Overview of Fas Phonology

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Introduction

The Fas language was studied at intermittent periods from 1978 – 1989 and the program came in 1989 to an untimely stop. This overview was written in 2007 and is based on an earlier draft, author notes and unpublished papers. It should be considered a provisional and still incomplete statement. I have used slashes (/ .. /)to mark Fas utterances and those of related languages. Brackets ([..]) are only used to highlight relevant phonetic detail. More general information on Fas will eventually be made available at www.kwomtari.net
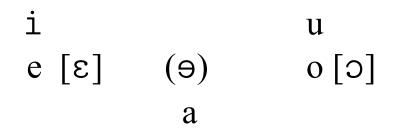
Fas Phonemes

Provisionally, the following system is suggested.

Consonants

Point of Artic. :	(Bi)labial	(Palato-)Alveolar	Velar	Glottal
Mode of Artic.				
Stop	p	t	k	ʔ
Fricative	f	s		
Vibrant	ʙ	r		
Nasal	m	n		
Semivowel	w	y		

Vowels

i   u

e [ɛ]   (ә)   o [ɔ]

a

Issues in Fas Phonology

Bilabial trill

Fas exhibits the bilabial trill /ʙ/, rare amongst languages, produced by a slight vibration of the lips.

E.g.   / ʙaso/   'child'
           / haʙuw/   'your'
           /kaʙ/   'tomorrow'

Note: / ʙ/ appears to correspond to [mb] in Baibai, a closely related language.

e.g   (Fas:) / meʙke/   (Baibai:) /membke/ - 'star'
           /nәʙe/   /nәmbe/   - 'gourd'

Glottal stop versus /h/

E.g   [hat] 'uncle'   -   [ʔat] 'we are'
        [han] 'make a nest'   -   [ʔan] 'cut repeatedly' -

[h] only occurs (to my ears) before initial /a/, and [ʔ] is observed distinctively before initial /a/, /w/ and /y/ . Either [h] or [ʔ] could be interpreted as phonetic detail.

One hypothesis would be to posit a glottal stop where [h] is absent before an /a/ and the semivowels, resulting in

/at/ [hat] 'uncle'   -   /ʔat/   [ʔat] 'we are'

/an/ [han] 'make a nest'   -   /ʔan/   [ʔan] 'cut repeatedly'

[h] would then be mere low vowel initial (/a/) phonetic detail.

Baibai appears to have /g/ in words where /ʔ/ could be posited:

(Fas:) /ʔabe/ - (Baibai:) /gabe/   'axe'

(Though one can not base the analysis of a language on phenomena in related languages, such phenomena may provide useful lines of inquiry.)

Fas and Baibai share other word pairs with initial [g] in Baibai and apparent absence of an unambiguous consonant in Fas.

E.g   (Fas:) /usy/ *   (Baibai:) / gusi /   'mosquito'
             (Fas:) /esy/   (Baibai:)   /gisi /   'sago'

Although no glottal occurs anywhere in my collected data for /usy/, there may still be good reasons for positing one in the underlying structure. See further on in this overview.

Neither is it unlikely that, phonetically, /esy/ also has a glottal in initial position, but as there is no contrast with absence of glottal (c.q. aspiration) we have no evidence to assume one phonemically in such an environment.

What has nevertheless led us to provisionally posit a glottal vs absence of glottal distinction in restricted environments, are forms like the following:

[wan]   'block someone's luck'   [ʔwan] 'dam off a fishing area'
[yen]   'follow'   [ʔyen] 'pull'

As we will see later on, when dealing with the vowels, postulating a distinctive occurrence of /ʔ/ before initial /a/ and the initial semivowels opens up the possibility of a 5 vowel system rather than one containing 7.

The semivowels

The semivowels can be found syllable initial and syllable final (i.e. closing syllables). They can also follow consonants, word-finally or preceding a vowel. In final position, following a consonant, they are realised as voiceless vowels (symbolised here by ᵞ and ʷ):

[yar] 'descend'   [war] 'wild sugar cane'
[yan] 'ascend'   [wan] 'block someone's luck'

[ʔan]   'I cut and cut'

[ʔanˠ]   'vine, the sap of which is used to kill fish'
[hat]   'uncle'
[hatˠ]   'I beat a vine (to get the sap out)'
[hatʷ]   'He beat a vine'
[harˠ]   'you (plural)'
[nək]   'a particular tree'
[nəkˠ]   'a papaya'
[kaʙ]   'tomorrow'
[maʙʷ]   'someone's name' *
[ɣɛyɛn]   'he spoke'
[ʔakwɔ]   'earth/ground/land'
[səsyɛn]   'he sends someone'
[kwa]   'hair'
[kɛy]   'hand'
[kɔw]   'he came down'

* *I have no decisive contrastive data on hand to verify a* ʙ – ʙ ʷ *distinction in final position. The possibility that final bilabials automatically receive a [ʷ] release, should be looked at.*

Neither before nor after /e/ and /i/ a [w] – [y] contrast can be found as /w/ has a rounding effect on the front vowels, neutralising /e/ and /o/ and also /i/ and /u/ in this context.

The vowel system

The Fas vowel system has been rather vexing. Linguists, phonetically trained as they may be, never get away from hearing sounds through the grid of their mother tongues. Fas appears to have two sets of high vocalic elements that are extremely close, at least from my perspective. To me the words for   'I urinate' , 'I smell' and 'Bird' all sounded pretty much the same, whereas it was clear that Fas speakers had no trouble distinguishing between them. Only by applying independently established phonological processes and by looking at the morphology, did I gain some kind of insight into the phonological and phonetic aspects of these sounds.

Here is a sample (numbers are used to differentiate between them):

[si¹]   'bird'   [su¹]   'it burns'
[si²]   'I smell (something)'   [su²]   'he smells'
[si³]   'I urinate   [su³]   'he urinates'

Fas signals 3 person singular (when possible) in rounding of the final vowel/semivowel

[nəsˠ]   'I make a string of beads'   [nəsʷ] 'he makes a string of beads'

[kɛy]   'I come down'   [kɔw]   'he comes down'

The interesting forms here are:

[u²y] 'I cut'   [u²fˠ] 'you cut'
[u³] 'He cut'

As we would have expected the 3 prs. sing. of [u²y] to have turned out to be [u²w], we now had a clue to the nature of [u³]. As a consequence we postulated a vowel-semivowel sequence for [u³] : /u²w/

Pairs like : [ki³] 'I eat' and what was now known to be /ku²w/ 'he eats' , led to an easy reinterpretation of [i³] as /i²y/

The possible nature of the distinction between [u¹] and [u²] and [i¹] and [i²] was gleaned from the possessive affix [u²]

E.g.

[nək]	'a tree (gen.)'	[nəku²]	'of the tree'
[nəkˠ]	'papaya'	[nəku¹]	'of the papaya'
[mamʷ]	'a fish (gen.)'	[mamu¹]	'of the fish'

This led to the postulation of /wu/ (or /yu/) for [u¹].

Confirmation of /yi²/ as underlying [i¹], comes from paradigms like the following:

[ki²]	'I sleep'	[ki²y]	'I eat'
[kəf]	'you (sg.) sleep'	[kəfy]	'you (sg) eat'
[kəm]	'you (pl.) sleep'	[kəmy]	'you (pl) eat'
[kəmi²]	'you (dual) sleep'	[kəmi¹] / kəmyi²/	'you (dual) eat'

As a consequence we end up with the following high vocalic situation:

i¹	=	yi	u¹	=	wu
i²	=	i	u²	=	u
i³	=	iy	u³	=	uw

An acoustic analysis would be required to confirm these differences, but my attempts to tune in to the phonetic details yielded the following

s[i^] 'bird'   a very high and pure vowel
s[i] 'I smell'   a vowel in between the initial part of English "s[ee]" and "s[ay]"
s[iy] 'I urinate'   approaching English "s[ee]".

s[wu] 'it burns', s[u] 'he smells', s[uw] 'he urinates' follow a similar pattern.

At odds with this analysis, at first sight, is the following contrast:

[u¹n] 'I get married'   [wu¹n] 'I call'

Analysing [wu^{1}n] as /wwun/ appears rather far fetched. Given the occurrence of the glottal stop before /w/ and /y/, a solution is on offer.

For this we seem to require 2 (informally stated) rules:

1. Vowel Raising (VR) (i^2 and u^2 $\rightarrow$ i^1 and u^1) following y or w.
2. Semivowel deletion (SVD) (following a consonant and preceding a high vowel, the semivowel is dropped)

Examples:

	nəky + u^2 'of the papaya'	kə + my + i^2 'you (dual) eat'
VR	nəkyu^1	kəmyi^1
SVD	nəku^1	kəmi^1
Surface	nəku^1	kəmi^1

	ʔwu^{2}n 'I get married'	wu^{2}n 'I call'
VR	ʔwu^1	wu^{1}n
SVD	ʔu^{1}n	
Surface	ʔu^{1}n	wu^{1}n

(This high vowel situation is non trivial. In all survey reports and other work on Fas the distinction has gone unnoticed. In all of them, /i/ tends to be used for all 3 front vowels and /u/ for the rounded ones. Field linguists may not always be sufficiently aware of how they hear things through the grid of their own language, may be even the alphabet they are used to.)

SHWA

[ə] in Fas occurs in closed syllables, unstressed syllables and heavily stressed syllables. It may be inserted between incompatible consonant sequences. It has not been noticed to occur word finally. There is some evidence that it represents /i/ in these positions.

E.g.   /twu/ 'I give'   /ki/   'I sleep'
       /twuf/ 'you give'   /kəf/   'you sleep'
       /twut/ 'we give'   /kət/   'we sleep'

Conclusion

Fas exhibits a very interesting and complex phonology. A 7/8 vowels system may be unavoidable in the end, but meanwhile we'll work on a 5/6 vowel hypothesis and

consider the high-high vowels derived. A lot more is going on and there are still many unresolved issues, like the exact status of [ə], and late hints of the operation of vowel length. There is also a monosyllabic /ai/ - /ay/ and /oi/ - /oy/ distinction, etc. etc.

Information on these aspects will, hopefully, be made available in due time.

See also: Light from the Dark Ages of Chomsky and Halle's Abstract Phonology.
Counter-feeding in Fas.
Orthographies and Orthographic Mismatches: Fas vs. Melanesian Pidgin

Orthography

Part of the project included the proposal for an orthography. The unfinished nature of the phonological analysis has made this rather tentative. A number of different proposals were made and used. One extensively used in the reading classes in Kilifas village would include.

Phonemic	Orthographic	Example	
i	e	ke	'sleep'
yi	yi	kyi	'they eat'
iy	i	ki	'I eat'
		homophonous with MP 'ki' = English 'key'	
e	eh	feh	'dung'
u	o	so	'he smells (something)'
wu	wu	swu	'it burns'
uw	u	su	'he urinates'
		homophonous with MP 'su' = English 'shoe'	
o	oh	soh	'flower'
ə	v	pvn	'I go'

This orthography leans heavily on the one used in Melanesian Pidgin, and clashes badly with the inherent Fas phonological system.

The latest, still tentative, proposal was:

Phonemes: p t k f s m n ʙ r w y   absence of glottal
Alphabet: p t k f s m n b r w y   h

The use of 'h' to mark absence of glottal was made to facilitate the writing process on English based international keyboards and to harmonize with Melanesian Pidgin, where a word like 'hat' (also English 'hat') is homophonous with Fas /at/ and not [ʔat]

Vowels:	i^1	i^2	i^3	u^1	u^2	u^3	(ə)	ɛ	ɔ	a
Alphabet:	yi	ii	iy	wu	u	uw	i	e	o	a

The system, unfortunately, conflicts with the way the trade language, Melanesian Pidgin, is written. Here is one example:

The word for English 'key' is written 'ki'. The way it is pronounced by Fas speakers of MP is like their word for 'I eat' : 'kiy'.

For more on this problem, see: Orthographies and Orthographic Mismatches: Fas vs. Melanesian Pidgin (1983)

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