

LATERAL FRICATIVES IN AFRICA

AND

WORLDWIDE:

EXPLORATIONS IN THE PREHISTORY

OF PHONEMES

[DRAFT FOR COMMENT: NOT FOR QUOTATION IN THE PRESENT FORM]

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Cambridge, January 12, 2006

Acknowledgements

This paper would not have been possible without a substantial contribution from scholars subscribing to discussion servers on the internet, notably the Linguist List and the SE Asian Language List. I would particularly like to thank Bonny Sands, Jerry Edmondson, Ralf-Stefan Georg and Laurent Sagart. Other contributions are noted in specific sections. I should note that I cannot read Chinese and I am therefore grateful to Jerry Edmondson and Laurent Sagart for summarising Chinese-language publications.

NOTES

Orthography

The following table gives the forms used here and their IPA equivalents;

This Work	Other Orthographic	IPA (1989)
y		j
c	ch	tʃ
j	dj	dʒ
ɕ	dl, zl, ź	ɕ
ɬ	tl, hl, sl, ś	ɬ

Tone and stress marks

The exact significance of tone-marks varies from one language to another and I have used the conventions of the authors in the case of published languages. The usual conventions are;

High	´
Mid	Unmarked
Low	`
Rising	˘
Falling	˙

In non-tonal languages, such as South Arabian, stress on vowels is marked with an acute accent, a convention I have retained.

In Afroasiatic languages with vowel length distinctions, only the first vowel of a long vowel is tone-marked.

Vowel Length

Long vowels are usually marked by doubling in African languages but are often transcribed with a macron in Semitic etc. All long vowels have been transcribed by doubling to make comparison simpler.

Acronyms

*	Reconstruction established from complete analysis of sound-change
#	'Quasi-reconstruction' established from quick inspection of cognates
BES	Berber-Egyptian-Semitic
C	Consonant
Eth	Ethiopic (unlocated Ethiopian root)
HEC	Highland East Cushitic
N	Nasal
NC	Niger-Congo
NS	Nilo-Saharan
PAA	Proto-Afroasiatic
PC	Proto-Cushitic
PEC	Proto-Eastern Cushitic
PNC	Proto-Niger-Congo
PNS	Proto-Nilo-Saharan
PO	Proto-Omotoc
PS	Proto-Semitic
V	Vowel

1. Introduction

Rare phonemes have characteristics in common with types of material culture; they arise in specific situations and where they occur areally, they are likely to be borrowed. Their worldwide frequency is so low that they are unlikely to arise spontaneously in adjacent areas.

1.2 Lateral fricatives, lateral affricates and voiceless laterals

Lateral fricatives /ɬ/ and /ɮ̥/.

2. Worldwide Distribution of Lateral Fricatives

2.1 General

Lateral fricatives are fairly rare phonemes in worldwide perspective. Apart from Africa, their other major region of distribution is the West Coast Amerindian languages of the New World and the languages of the Thailand/China border area.

2.2 New World

They are found in Aleut, Inuktitut, Uto-Aztecan, Athapaskan, Siouan, Muskogean and Northwest coastal languages. Picard (1984) has argued that they should be reconstructed for proto-Algonquian. The impression is that they are part of a general *Sprachbund* operating in this region.

Chukchi has a lateral fricative. It is the only lateral in the language and rendered in the Cyrillic orthography by the letter for <ɬ>. The closely related Koryak language has two l-phonemes, a "normal" (liquid, non-hissing) lateral, and a fricative (same for Aljutor). The most aberrant language of the family, Ite'emen (Kamchadal), is described as having three l-phonemes, two voiced ones (rendered as <ɬ> and <ɬ'>, which are described as being nonpalatalized vs. palatalized respectively. The third one is a voiceless (hissing) palatalized fricative. Although technically in the Old World, these fricatives in Chukchi are probably related to the lateral fricatives of the New World.

2.3 Europe

Indo-European has some examples of lateral fricatives, apparently reflecting independent local developments. Lateral fricatives in Welsh developed from an earlier /l/ for example, *llyfr* 'book' from Latin *libra*; *llaeth* 'milk' from Latin *lacte*; <llaw> 'hand' from Gaelic *lamh*¹. Azorean Portuguese has a prominent voiced lateral fricative, written 'lh'². In other varieties of Portuguese, lh is always pronounced as a lateral glide, though the fricative version is still comprehensible. ɮ̥ appears very commonly in Portuguese words, for example *mulher* (woman), *colher* (spoon), *ilha* (island) and *alho* (garlic). Some lects of Sardinian have lateral fricatives, others lateral affricates (see Contini 1982, 1987).

¹ I am grateful to Christopher Miller of Montreal for this information.

² I am grateful to Donald T. Davis of Boston for this information.

2.4 Asia

There is one major area of lateral fricatives in East Asia in the West China-Thai borderland. Lateral fricatives are found in all phyla present in the region and this has *Sprachbund* characteristics resembling the Northwest coast Amerindian languages.

Old Chinese supposedly had voiceless lateral fricatives. They become th- in Middle Chinese, or a voiceless palatal fricative if followed by medial -j-. In modern Chinese dialects they are limited to the Yue group (AKA Cantonese): in Guangdong province the Seiyap dialects spoken just SW of the Pearl river delta : Taishan, Kaiping, Heshan. Historically the source of these (definitely voiceless) lateral fricatives is not the voiceless fricative of Old Chinese, but Middle Chinese s-. Middle Chinese s- also becomes a voiceless lateral fricative in many Yue dialects of Guangxi province, notably Nanning, Yangjiang, also Yulin, Beiliu, Pingnan, Guiping, Guixian. According to Cheng (1973:261) † in the Taishan dialects correspond to /s/ in Cantonese and indeed in Middle Chinese.

In Zhuang there are lateral fricatives in local Zhuang vernaculars from NE Guangxi in a line to the SW into northern Vietnam; it has replaced original s-. In other locations s→ voiced interdental fricative or remains s-. The local kinds of Cantonese in these areas also have voiceless lateral fricatives, also replacing s-. In Tibetan, there are examples in Kham (Dege) and in Lhasa, where this is word is today pronounced /ʎesa/. For Tibeto-Burman, Lhasa Tibetan, Burmese, Pumi (aka Primi), Gyarong, Darang Deng, Geman Deng, Achang, various varieties of Lolo, and other languages as well all have voiceless l- (Dai Qingxia & Huang Bufan 1992). Voiceless laterals are found in most Tibeto-Burman languages in China notably in Yi.

Lateral fricatives are widespread in the Miao-Yao languages. The most spectacular lateral fricatives are in Pa-hng in NE Guangxi and SE Guizhou as well as in Miao in Central Miao with focus in Kaili, Guizhou there are two voiceless laterals, one is called aspirated, one unaspirated. That usually means either heightened airflow during the production or a glottal fricative after the lateral (in the latter there are also s/sh, f/fh and more).

In Daic, lateral fricatives occur in Kam, Sui, Mulam, and Maonan. In Tai, Li (1977) reconstructs voiceless l- for P-Tai, but these change to l-/high tones in the modern languages he uses as witnesses. Some varieties of Zhuang (northern Tai), perhaps othe forms of Tai as well, retain these original voiceless lateral fricatives. Some of the Kam-Sui languages also do have voiceless l-: Mulao (northern Guangxi); Li (Hainan island).

2.5 Other occurrences

Austronesian

A voiceless lateral fricative occurs as a phoneme of Gedaged, an Oceanic language spoken in the neighbourhood of Madang. Neighbouring languages have an alveolar trill in cognates. There is also a voiced palatal lateral fricative (at least, that's what I think it is) in Wedau, Iduna and perhaps other Oceanic languages of the Papuan Tip cluster. Cognates in other languages are straight alveolar laterals.

Dravidian

Somewhat surprisingly, there is a lateral fricative in Brahui, the furthest outlier of Dravidian, spoken in Pakistan.

2.6 Worldwide summary

Table 1. Distribution of lateral fricatives worldwide excluding Africa

Phylum	Group	Subgroup	Example	Present	
				Voiced	Voiceless

3. Lateral Fricatives in Africa

3.1 Isolates

The Hadza language is usually considered to have a voiceless lateral affricate /tʃ/, a voiceless lateral fricative /ɬ/ and an ejective lateral /tʃʼ/ (Voogt 1992).

3.2 Khoisan

If Sandawe is a Khoisan language, as Sands (1994) suggests, then its phonology appears to show more links with the isolated Hadza than with other Khoisan. There are three accounts of Sandawe, which reach similar conclusions concerning the laterals (Elderkin 1983; Voogt 1992; Kagaya 1993). These are set out below in their varying orthographies for comparison;

Sound	Elderkin	Voogt	Kagaya
Voiceless lateral fricative	ɬ	ɬ	hl
Voiceless ejective affricate	tʃʼ		tʃʼ
Voiceless lateral affricate	tʃ	ɬ	tl
Voiced lateral affricate	dlʒ		dl

3.3 Niger-Congo

Although Niger-Congo languages share long borders with Afroasiatic languages, many of which show lateral fricatives, borrowing of this phoneme appears to be very rare. Indeed the only certain case appears to be in some Bantu languages of southern Africa.

Mande

A Mande example is given in Bolli (1976) and Halaoui et al. (1983:66) where the deletion of the vowel in sVI and zVI sequences has led to both voiced and voiceless lateral fricatives /ɬ/ and /ɬ̥/ in the Blossé dialect of Dan in western Côte d'Ivoire. This appears to be a local example that is not replicated elsewhere in the subgroup.

Bantu

Lateral fricatives are only found in Nguni languages (Zulu and Xhosa) and appear to have some association with Khoisan, general opinion is that they are a local independent development, corresponding, for example, to Welsh (Lanham, 1964). Indeed they appear to show regular correspondences with other Bantu languages, for example, Swahili.

Lateral fricatives worldwide and in Africa	R.M. Blench.	Draft Version for circulation only.
Zulu	Swahili	Gloss
hlawula	chaguza	to choose
ukuhleka	kucheka	to laugh

Westermann & Ward (1933:71) refer to the possibility of these sounds being found in Herero, but later work suggests these sounds are dental. They also mention lateral fricatives in the Guta dialect of Manyika, although I have been unable to unearth a modern reference to this.

3.4 Nilo-Saharan

In Nilo-Saharan, lateral fricatives appear to be confined to the Kuliak languages (Heine 1975, 1976a, 1967b; Ehret 1981). Ik has voiced and voiceless lateral fricatives and a lateral fricative ejective /tʃ/. Nyang'i has a voiceless lateral fricative /ɬ/ and Tepes lacks these completely. In Heine's (1976b) reconstruction of Proto-Kuliak phonology he appears to ignore the tʃ of Ik and reconstructs only /ɬ/ as a 'lateral continuant'. The /ɬ/ of Kuliak and Nyang'i usually correspond to /l/ in Tepes, conclusion with which Ehret (1981) seems to concur.

3.5 Afroasiatic

3.5.1 Omotic

There is no evidence for lateral fricatives in Omotic and no single phoneme that has yet been identified as a regular cognate of those in other branches of Afroasiatic.

3.5.2 Cushitic

Beja, Agaw and Eastern Cushitic are generally without lateral fricatives. However, one language, Dahalo, formerly classified (Ehret 1980) as Southern Cushitic is now generally thought either to Eastern Cushitic or to represent a branch of its own. Three authors have described the sound-system of Dahalo (Elderkin 1976; Tosco 1991 and Maddieson et al. 1993). Their conclusions are tabulated in Table 2;

Table 2. Dahalo laterals

Sound	Elderkin	Tosco	Maddieson et al.
Voiceless lateral fricative	ɬ	ɬ	ɬ
Voiceless lateral fricative (palatal)	–	–	ɬ̟
Voiceless lateral fricative (labialised)	–	–	ɬw
Voiceless ejective affricate	tʃ'	tʃ'	tʃ'
Voiceless ejective affricate (palatal)	–	–	cɬ̟'
Voiced lateral affricate	dl	dl	Not recorded

Dahalo has thus the richest ensemble of lateral fricatives/affricates of the languages so far recorded.

Southern Cushitic-West Rift

Southern Cushitic consists of two recently extinct languages, Asax and Qwadza, for which data are uncertain, and the West Rift languages Iraqw, Burunge, Alagwa and Gorowa. Ma'a or Mbugu, considered by Ehret (1980) to be part of Southern Cushitic, is now recognised as a 'register' of a Bantu language, Pare, albeit with a phonology more closely resembling Cushitic (Mous 1994). Mous terms this register 'Inner Mbugu' and t has a lateral fricative /ɬ/ that does not occur in 'normal' Mbugu. The West Rift languages all have the voiceless lateral fricative /ɬ/ and the ejective affricate /tʰ/. This opposition has been reconstructed to proto-Rift (Elderkin and Maghway 1992).

3.5.3 Chadic

Chadic languages have neither ejectives nor lateral affricates. The distribution of lateral fricatives ('hlaterals') in Chadic has been considered in specific papers by Kraft (1971) and Newman (1977b). More recently, the comparative Chadic reconstructions by Jungraithmayr and Ibriszimow (1995) also propose an inventory for proto-Chadic. Table 3 shows the conventions used for representing lateral fricatives in Chadic;

Table 3. Orthographic conventions for lateral fricatives in Chadic

Sound	Newman (1977b)	Jungraithmayr and Ibriszimow (1995)	Other
Voiceless lateral fricative	hl	ɬ	tl, sl, ś
Voiced lateral fricative	ɦl	ɮ	dl, zl, ź

Table 4 shows the distribution of 'hlaterals' in Chadic;

Table 4. Lateral fricatives in Chadic

	Voiceless lateral fricative	Voiced lateral fricative
West Chadic-A	—	—
West Chadic-B	x	x
Central Chadic	x	—
East Chadic	—	—
Masa	x	x

Newman concluded that the data only required a reconstructed of a single voiceless lateral fricative in Proto-Chadic and that, strikingly, this would *not* be in contrast with a frictionless lateral. Jungraithmayr and Ibriszimow (1995) offer multiple series of correspondence sets, with four sets for /ɬ/ and two for /ɮ/. They provide evidence for systematic correspondences between /ɮ/ in West Chadic B and Central Chadic as well as enlarged sets for /ɬ/. This material provides evidence that voiced and voiceless lateral fricatives may be reconstructible in opposition in Proto-Chadic.

3.5.4 Berber

There is no evidence for lateral fricatives in Berber.

3.5.5 Egyptian

There is no evidence for lateral fricatives in Ancient Egyptian and I know of no scholar who has proposed their existence.

3.5.6 Semitic

The case for lateral fricatives in Semitic has been the subject of extensive discussion. There are no lateral fricatives in Ethio-Semitic, but they are present in present-day South Semitic languages as well as in Epigraphic South Arabian, as far as the multiplicity of ‘s’ graphemes can be interpreted (see Beeston et al. 1982). North Semitic (i.e. Arabic and epigraphic languages) have no lateral fricatives synchronically but Steiner (1977) has argued that lateral-fricatives *were* a feature of proto-Semitic. This again is on the basis of graphemes for fricatives. There are also some suggestive loanwords into Indo-European, such as ‘balsam’, often held to represent a now-vanished voiceless lateral fricative.

3.5.7 Afroasiatic Overview

The reconstruction of lateral fricatives in Afroasiatic is the subject of general agreement between recent authors (Ehret 1995; Orel & Stolbova 1995). Their transcription conventions are set out in Table 5;

Table 5. Reconstructed Afroasiatic laterals

Sound	Ehret (1995)	Orel & Stolbova (1995)
Voiceless lateral fricative	ʃ	š
Voiceless ejective affricate	ʃʼ	ṣ̌
Voiced lateral affricate	dl	ḥ

It should be noted that the ejectives are reconstructed solely on the basis of the West Rift evidence.

3.6 Synthesis: Africa-wide distribution

Lateral fricatives occur in all phyla and are widespread in some language families. **Table 6** shows the distribution of lateral fricatives in Africa;

Table 6. Distribution of lateral fricatives in Africa

Phylum	Group	Subgroup	Example	Present		
				Voiced	Voiceless	
Isolates	Hadza			–	x	
	Sandawe			–	x	
Khoisan	North			–	–	
	Central			–	–	
	South		Xegwi	–	x	
Niger-Congo	Mande		Dan of Blossé	x	x	
	Bantu	Southern	Nguni	x	x	
Nilo-Saharan	Kuliak		Ik	x	x	
			Nyang'i	–	x	
				–	x	
Afroasiatic	Cushitic	Southern		–	x	
		Eastern		–	–	
		Agaw		–	–	
		Beja		–	–	
		Chadic	West A		–	–
			West B		x	x
	Central			x	x	
	Semitic	East		–	–	
		Masa		x	x	
		North		?	–	
		South Arabian		–	x	
		Ethio-Semitic		–	–	
	Egyptian			–	–	

Table 7 Shows the distribution of lateral ejectives in Africa;

Table 7. Distribution of ejective laterals in Africa

Phylum	Group	Subgroup	Language
Isolates			Hadza
Khoisan			Sandawe
Niger-Congo	Bantu	Nguni	Zulu
Nilo-Saharan	Kuliak		Ik
Afroasiatic	Cushitic	West Rift	Iraqw etc. Dahalo

Zulu has a range of ejectives, notably a prenasalised voiced lateral affricate and plain and prenasalised velar affricates. It seems quite likely that these have arisen independently to those in East Africa, perhaps through the nasal feature.

3.7 Can a phoneme hunt and gather?

With relatively few exceptions, lateral fricatives are confined to Afroasiatic and it is reasonable to assume that they evolved early in its genesis probably at the point where Cushitic and Omotic split. Ejective laterals are much rare and are broadly confined to East Africa, and indeed to peoples who either are or were until recently hunter-gatherers (West rift pastoralists excepted). Given their sporadic nature this does suggest a rather unfashionable hypothesis, namely that these were feature of what were once widespread languages in the pre-agricultural era. All but the Hadza may have undergone language shift or assimilation but retained enough lexicon form their former speech to allow the lateral ejectives. We know that there has been intensive interaction between the Sandawe and the speakers of West Rift languages; the presence of tʃ' in these languages may be better explained through contact than by the assumption that it is part of the proto-phonology.

4. How do lateral fricatives arise?

One conclusion of this survey is that lateral fricatives do not seem to arise in any very standard way and are apparently the result of a variety of processes. It may well be, however, that some of these are far more stable than others, leading to phenomena such as the widespread occurrence of lateral fricatives in Chadic, for example. Table 8 shows examples of all the processes recorded in the literature.

Table 8. Phonological processes for deriving lateral fricatives

Process	Result	Language	Phylum
sVl, zVl sequences lose vowel	ʃ, ʒ	Dan	Niger-Congo
s → ʃ		Taishan	Sino-Tibetan

5. Conclusions

Some general observations can be made from the data presented here;

1. Lateral fricatives are uncommon on a worldwide basis but have three major areas of concentration; the Pacific Northwest, West China and adjacent and Africa.
2. They can arise spontaneously in particular phonetic contexts, which accounts for their sporadic appearance in other language phyla. However, they are rarely incorporated into the phonology.
3. In both the New World and China they seem to form part of *Sprachbund* features, occurring in neighbouring languages of unrelated phyla. However, in Africa, they seem to be largely confined to a single phylum, Afroasiatic, although there has been some traffic with non-Afroasiatic languages in East Africa.

In Africa;

1. Lateral fricatives in Niger-Congo appear to always be recent and of local evolution, internally generated.
2. The status of the lateral fricatives in Kuliak is uncertain but they are likely to be borrowed from Cushitic.
3. Khoisan languages in Southern Africa do not have lateral fricatives. The one counter-example, ||Xegwi, has probably borrowed them from Zulu.
4. Lateral fricatives can be reconstructed for Southern Cushitic. Their reconstruction for Cushitic as whole is controversial, but their presence in both Semitic and Chadic is a strong indirect argument.

5. Proto-Semitic almost certainly had either one or two lateral fricatives.
6. Proto-Chadic had at least one and probably both lateral fricatives.

In the case of the ejectives, their distribution is confined to scattered languages of different genetic affiliations in East Africa. It seems unlikely to be just chance that these populations were until recently hunter-gatherers and it is proposed that this phoneme was part of an original substrate phylum, probably related to Hadza.

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Appendix: An Afroasiatic correspondence set

Table A1. #ʃa. cow, cattle

Phylum	Family	Branch	Language	Term	Gloss
AA	Cushitic	Beja	Beja	ša pl. ša'a	cow
		Agaw	Bilin	ləwi	cow
		East	Afar	laa	cattle
			Oromo	saʔa	cow
	Chadic	West Rift	Iraqw	ʃee	cow
		West	Ngizim	ʃà	cow
		Central	Ga'anda	ʃà	cow
		Masa	Batna	naw	cow
		East	Kera*	si	cow
	Egyptian		Ancient*	iḥ(t)	generic
			Coptic*	ehe	generic
	Semitic	North	Akkadian	luu	bull
			Arabic	la'an	bull
		South	Jibbāli (=Shahri)	lé'/lhóti	cow
	Berber	Ethio-	Amharic	lam	cow
			Tamazhigt	esu	cow

*Cognacy uncertain

Note that the Nilo-Saharan language, Ik, has ʃo for 'cow' almost certainly a loanword from Afroasiatic.