>)	PLEC * <i>?arg-</i> 'to see' Note * <i>k'/g</i> ablaut in EC		E396
* <i>c'ak^{w2}-</i> 'to sip'	* <i>caq^{w-}/*cəy^{w-}-</i> (Awngi <i>čay^{w-}-</i> 'to suck'; Kemant. <i>šəy^{w-}-</i> 'to swallow')	* <i>c'ak'-</i> Yaaku <i>-c'aqau-</i> 'to chew' (but expected / <i>qw</i> /)	cf. Iraqw <i>tsaq-</i>	E405
* <i>dik^{w2}-</i> 'donkey'	* <i>dəy^war-/*dək^war-</i> 'donkey'		PR * <i>dak^wayi</i> 'donkey'	E406
* <i>mik^{w2}-</i> 'to take hold of'	* <i>məq^wt-/*məy^wt-</i> 'to carry' (ablaut)		* <i>mik'-</i> 'to grip, squeeze'	E434
* <i>-nok²-</i> 'to flow'	* <i>ənk'a-t-</i> 'to bathe'	* <i>nok'-</i> 'to flow'		E460
* <i>walk²-/wilk²-</i> 'to stir (intr)'	* <i>wəlk²-</i> 'to stir'	Soomaali <i>walaaq</i> 'to stir'		E577
* <i>k'uts-</i> 'larva'	* <i>(k')əc-</i> 'worm'		Dahalo <i>k'utsi</i> 'bee larva'	E613

Forms provided by Blažek's (1997) list might include the following:

(13)	Agaw	E. Cushitic	Dahalo	South Cushitic
bark ₂ (of dog?)	Aw. <i>paaq</i>		<i>pak'o</i>	Qw <i>pa?uko</i>

6. Discussion

As we have seen, there are 25 reconstructed roots containing velar ejectives in other Cushitic languages, which strongly suggests that the velar ejective should be reconstructed for Proto-Agaw. Appleyard (2006:18) recognizes that “glottalized consonants do form part of the reconstructable Proto-Cushitic phoneme inventory and thus at some point in the prehistory of Agaw must have been present.” I argue that many Blin and Xamtanga ejectives may be reconstructable for Agaw and reflect a retention of the original Proto-Cushitic inventory. Certainly, many words with ejectives are from obvious Ethiopian Semitic borrowings, but many are also of authentic Cushitic origin.

Appleyard’s formulation requires the following changes:

(14) PC *k’ > PA *q > Blin k’

In other words, Proto-Cushitic velar ejectives became voiceless uvular stops in Proto-Agaw, but then reverted to become velar ejectives again in Blin. This change violates Occam’s Razor, which states, “Entia non sunt multiplicanda præter necessitatem” – “Entities are not to be multiplied before necessity” (Hock 1986:538). It is more plausible to envision the following sound changes, compared to (12) above, which is repeated here for convenience as (15):

(15) Sound Changes in Appleyard’s Reconstruction

- a. PA *q > k’ in Blin
- b. PA *q > χ/#__ in Xamtanga and Kemantney;
(preserved medially in Xamtanga and Awngi)
- c. PA *q > ɠ/#__ in Awngi

(16) Revised Agaw Sound Changes

- a. PA *k’ > x/#__ in Xamtanga and Kemantney
- b. PA *k’ > q medially in Xamtanga and Awngi
- c. PA *k’ > ɠ/#__ in Awngi

Note that PC *k’ remains *k’ in Proto-Agaw (and Blin)

Change (16b), spirantization with loss of glottalization is quite plausible aerodynamically. It is difficult to maintain sufficient subglottal pressure during production of fricatives. In Maddieson (1984), 52 (16.4%) of the 317 languages that were sampled contained ejectives; 40 (12.6%) contained ejective affricates. However, only 10 (3.2%) contained ejective fricatives in their inventory. Kingston’s (1985) Binding Hypothesis states that laryngeal contrasts are more common among stops because of their release than among fricatives, which have no distinct release phase. Additional examples of loss of ejection with change in manner may be found in Fallon (2002:109).

The change from *k’ > q in (16b) is a more complex change involving the loss of ejection and the retraction of place of articulation. Many scholars would require this change from Proto-Semitic *k’ to Arabic q (see the references in Fallon 2002:102). Such a change is also required independently within Cushitic to languages such as Somali, which also has a (voiced) uvular stop as a reflex of the velar ejective. The change from k’ to q has been analyzed into four stages by Dolgopolsky (1977):

- (17) 1. Glottal articulation causes recession of consonant and adjacent vowels
e.g. Urmian Nestorian Neo-Aramaic, Kurdistani Jewish Neo-Aramaic
2. Phonemic difference moves to recession (vs. aspirated stops), glottalization is weakened, e.g. Jewish Neo-Aramaic of Urmia, etc.
3. Glottalization is lost, distinction based on recessive quality (plus vowels)
vs. aspiration, e.g. Ṭūr ‘Abdīn Neo-Aramaic

4. Aspiration is lost as a distinctive feature, consonants distinguished only by recession (uvularization) e.g. Arabic

Whether all such shifts may be explained in this manner, or whether all languages go through these stages, is beyond the scope of this paper. It does, however, provide a plausible phonetic pathway of change, and could account for some of the allophonic and free variation in Blin between velar ejective and plain uvular. The ordering relation between (16a) and (16b) remains to be worked out, since Xamtanga often shows a phonetic uvular fricative (often transcribed with [x]).

Change (16c) is simply a change in voicing and is phonetically plausible, though voicing at such retracted places of articulation is harder to sustain (Maddieson 1984).

One advantage of reconstructing Agaw ejectives is that loanwords from Agaw into Ethiopian Semitic as we saw in (10) may be more straightforwardly explained.

Another consequence of accepting the phonetic pathway proposed here is that Agaw looks more like its cognate languages. The correspondence sets from Orel & Stolbova (1995: xviii-xix) show velar ejectives (indicated in their transcription with an underdot), which the Cushitic languages share with the reconstructed Afroasiatic.

(18) Orel & Stolbova (1995) Reconstructions of ‘Hamito-Semitic’ (HS) Occlusives

<u>HS</u>	<u>Agaw</u>	<u>Bed.</u>	<u>SA</u>	<u>LEC</u>	<u>Wrz</u>	<u>HEC</u>	<u>Dhl</u>
*p	*p, *f	f	*f, *p	*f, *p	*p	*f, *p	p
*f	*f	f	*f	*f	*f	*f	f
*b	*b	b	*b	*b	*p	*b	b,β/b
*t	*t	t	*t	*t	*t	*t	ṭ, tʰ
*ṭ	*ṭ	ḍ	*ḍ	*ḍ		*ṭ	ṭ
*d	*d	d	*d	*d		*d	ḍ
*k	*k	k	*k	*k	*k, χ	*k	k
*ḳ	*ḳ	k, ḳ	*ḳ	*ḳ	*ḳ, *k	*ḳ	kʰ
*g	*g	g	*g	*g	*k	*g	g

Other occlusives are in their list of sibilants/affricates, not shown here. Bed. (not in list of abbreviations) presumably = Bedawe/Bedja/Beja; SA = Saho-Afar; LEC = Lowland East Cushitic; Wrz = Werizoid; HEC = Highland East Cushitic; Dhl = Dahalo.

Blažek (1997:172) contains a similar table, though the transcription conventions are unfortunately unclear. Agaw, Oromo, and Sidamo reflexes of PC *kʰ have q (=kʰ), while Somali q = ɟ; it is not stated what the values for Yaaku and Konso are, while the reflexes in other languages such as Arbore, Harso, Tasamay and Dahalo are clearly transcribed kʰ.

A competing reconstruction of Proto-Afroasiatic (Ehret 1995) shows that Cushitic is conservative in its phonology and that the velar ejectives in particular are historically robust and stable sounds. This is summarized below:

(19) Ehret (1995) Reconstruction of Proto-Afroasiatic (PAA) and Cushitic Obstruents:

PAA	*b	c	cʰ	d	dl	dz	f	g	gʷ	ɣ	ɣʷ	h	ḥ	j	k	kʷ	kʰ	kʷʰ	ʈ	p	pʰ	s	sʰ	t	tʰ	ts	x	xʷ	z	ʕ
PC	*b	ts	cʰ	d	dl	dz	f	g	gʷ	ɣ	ɣʷ	h	ḥ	dz	k	kʷ	kʰ	kʷʰ	ʈ	p	pʰ	s	tsʰ	t	tʰ	ts	x	xʷ	z	ʕ

Although looking at Proto-Afroasiatic with respect to Agaw is undoubtedly taking inverted reconstruction too far, it is helpful in looking at the data with respect to sound shifts in general.

In this paper, I have argued that Proto-Agaw contained ejectives–velar ejectives in particular, and that not all ejectives in Blin in particular come from Ethiopian Semitic borrowings. This complicates

the use of glottalization as a characteristic of borrowings and may require us to re-examine assumptions about the direction of some loans between Cushitic and Ethio-Semitic. I have also found additional support for Dolgopolsky's (1977) phonetic trajectory between velar ejectives and uvulars. Finally, a phonetically more accurate reconstruction of Agaw will contribute to a better reconstruction of Cushitic as a whole, especially given the discussion in the introduction on the lack of consensus on the internal makeup of the Cushitic languages.

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