

# A Grammatical Sketch of Arapesh

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# Preface

Naturally, all findings herein are tentative.

Orthographic representation of Arapesh words will be given in modified IPA: contrasts that the author does not believe to be phonemic will not be represented orthographically. (For example, [ɛ] and [e] will both be represented as /e/.) Cf. §2.2 for details.

All Arapesh forms were given by Jacob Sonin, one of the few remaining speakers of his variety of Arapesh. Mr. Sonin also speaks English and Tok Pisin.

## 1 Overview

In traditional typological terms, Arapesh is a fusional language. In other words, assuming the way we have segmented Arapesh utterances into words is correct, it appears that (a) the words consist of more than one morpheme on average, meaning it is not isolating, and (b) these morphemes combine with each other in ways that are not purely concatenative, meaning it is not agglutinative.

One of the most marked characteristics of Arapesh is its system of phonological alternations. *Ceteris paribus*, when one noun is switched for a “different” one, the words that in some sense “depend” on it are usually significantly changed. Specifically, in the noun’s “dependent” words, some sounds occur which aren’t predictable just from the noun’s own sounds. For this reason, it is claimed that these changes are not purely phonological, and that instead Arapesh has *word classes*, categories of nouns which determine the inflectional patterns of both the noun and words that depend on it.

Consider these examples:

- (1) **tatudə numbat tagək**  
that dog die  
‘That dog dies’

- (2) **gagidə bog**  
 that pen  
 ‘That pen’
- (3) oruba**igwi** numba**u gwagək**  
 many dogs die  
 ‘Many dogs die’
- (4) **buk**  
 book  
 ‘book’
- (5) orubai**wi bumep**  
 many books  
 ‘many books’

From (1) and (2) we see that the head words’ (*numbat* and *bog*) dependents (*tatudə* and *gagudə*) have inflected based on what we might refer to as *thematic sounds*, which are rendered in boldface. Further, in (1), we see that the predicate being applied to the noun phrase has also taken on this thematic sound.

But consider (3). The sounds that are conditioned by the noun’s class need not be identical to, or even closely resemble, the sound present in the noun’s dependents. Even the thematic sounds of a single noun in the singular and plural numbers need not have any relation *prima facie*: it’s hard to say what *t* and *u* have in common.

We see this happening also in (4) and (5), with the notable difference that *buk* is an English loanword. Apparently, it was incorporated seamlessly into an Arapesh noun class, as it is hard to imagine how else it was granted the plural form *bumep*. This illustrates one of the biggest questions raised by the Arapesh data. We have clear evidence that noun classification is a productive process in Arapesh. What, then, are the criteria by which Arapesh noun classes are differentiated? These criteria could be phonological, semantic, or perhaps neither.

Arapesh’s apparent word order is SVO.

## 2 Phonology

Arapesh's phonemes consist of at most 12 monophthongs and 5 diphthongs, and no more than 25 consonants. Suprasegmentals are largely inert in differentiation of words: any differences in vowel quantity, tone, or nasality seem to be inconsequential at the lexical level. There are two exceptions: (a) owing to the paucity of our data, it is not clear yet whether stress is phonemic, and (b) Arapesh exhibits some vowel alternations that may be indicative of vowel harmony, though it is as yet unclear.

The hunt for these phonemes has been confounded by our consultant's variability in pronunciation, which is often dependent on his degree of enunciation. Of course, this is to be expected in any human speaking a natural language, but this deserves note because of how it has made unclear the degree to which some segments are differentiated. While we might get one "normal" form after prompting our consultant, further prompting, either in the form of a request for repetition or a repetition of our own, sometimes elicits a form that sounds very different to our Anglo ears. These differences can come in the form of quality change (*gənikwadaɪ* vs. *ɡanikwadaɪ*) and elision (*orubaiwi* vs. *orubaɪɡwi*), among others. We and our consultant have done our best to ensure we are getting these more defined, enunciated forms.<sup>1</sup>

Luckily, many of Arapesh's sounds are familiar to the author's ear, but some, especially among the vowels, are foreign and hard to discern. Uncertainty will be noted.

	Labial	Dental	Alveolar	Palatal	Velar	Glottal
Stop/Affr.	p b	t d	$\widehat{tʃ}$ $\widehat{dʒ}$		k g	
Fricative	$\phi$	s			x	h
Flap/Glide			r	j	w	
Nasal	m	n		ɲ	ŋ	

Figure 1: Arapesh consonants

	Initial	Medial	Final
p	worip ‘river’	əpə ‘we’	rowep ‘fruits’
b	bog ‘pen’	ɲibir ‘stomach’	wab ‘night’
t	tapwe ‘(dog) sits’	əmatok ‘woman’	numbat ‘dog’
d	dok ‘today’	nidawik ‘daughter’	NOT OBSERVED
$\widehat{tʃ}$	$\widehat{tʃ}$ up ‘leaf’	e $\widehat{tʃ}$ au ‘bag’	bijet $\widehat{ʃ}$ ‘two (thighs)’
$\widehat{dʒ}$	$\widehat{dʒ}$ uehas ‘hot’	gid $\widehat{ʒ}$ irik	NOT OBSERVED
k	eik ‘I’	okok ‘she’	aduk ‘outside’
g	bog gani ‘pen and ...’	ɲumanigəs ‘(be) cold’	jəmæg ‘face’

Figure 2: Stop and affricate correspondence table

## 2.1 Consonants

**Stops.** Among the stops and affricates, voicing is undoubtedly phonemic in the word-initial and word-medial positions. It is as yet unclear whether Arapesh neutralizes this distinction in the word-final position. Both  $\widehat{dʒ}$  and  $\widehat{d}$  are unobserved in this position, although  $\widehat{b}$  and  $\widehat{g}$  (to the author’s ear) have occurred in this position. It may be that either there are Arapesh words out there yet to be heard with these sounds, or that Arapesh only enforces a voicing neutralization for the postalveolar affricates and dental stops. The latter

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<sup>1</sup>However, it’s worth noting that by doing this we’re imposing our own structure on the data, compromising its integrity in the hope that the enunciated forms will shed more light on the grammatical mechanisms of Arapesh. We must not ignore the “normal” forms, because they are important, and indeed the norm, in everyday speech. Compare the “normal” pronunciation of <photography>, [fəʊtəgrəfi], with its “enunciated” pronunciation, [fəʊtəgrəfi]. Chances are that native English speakers use the former more in organic communication.

is a situation the author has never encountered in a language, so the former seems more likely.

Aspiration, as in English, is not contrastive, although it occurs in some environments more often than in others. For example, /t<sup>h</sup>/ can be heard often word-initially as in *numbat tani* ‘the dog and...’, but it is usually only pronounced reliably word-finally if our consultant is making conscious effort to enunciate.

**Fricatives.** /s/ is a robust phoneme. Consider minimal pair tʃup, ‘page’, tʃus ‘pages’. /ɸ/ and /x/ are found exclusively at the end of words, with the lone exception of /ekixnau/ ‘my tooth’. If we dismiss the /ekixnau/ as perhaps a mishearing of some other form, then these posited phonemes /x/ and /ɸ/ become incredibly suspect. /vx/, /vɸ/, and /vy/ (for some vowel /v/) are all phonetically very similar to an English speaker, who is natively familiar with none of these sequences. And even if we trust that we correctly heard /ɸ/ in some words and /x/ in others, it may very well be that these sounds are in free variation for Arapesh speakers with no great difference in perception. A future test to perform would be to deliberately replace one apparent segment with another, e.g. /x/ for /ɸ/, in an effort to get the consultant to either accept or reject the substitution.

An acceptance would lead us to think that perhaps word-final vowel devoicing is a feature of Arapesh, if we consider the features perceived like [+VELAR] and [+LABIAL] as merely incidental with the devoiced vowel and not characteristic of it. A rejection would lead us closer to a conclusion that Arapesh has these consonant phonemes only word-finally, or some other way of accounting for these sounds.

/h/ is well-supported in the initial and medial positions, as in /auhwi aropa hani/ ‘red cloth and...’, but the author never recorded it in the final position. We then must ask whether it is more likely that there is an imperfection in the analysis or that Arapesh simply does not distribute this sound word-finally. This is not unheard of, as this is the distribution of /h/ in English. But given the phonetic similarity of [h] to [ɸ] and [x], two hypotheses seem most plausible. First, the latter sounds two are allophones of /h/. Second, that /h/ is an

independent phoneme and that [ɸ] and [x] are realizations of an Arapesh ability to end some words with vowel devoicing. It's unclear which is better supported.

**Flaps and glides.** The consultant has produced sounds very close to both [l] and [r]. There's a weak tendency to produce sounds more on the r-side of the spectrum intervocally, with sounds on the l-side elsewhere. But [l] and [r] (as English ears conceive of them) are quite freely varied. Students have tried very many times to give the opposite sound where they heard one (e.g. [əlmatok] after hearing [ərmatok], but the strongest reaction this has produced from our consultant is some mild resistance in the form of raised eyebrows and a repetition of the word as he originally said it.

It's important to remember that Mr. Sonin is competent in two languages that enforce an l-r distinction, English and Tok Pisin. Interference from these two languages could lead to Mr. Sonin conceiving of these two sounds as separate phonemes when he is speaking Arapesh, even if "pristine" Arapesh does not enforce such a distinction. Thus we have reason to question his mild resistance to the "reversed" forms we produced for him. Further, because his pronunciation of [l] and [r] has varied in between the two even in the same positions in the same words (e.g. in /ədɪr/ 'indeed', /nirigəs/ 'families'), the analysis of the two sounds as noncontrastive, forming a single phoneme /r/, is favored, in the absence of a minimal pair to distinguish [r] and [l].

Labiovelar glide /w/ appears more with some consonants than with others. It appears often after /h/, /k/, /g/, /p/, /b/, but never after /t/, /d/, /tʃ/, /dʒ/. If our observations had finished there we would have had grounds to posit labialized analogues of /h/, /k/, /g/, /p/, and /b/, but we also find that /w/ occurs on its own, as in /wab/ 'night' and /wehisi/ 'empty'. The only analysis to save the labialized consonants, then, would be to interpret /w/ in these contexts as /ɥ/, yielding /ɥab/, /ɥehisi/. It is not yet clear from the distribution of the vowels and syllable structure whether this vowel sequence would be desirable or not, so we refrain from advancing the /ɥ/ hypothesis for now and tentatively hold on to a /w/ phoneme.



## 2.2 Vowels

**Monophthongs.** Arapesh has 7 monophthongs, each with some degree of allophony. /i/ is often heard as [ɪ], /u/ as [ʊ], /o/ as [ɔ], and /e/ as [ɛ]. A minimal pair supporting the distinction /i/ and /e/ is /ohurɪgur/ ‘neck’ vs. /ohuregur/ ‘shin’. Minimal pairs for the other vowels have not yet been found, but each monophthong’s ubiquity in every word position lends confidence that they are all fully phonemic.

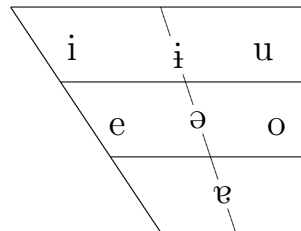


Figure 3: Arapesh monophthongs.

There are a couple caveats. Words with /ɐ/ are sometimes heard at other times with /ə/. For example, Mr. Sonin seems to have produced both [bərəhəbiwi] ‘black’ and variant [bərəhabiwi]. This variation could easily be the listener’s error, and warrants further investigation.

Second, /i/ is a foreign sound for the author. Some words seemed certain to have /i/ in them, such as /ədɪr/ ‘indeed’, but the author fears he has sometimes resorted to transcribing *any* unfamiliar sound as /i/. Some students have reported hearing /ø/ and /y/ in Mr. Sonin’s speech, and the author feels that he may have heard them in some forms (e.g. /atubør ehibør/, ‘a single hair’), but this bears further investigation. Using Praat to analyze the formants of these vowels, while cumbersome, may be worthwhile.

**Diphthongs.** Arapesh has a number of sequences which may be considered diphthongs. The author has at times heard [doək] ‘today’, [əɪtʃɐʊ] ‘string bag’, [møkədəɪ], [eɪk] ‘I’, [oɪtʃup] ‘(Lise) lies’. Some segments exist that are not diphthongized, as in [weroro.ɪni] (not \*[weroroɪni]) ‘young’, leading us to believe that at least some diphthongs have a robust existence. Others such as [əɪ] seem to be allophones of other phonemes, like /e/.<sup>2</sup>

<sup>2</sup>The author is familiar of such a configuration in lower sociolects of Delhi Hindi, where [əɪ] is an allophone of /ɛ:/.

## **2.3 Syllable Structure**

## **2.4 Sandhi**

## **2.5 Unresolved Questions**

1. Is voice neutralized word-finally?
2. Are /x/ and /ɸ/ phonemes?
3. What is the difference between [h] and [ɦ], and does it matter in Arapesh?
4. Is it better to understand [w] as an independent phoneme or to posit labialized consonants?
5. Are [l] and [r] distinct?
6. Does Arapesh have front rounded vowels? Could comparing the formants of the “trouble” vowels give information that untrained ears cannot?
7. Does Arapesh have vowel harmony?

# **3 Morphology**

## **3.1 Nouns**

Discuss noun classes, possible criteria by which they are separated, how they affect adjectives and verbs,

## **3.2 Verbs**

Discuss TAM, different verbal constructions based on semantics.

## 4 Syntax

Discuss possessive construction, adverbial positioning, noncopular predications, case clitics,

## 5 Semantics

Discuss Mr. Sonin’s refusal to say certain things (applying a color word to a class of objects, saying something will happen in the future that he “does not know”, etc.)

## References

1. Dobrin, Lise. Instructor.
2. Sonin, Jacob. Consultant.