

I highlight here some problematical issues in regional phonological analysis.

1.2.2.1 Vowels

1.2.2.1.1 Long vowels: phonemic or not?

- Sub-phonemic length results from:
 - openness: Kâmviri, Kalāṣa mun
 - accent: Kâmviri, Vâsi vari, Saṅu viri[?] (how much indicated length is spurious in Vâsi-vari and Saṅu-viri?); also in Chitral: in Kalāṣa mun and in Khowar posterior voicing (in Khowar posterior voicing has been interpreted as length, which is systemically wrong)
 - nasalization: Saṅu viri[?]
 - tenseness: Âcharêtâ' (in Âcharêtâ' note that the tense/long vowels only occur accented), Pašâi
- Phonemic length results from:
 - placement of the above processes into a contrastive position
 - glide reduction: Kâmviri
 - syllable-onset loss: Kâmviri
 - long-short systems occur in Kâmviri, Saṅu-viri, and perhaps Varĵan-alâ and Vâsi-vari, if the latter are not of the next type.

		Kâmv'iri					
		labialized	fronted	default			
short	Close	<i>u</i>	<i>i</i>	<i>a</i>	Close		
		<i>ü</i>					
	Mid	<i>o</i>	<i>e</i>		Open		
	Open			<i>â</i>			

		Saṅu-viri					
		labialized	fronted	default			
short	Close	<i>u</i>	<i>i</i>	<i>a</i>	Close		
	Mid	<i>o</i>	<i>e</i>			Open	
	Open			<i>â</i>			

		Kâmv'iri					
		labialized	fronted	default			
long	Close	<i>ua</i>	<i>ia</i>	<i>aa</i>	Close		
		<i>üa</i>					
	Mid	<i>oa</i>	<i>ea</i>		Open		
	Open			<i>âa</i>			

		Saṅu-viri					
		labialized	fronted	default			
long	Close	<i>u:</i>	<i>i:</i>	<i>a:</i>	Close		
	Mid	<i>o:</i>	<i>e:</i>			Open	
	Open			<i>â:</i>			

In Kâmviri vocalic length is an allophone of the phoneme *a*. The default pronunciation of this phoneme is [i]. But [i] cannot occur after a vowel in Kâmviri, and length [:] only occurs after vowels; therefore, [i] and [:] are in complementary distribution after vowels and are both allophones of the single phoneme *a*.

Contrastingly, in Saṅu-viri *a* ([i]) occurs after vowels (e.g., *ia*), and therefore cannot be a candidate for indicating vocalic length in that language. Length contrasts in Saṅu-viri, with antecedents, include:

<i>bâs</i> 'vapor'	<i>b^ha:s'a-</i>	<i>bâ:s</i> 'twelve'	<i>dv'â-daša</i>
<i>vâs</i> 'adze'	<i>v'âši:-</i>	<i>vâ:s</i> 'day'	<i>vâs-'a-</i>
<i>kâṅ</i> 'arrow'		<i>laukâ:ṅ</i> 'blood vessel'	

<i>pié</i> 'cream'	<i>pičča-</i>	<i>pi:é</i> 'pine'	<i>pauči-</i>
<i>bi</i> 'seed'	<i>b'i:ja-</i>	<i>bi:</i> 'spade'	
<i>ko</i> 'whom'	<i>k'a-</i>	<i>ko:</i> 'hump'	<i>kaku-b'a-</i>
<i>gom</i> 'I went'	<i>ga-t'a-</i>	<i>go:m</i> 'wheat'	<i>god'u:ma-</i>
<i>šo</i> 'six'	<i>šuvaf*</i>	<i>šo:</i> 'information'	<i>šr'av-as-</i>
<i>no</i> 'nine'	<i>n'ava</i>	<i>no:</i> 'water trough'	<i>nâv-y'a:-</i>
<i>daru</i> 'copper'		<i>dâ:ru:</i> 'gunpowder'	
<i>âsku</i> 'wire doorway'	<i>â-skau-ti</i>	<i>ku:</i> 'where'	<i>k'a-</i>

It is not clear what the conditioning factors were that produced such contrasts: perhaps accent or length in a following syllable?

- If the contrast between long and short is not systemic and pervasive, the occasional long vowel should be analyzed as a sequence of two identical vowels; e.g., Vâsi *l'â-* 'have' vs. *l'ââ-* 'had'; Khowar *hay`a* 'this' vs *hay`aa* 'here'. These mostly arise across morpheme boundaries.

1.2.2.1.2 Evolution of the Nûristânî Vowel Systems from long-short to tense-lax to close-open

The Proto-Aryan vowel system was probably best characterized as tense-lax, having evolved from a system that had both tense-lax (*â-a*) and long-short (*a:-a*) contrasts. Tense vowels were incidentally long, indistinguishable from the true long vowels that resulted in PAr. from a PIE vowel plus laryngeal. Thus length and tension merged, and either could be marked as phonemic.

Proto-Indo-European				
	labialized	fronted	back	
Long	<i>u:</i>	<i>i:</i>	<i>r:</i>	Close
Short	<i>u</i>	<i>i</i>	<i>r</i>	
Long	<i>o:</i>	<i>e:</i>	<i>a:</i>	Open
Short	<i>eu, ou, au</i>	<i>ei, oi, ai</i>	<i>er, or, ar</i>	
Long	<i>e:u, o:u, a:u</i>	<i>e:i, o:i, a:i</i>	<i>e:r, o:r, a:r</i>	Diphthongs

Proto-Aryan				
	labialized	fronted	back	
Long	<i>u:</i>	<i>i:</i>	<i>r:</i>	Close
Short	<i>u</i>	<i>i</i>	<i>r</i>	
Long			<i>a:</i>	Open
Short	<i>au</i>	<i>ai</i>	<i>ar</i>	
Long	<i>a:u</i>	<i>a:i</i>	<i>a:r</i>	Diphthongs

The linguists' tradition has been to mark them as long.

But if there are qualitative differences between long and short vowels, the long ones should be marked as tense. Only if long and short vowels do not differ in quality is length phonemic.

- Modern regional tense-lax systems include those of Fârsî, Paxt'o, Pašaî, Gawar-bati, and Âcharêtâ'.

Fârsî				
		labialized	fronted	default
Close	Tense	<i>û</i>	<i>î</i>	
Mid	Lax	<i>u</i>	<i>i</i>	<i>a</i>
Open	Tense	<i>ô</i>	<i>ê</i>	<i>â</i>

Pašai				
		labialized	fronted	default
Close	Tense	<i>û</i>	<i>î</i>	
Mid	Lax	<i>u</i>	<i>i</i>	<i>a</i>
Open	Tense	<i>ô</i>	<i>ê</i>	<i>â</i>

Âcharêtâ'				
		labialized	fronted	default
Close	Tense	<i>û</i>	<i>î</i>	
	Lax	<i>u</i>	<i>i</i>	
Mid		<i>o</i>	<i>e</i>	<i>a</i>
Open	Tense	<i>ô</i>	<i>ê</i>	<i>â</i>

The Nûristânî languages have no contrast of tense vs. lax vowels, the ancient phonemes having coalesced.

All the languages have three phonetic degrees of vocalic opening, but only Kalaşa-alâ has three phonemic (contrasting) degrees of openness. The remaining Nûristânî languages have only two phonemic degrees of openness.

Close—Mid—Open Systems:

Kalaşa-alâ

Nišei-alâ				Varĵan-alâ			
	labialized	fronted	default		labialized	fronted	default
Close	<i>u</i>	<i>i</i>		Close	<i>u</i>	<i>i</i>	<i>i</i> ("ə")
	<i>ü</i>				<i>ü</i>		
Mid	<i>o</i>	<i>e</i>	<i>a</i>	Mid	<i>o</i>	<i>e</i>	<i>a</i>
	<i>ö</i>				<i>ö</i>		
Open		<i>ä</i>	<i>â</i>	Open		<i>ä</i>	<i>â</i>

(The phonemic status of [e] vs. [i] in Varĵan-alâ is unclear. Is there a phonemic contrast, or are they positional allophones?)

Close—Open Systems:

Vâsi-vari, Kâmk'ata-vari, Saņu-viri, also Khowar and Bhaṭ'e-sa zib.

Vâsi-vari				Kâmv'iri				Saņu-viri				
	labialized	fronted	default		labialized	fronted	default		labialized	fronted	default	
Close	<i>u</i>	<i>i</i>	<i>a</i>	Close	<i>u</i>	<i>i</i>	<i>a</i>	Close	<i>u</i>	<i>i</i>	<i>a</i>	Close
	<i>ü</i>				<i>ü</i>				<i>ü</i>			
Mid	<i>o</i>	<i>e</i>		Mid	<i>o</i>	<i>e</i>		Mid	<i>o</i>	<i>e</i>		Open
	<i>ö</i>				<i>ö</i>				<i>ö</i>			
Open			<i>â</i>	Open			<i>â</i>	Open			<i>â</i>	Open

1.2.2.2 *Approximants and Flaps: Phonemic Treatment of [ɹ], [ɹ̃], [ɹ̥], [r], and [r̥]*

In Sañu-viri and Vâsi-vari initial **r* was strengthened to fricative *z*, and in Kalaşa-alâ to *vr̥* [vɹ̥], while in Kâmkata-vari it was weakened to *ř* ([ɹ̥]). No Nûristânî language retains the flapped [r] (trilled [r] does not occur in Nûristânî) as the realization of the initial phoneme **r*.

1.2.2.2.1 *Vâsi-vari: (no phonemic approximants)*

r = [r] (occurs initially in loanwords only; **r*- > *z*-)
r̥ = [r̥] in C_ (dialectally, < CV*r̥*V).

1.2.2.2.2 *Kâmkata-vari: (approximants are phonemic):*

r = [r] (occurs initially in loanwords only; **r*- > *ř*-)
ř = [ɹ̥]
ñ = [ɹ̃] (does not occur initially)
ŋ = [ŋ]
r̥ = [r̥] in V_V (Kâmviri only).

1.2.2.2.3 *Niše-i-alâ: (approximants are sub-phonemic)*

r = [r] (occurs initially in loanwords only; **r*- > *vr̥*-)
r̥ = [ɹ̥] in C_V_{frn} and v_
 [ɹ̥] in C_V_{frn} (i.e., CV̥, a rhoticized vowel), and
 [r̥] medially and finally (does not occur initially)
ñ = [ɹ̃] in C_V_{frn} and v_
 [̃] in C_V_{frn} (i.e., C̃Ṽ, a rhoticized, nasalized vowel), and
 [ɹ̃] medially and finally (does not occur initially)
ŋ = [ɹ̥] in V_V,
 [ŋ] elsewhere.

1.2.2.2.4 *Sañu-viri: (approximants are sub-phonemic)*

r = [r] (does not occur initially; **r*- > *z*-)
r̥ = [ɹ̥] after labial and velar consonants,
 [r̥] elsewhere (does not occur initially)
ñ = [ɹ̥] in V_V, finally (does not occur initially)
ŋ = [ŋ] finally (does not occur initially or intervocalically).

Alternatively, if [r̥] does not occur after labial and velar consonants in loanwords,

r = [ɹ̥] after labial and velar consonants,
 [r̥] elsewhere (does not occur initially; **r*- > *z*-)

r̥ = [r̥] (does not occur initially),

and, if final [ɹ̥] does not occur,

ŋ = [ɹ̥] in V_V,
 [ŋ] finally (does not occur initially or intervocalically).

1.2.2.3 *Prognathizing in Southern Nûristânî*

Prognathizing promotes:

- dentalization of laminals (*č, ĵ, š* > *ć, ź, s*), seen in Proto-Aryan and again in Sañu-viri (and Paxt'ô.)
- **dv* > *b* (sporadic Indo-Aryan loans in Southern Nûristânî: Skt *dv'âdaša* > K-a *bâš* '12'),
- *v* is an “unstable sound,” as Morgenstierne remarked.
 - as a result of prognathizing, *v*
 - = [β], [v], or [w] as language-dependent default sounds before back or central vowels, but
 - = [v] before front vowels.
 - note the change of postvocalic *v* to *a* = [ɨ] in Kâmviri.

1.2.2.4 *Relative Timings of Articulations*

- Kâmviri syllables and dissyllables: “burst” delivery;
- Vâsi-vari anticipation of labialization and fronting;
- Kalaša-alâ anticipation of fronting.