

The Role of Homophony Avoidance in Morphology: A Case Study from Mixtec*

Mary Paster
Pomona College

1. Introduction

The Yucunany dialect of Mixtepec Mixtec exhibits suppletive allomorphy in the person-marking (subject/possessor) clitics that seems on its surface to be driven by avoidance of homophony. However, the notion of homophony avoidance in phonology/sound change (both in synchronic grammars and in general) is controversial (see, e.g., Lass 1980, Gessner & Hansson 2004, Blevins & Wedel 2009, Mondon 2009), and by extension this invites skepticism of claims of homophony avoidance in morphology. Extending previous reanalyses of homophony avoidance in sound change allows for an explanatory account of the allomorphy in Yucunany (and, potentially, similar morphological changes in other languages) without reference to a homophony avoidance mechanism in the synchronic grammar.

2. Yucunany Mixtepec Mixtec

Yucunany Mixtepec Mixtec (henceforth ‘Yucunany’ or YMM) is a Mixtec variety spoken in and around San Juan Mixtepec. Previous studies include Pike and Ibach 1978 (on the closely related San Juan Mixtepec Mixtec dialect), Paster and Beam de Azcona 2004a,b (from which the data for this paper are taken), and Paster 2005.

The person markers of YMM are summarized in table 1 below, with the forms of particular interest shown in bold. In this table, ‘L’ stands for a low tone (to be discussed).

Table 1: Yucunany person markers

Person	Number	Pol/Fam	M/F	Incl/Excl	Form
1	sg				yù ~ L
	pl			incl	gó
				excl	weè
2	sg	polite			ní
		familiar			gú ~ ú
	pl	polite			weèní
		familiar			weèyú
3	sg	polite	masc		raà
			fem		í
		familiar			à ~ í ~
					ñaaà
	pl	polite	masc		weèrà
			fem/mixed		weènà
		familiar			wiì

These forms are used to indicate both subjects and possessors, and they occur after the relevant verb or noun. An adjective may intervene between the possessed noun and the person markers, suggesting that these are best treated as enclitics, although Pike & Ibach (1978) treated them as suffixes. The affix/clitic distinction is not crucial for the present purposes, but see Paster and Beam de Azcona 2004a for further discussion.

The first instance of apparent homophony avoidance that we will consider in YMM is in the first person singular marking. 1sg is marked by *yù* when the stem has final L tone, and a L tone allomorph is realized at the end of the stem, creating a falling tone (note: underlining indicates nasalization; data are from Paster and Beam de Azcona 2004a: 73).¹

(1)	a.	nàmá kwíí vílú tínà ncháá tzááku yùúti sí'i kwà'a	'soap' 'narrow/thin' 'cat' 'blue dog' 'corral' 'sand' 'leg' 'man's sister'	nàmáà kwííñ vílúù tínà nchááà tzáákuù yùútiì sí'iì kwà'aà	'my soap' 'I am narrow/thin' 'my cat' 'my blue dog' 'my corral' 'my sand' 'my leg' 'my sister'
	b.	sòkò tutù chá'à ve'e nchá'i	'shoulder' 'paper' 'short' 'black house'	sòkò yù tutù yù chá'à yù ve'e nchá'i yù	'my shoulder' *sòkò 'my paper' *tutù 'I am short' *chá'à 'my black house' *ve'e nchá'i

Notice that if all stems including those in (1b) took the L tone allomorph, then the 1sg form of underlyingly L-final stems would be homophonous with the plain form. For example, the noun *sòkò* 'shoulder' has as its 1sg possessed form *sòkò yù* 'my shoulder'; the form **sòkò* (with a L tone vacuously realized on the stem-final syllable) cannot be used with the meaning 'my shoulder'.

A second example is found in the third person singular familiar forms, which are marked by à when the stem-final vowel is [i], and ì elsewhere (except *ñaà* with some specific lexical items, especially C-final Spanish loanwords) (data are from Paster and Beam de Azcona 2004a: 74).

(2)	a.	sàmá vàá'a tá'a nda'á ma tzá'nu	'clothing' 'bad' 'relative' 'hand' 'grandmother'	sàmâ vàá'i tá'i nda'î ma tzá'nì	'his clothing' 'it is bad' 'his relative' 'her hand' 'her grandmother'
	b.	sí'i kachíí tzí'i	'leg' 'cotton' 'be dying'	sí'aà kachíàà tzí'à	'his leg' *sí'iì 'his cotton' *kachíî 'she is dying' *tzí'iì

The ì of the 3sg 'overwrites' the vowel of the stem-final syllable, rather than occurring after it. Thus, in examples such as *tá'i* 'his relative', the 3sg familiar form has the same number of syllables (and with the same length) as in the plain form *tá'a* 'relative'. For

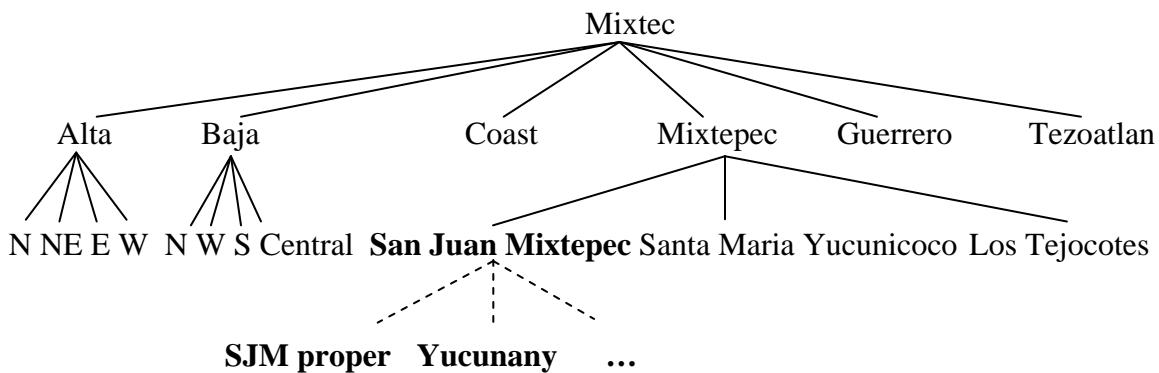
this reason, adding the *i* marker to a stem that already ends in /i/ would result in homophony between the plain and possessed forms. An example is the verb *tzí'i* ‘be dying’, whose 3sg familiar form is *tzí'á* rather than **tzí'i*. Notice, however, that this applies only to forms whose stem ends in a L-toned /i/; the plain form of stems with final /i/ or /í/ would still be distinct from their 3sg form if they took the *i* allomorph. For example, the noun *sí'i* ‘leg’, which ends in a mid-toned /i/, would be phonetically distinct from a form with the *i* marker, which would be **sí'i*, and yet the *i* marker is not used to mark the 3sg familiar form (the correct form is *sí'aá* ‘his leg’). Hence, we can see already that homophony in and of itself will not suffice to explain the observed allomorphy in every case.

3. Mixtec pronouns

Before analyzing the YMM person markers in question, I will turn to some data from other Mixtec varieties to provide some background for the claims about the historical development of person marking in YMM that will be made later in the paper. The varieties to be discussed include some (e.g., San Juan Mixtepec Mixtec) that are closely related to YMM, as well as others that are more distantly related but for which there exist thorough, accessible descriptions.

Figure 1 shows a rough internal classification of Mixtec, inferred and embellished from Josserand 1983: 470. Note that this is not necessarily a universally agreed-upon classification; among other possible differences, some researchers may put Mixtepec Mixtec and Baja Mixtec together in a subgroup to the exclusion of the other four.

Figure 1: Mixtec internal classification



We will first consider the person marking system of San Juan Mixtepec Mixtec proper, as described by Pike & Ibach 1978. The system is summarized in table 2 below.

Table 2: San Juan Mixtepec person markers

Person	Number	Pol/Fam	M/F	Incl/Excl	Form
1	sg	polite		yù	yù
		familiar			L
	pl			incl	kwé
				excl	kó ~ ó
	sg	polite		ní	ní
		familiar			kú ~ ú
2	pl	polite		kwèmeéní (no bound form)	
		familiar		koyú	
	sg	polite	masc	rà	rà
			fem		ñá
		familiar	masc	à ~ i	à ~ i
			fem	á ~ í	á ~ í
		inanimate		ñà	
3	pl	unspecified		ñà	
		familiar	masc	koyì	
			fem	koyí	

The morphemes of particular interest are bolded in the table. Notice that where Yucunany has phonologically distributed allomorphs *yù* and L for 1sg, SJM has these two markers as 1sg polite and 1sg familiar, respectively. In addition, SJM uses both *a* and *i* for 3sg familiar, but their tone patterns distinguish between masculine and feminine, with L tone indicating masculine and H tone indicating feminine. More will be said about these forms later in the paper.

We move next to Ayutla Mixtec, a member of the southern branch of the Baja group. Table 3 summarizes the person markers of Ayutla Mixtec (taken from Pankratz and Pike 1967: 298).

Table 3: Ayutla person markers

Person	Number	M/F	Incl/Excl	Form
1	sg			ì
				è?
	pl	incl		(?)
2	sg			ù?
				(?)
3	pl	masc	rà	
		sg	à?	
	pl	fem	à?	
		ñà		ñà

Some morphemes of interest are shown in bold. As can be seen in the table, in Ayutla, the 1sg marker is *i*. This could be etymologically related to the L allomorph of the 1sg in YMM, or to the *i* allomorph of the 3sg familiar (or to neither). The 3sg feminine marker in Ayutla is *à?*, which may relate to the *à* allomorph of the 3sg familiar in YMM. And finally the 3pl marker *ñà* may be related to the *ñaà* allomorph of the 3sg familiar in YMM.

The next language we will consider is Jicaltepec Mixtec, which belongs to the Coast Mixtec group. The person markers of Jicaltepec Mixtec are summarized in table 4 (based on Bradley 1970: 25, 45, 49-50).

Table 4: Jicaltepec person markers

Person	Number	M/F	Incl/Excl	Form
1	sg			í ~ é
			incl	yòò (free form)
	pl		excl	dú?ú (free form)
2	sg			ú ~ ó
	pl			dí
3		masc		rá
	sg		fem	ña
	pl			ñí

In Jicaltepec Mixtec, the 1sg has an allomorph *i*, which may be related etymologically to the YMM 3sg familiar marker *i*. The 3sg feminine marker *ña* is also likely related to the YMM 3sg familiar allomorph *ñaà*.

The person marking system of Chalcatongo Mixtec, a member of the central branch of the Alta Mixtec group, is summarized in table 5 (Macaulay 1996: 139).

Table 5: Chalcatongo person markers

Person	Number	Pol/Fam	M/F	Form
1	sg	polite		na
		familiar		rí
	pl			žó
2		polite		ní
		familiar		ro
		familiar	masc	ðe
			fem	ña
3	polite			to

In this language, the only good candidate for a person marker relating to the YMM markers we are looking at is the 3rd person familiar feminine marker *ña*, which likely relates to the YMM 3sg familiar *ñaà* allomorph.

Having seen some person markers in other varieties of Mixtec that may be historically related to those found in modern YMM, in section 4 we will consider a possible scenario for the historical origin of the patterns observed in YMM.

4. The origin of ‘homophony avoidance’ in Yucunany

In this section I present a hypothesis for how the apparent homophony avoidance observed in YMM, discussed in section 2, may have originated in the historical development of the language. Crucially, I will show how these patterns may have originated without any specific reference to homophony (or to the avoidance thereof).

Recall from section 3 that in SJM (Pike and Ibach 1978), *yù* marks 1sg polite, while a final L tone marks 1sg familiar. Recall also that YMM has a polite vs. familiar distinction in the 2sg and 3sg, but not in the 1sg. These facts taken together suggest that at an earlier stage, YMM (or its predecessor) also had a polite-familiar distinction in the 1sg, which was later lost.

Unlike in Yucunany, in SJM there are many examples of L-final roots that take a final L tone marker (of the 1sg familiar), since SJM does not exhibit the phonologically conditioned allomorphy found in Yucunany. This means that in SJM there are some forms where the 1sg familiar is homophonous with the plain form of the root, as seen in (3) (examples are from Pike and Ibach 1978: 281).

- | | | |
|-----|------------------------|--------------------------|
| (3) | šišì ‘aunt’ | šišì ‘my aunt’ |
| | tívì ‘is blowing’ | tívì ‘I am blowing’ |

Based on this fact about SJM, below is a proposed history of the Yucunany 1sg allomorphy.

I begin with the hypothesis that with respect to 1sg marking, SJM proper reflects the pattern that was found in Proto-Mixtepec Mixtec, shown in (4).

(4) <i>Proto-Mixtepec Mixtec</i> (attested in SJM proper)			
<u>Root type</u>	<u>Plain form</u>	<u>1sg familiar</u>	<u>1sg polite</u>
final L	final L	final L	<i>yù</i>
final M	final M	final L	<i>yù</i>
final H	final H	final L	<i>yù</i>

Notice that at this stage, as in SJM proper, the plain and familiar forms are homophonous for 1sg polite forms of L-final roots.

At the next stage, which I term ‘Early Yucunany Mixtepec Mixtec’, the semantic distinction between polite and familiar in the 1sg has been lost. At this stage, both forms of the 1sg marker still exist in free variation. This is shown in (5).

(5) <i>Early Yucunany Mixtepec Mixtec</i>		
<u>Root type</u>	<u>Plain form</u>	<u>1sg</u>
final L	final L	final L ~ yù
final M	final M	final L ~ yù
final H	final H	final L ~ yù

At this stage, each type of stem has two possible 1sg forms, but L-final stems have only one form that is not homophonous with the stem itself. This is important because in some contexts where a L-final root is marked with a redundant final L tone, the intended 1sg form may be mistaken for a plain form if the 1sg meaning is not of critical relevance in the discourse. Blevins & Wedel's (2009) 'Lexical Character Displacement' proposal makes use of this notion in accounting for the failure of sound change to apply where it creates homophony between words in lexical competition. Assuming that the L and *yù* allomorphs are used by speakers with equal frequency, the majority of underlyingly L-final stems that are understood by the listener to be 1sg forms will have the *yù* allomorph rather than the floating L tone. Since it is used more frequently than the floating L tone, the *yù* allomorph ultimately 'wins out', becoming the only 1sg marker to be used with L-final roots, as in the 'Intermediate Yucunany Mixtepec Mixtec' stage schematized in (6).

(6) *Intermediate Yucunany Mixtepec Mixtec*

<u>Root type</u>	<u>Plain form</u>	<u>1sg</u>
final L	final L	<i>yù</i>
final M	final M	final L ~ <i>yù</i>
final H	final H	final L ~ <i>yù</i>

At this intermediate stage, one possible development is for the 1sg of M- and H-final roots to be marked only by *yù*, by analogy with L-final roots. Instead, in modern Yucunany, M- and H-final roots converge on the floating L tone as the marker of 1sg, as schematized in (7).

(7) *Modern Yucunany Mixtepec Mixtec*

<u>Root type</u>	<u>Plain form</u>	<u>1sg</u>
final L	final L	<i>yù</i>
final M	final M	final L
final H	final H	final L

A possible explanation for this last development is that speakers picked up the discrepancy between the existence of the L-final 1sg forms for M- and H-final roots on the one hand, vs. the lack of L-final 1sg forms for L-final roots on the other hand. This could have led to the generalization that *yù* is used with L-final roots while the floating L tone is used with M- and H-final roots.

The point of the above demonstration is that the pattern of tone-conditioned suppletive allomorphy could have emerged in Yucunany Mixtepec Mixtec without necessarily being *driven* by homophony avoidance. This explanation accommodates the fact that Mixtepec Mixtec probably did exhibit homophony between 1sg and plain forms of L-final roots, and that SJM still does (or did, in 1978).

We now move to a discussion of the 3sg familiar. First, suppose that the pre-Proto-Mixtepec Mixtec 3sg person marking system was as shown in table 6 (i.e., just like modern SJM proper but without the 3sg familiar allomorphy).

Table 6: Pre-Proto-Mixtepec Mixtec 3sg markers

3	sg	polite	masc	*rà
			fem	*ñá
		familiar	masc	*à
			fem	*í
		familiar	inanimate	*ñà

Then the relevant changes between pre-Proto-Mixtepec Mixtec and Proto-Mixtepec Mixtec would be as shown in table 7 (in bold).

Table 7: Changes from pre-Proto-Mixtepec to Proto-Mixtepec 3sg markers

3	sg	polite	masc	*rà
			fem	*ñá
		familiar	masc	*à + ì
			fem	*í + á
		familiar	inanimate	*ñà

At the stage of pre-Proto-Mixtepec Mixtec, the plain and 3sg familiar forms would have been as shown in (8). The forms in (8a) have underlying final vowels that are neither *a* nor *i*, so there is no risk of homophony with either the masculine or feminine 3sg familiar forms. In (8b), however, the roots have final *i* or *a*, so there is the possibility of homophony, particularly in the bolded examples.

(8) Pre-Proto-Mixtepec Mixtec plain vs. 3sg familiar forms

		Plain	3sg familiar
a.	'shoulder'	sòkò	sòkà (masc.)
	'cat'	vílú	vílà (masc.)
	'house'	ve'e	ve'à (masc.)
b.	'bird'	saà	saà (masc.)
	'hat'	xînì	xînà (masc.)
	'salsa'	nchá'á	nchá'áà (masc.)
	'black'	nchá'i	nchá'à (masc.)
			sòkí (fem.)
			vílí (fem.)
			ve'í (fem.)
			saií (fem.) ²
			xîní (fem.)
			nchá'í (fem.)
			nchá'í (fem.)

A possible context for the introduction of *i* and *á* allomorphs in Mixtepec Mixtec would be one where the gender of a possessor was unknown or not particularly relevant. These could be mistaken for plain forms, contrasting only with a single (animate) 3sg form. Most nouns would have had separate masculine vs. feminine 3sg familiar forms, both distinct from the plain form in (8a). But on the basis of words like 'bird' and 'hat', a possible generalization is that the 3sg of *i*-final roots is formed with *a*, while the 3sg of *a*-final roots is formed with *i*.³

Given the system in table 7 for Proto-Mixtepec Mixtec, the relevant changes giving rise to modern YMM would be as shown in table 8.

Table 8: Changes from Proto-Mixtepec to Yucunany 3sg pronouns

3	sg	familiar	masc	*rà > raà
			fem	*ñá > Ø
				*à ~ *í
				*í ~ *á > Ø
			masc/fem/inan	*ñà > ñaà

In Yucunany, the masculine/feminine/inanimate distinction is lost in the 3sg familiar. As these categories collapse, the *á* allomorph is lost entirely, the *í* allomorph is reinterpreted as 3sg feminine polite, and the *ñà* allomorph, now *ñaaà*, becomes restricted to occurring with a small number of lexical items.

In this scenario, the change from Proto-Mixtec to Mixtepec Mixtec would have introduced the *i* ~ *a* allomorphy in the 3sg and this would not have been driven by homophony avoidance, but by ‘listener error’ in parsing forms that were already homophonous with other forms in the same paradigm.

5. Conclusion: homophony avoidance in morphology as an emergent phenomenon

The objection to homophony avoidance as an inhibitor of regular sound change is based largely on the Neogrammarian view that sound change is regular and blind. Homophony avoidance as a driver of morphological change does not encounter this problem directly, but there are at least three *a priori* reasons to reject homophony avoidance as a mechanism in morphological change.

First, it is teleological; knowledge of language (including morphology) is thought to be unconscious and therefore ought not be subject to the ‘desire’ of a speaker to avoid homophony. Second, avoidance of homophony requires the speaker to compare the potential pronunciation of a word with the hypothetical pronunciation of other words, which would necessitate an immense amount of redundant lexical storage and computation. Finally, phonologically driven morphological homophony avoidance effects would likely be analyzed using the same anti-homophony mechanisms that have been proposed for phonology, e.g., Crosswhite’s (1999) ANTI-IDENT constraint, so if they are successfully argued against as phonological constraints then they should not play a role in morphology either.

Blevins & Wedel (2009) describe how ‘competition’ between two similar words may inhibit a regular sound change. If the change pushes words A and B closer together phonetically, and if A and B are confusable in some contexts, then some tokens of A that approach the phonetic target for B may be misattributed to the B category. Tokens of A that clearly differ from B will always be ‘counted’ as tokens of category A. Over time, this will naturally cause A and B to diverge.

This is essentially identical to Mondon’s (2009) model of homophony avoidance in sound change, based on Labov’s (1994) Facultative Theory. The idea is that some

tokens of a word A that is undergoing a sound change will be misunderstood as tokens of word B, if the completed sound change would make A homophonous with B. As a result, learners conclude that the sound change does not apply in those environments where the misunderstandings most frequently occur. This same mechanism may apply in morphology, as described above – in this case driving a change, rather than inhibiting a change. Future research will show whether this is a widespread phenomenon and whether other such cases can be explained the same way.

Notes

* Many thanks to the participants in Pam Munro's American Indian Seminar at UCLA for helpful comments on an earlier version of this paper, and to the audience at WAIL for discussion after the talk on which this paper is based.

¹ The practical orthography devised for this language does not reflect vowel length, in that it uses a vowel symbol for each element of a contour tone. Therefore, the 1sg forms using the L tone allomorph, while they appear based on the transcriptions to also have a lengthened final vowel, do not get an additional full unit of vowel length added to the stem. They do undergo a small amount of phonetic lengthening relative to the vowel of the plain form of the stem, but the resulting vowel is still not as long as a true long vowel.

² Note, however, that our consultant reported that animals cannot be possessed, at least in his idiolect. Therefore, the ‘bird’ examples should only be considered representatives of possible types of examples, since they may not have been attested examples themselves.

³ Admittedly this ignores tone, so it does not work perfectly for other words like ‘salsa’ or ‘black’. However, we need not assume that the tones were the same in pre-Proto-Mixtepec Mixtec as they are in modern Yucunany. A full reconstruction of tone in earlier stages of the language is outside the scope of this paper.

References

- Bradley, C. Henry. 1970. ‘A linguistic sketch of Jicaltepec Mixtec.’ *Summer Institute of Linguistics Publications in Linguistics and Related Fields* 25. Norman, Oklahoma: Summer Institute of Linguistics of the University of Oklahoma.
- Blevins, Juliette and Andrew Wedel. 2009. ‘Inhibited sound change: An evolutionary approach to lexical competition.’ *Diachronica* 26.2: 143-183.
- Crosswhite, Katherine. 1999. ‘Intra-paradigmatic homophony avoidance in two dialects of Slavic.’ *UCLA Working Papers in Linguistics* 1, *Papers in Phonology* 2, ed. by Matthew Gordon. ROA 581-0203.
- Gessner, Suzanne and Gunnar Ólafur Hansson. 2004. ‘Anti-homophony effects in Dakelh (Carrier) valence morphology.’ *Proceedings of the 30th Annual Meeting of the Berkeley Linguistics Society*, ed. by Marc Ettlinger, Nicholas Fleischer, and Mischa Park-Doob, 93-104. Berkeley, CA: Berkeley Linguistics Society.

- Ichimura, Larry K. 2006. *Anti-Homophony Blocking and its Productivity in Transparadigmatic Relations*. PhD. dissertation, Boston University.
- Josserand, Judy Kathryn. 1983. *Mixtec Dialect History*. PhD. dissertation, Tulane University.
- Labov, William. 1994. *Principles of Linguistic Change, Volume 1: Internal Factors*. Oxford: Blackwell.
- Lass, Roger. 1980. *On Explaining Language Change*. Cambridge: Cambridge University Press.
- Macaulay, Monica. 1996. *A Grammar of Chalcatongo Mixtec*. University of California Publications in Linguistics Volume 127. Berkeley, CA: University of California Press.
- Mondon, Jean-François. 2009. *The Nature of Homophony and its Effects on Diachrony and Synchrony*. PhD. dissertation, University of Pennsylvania.
- Pankratz, Leo and Eunice V. Pike. 1967. ‘Phonology and morphotonemics of Ayutla Mixtec.’ *International Journal of American Linguistics* 33.4: 287-299.
- Paster, Mary. 2005. ‘Tone rules and representations in Yucunany Mixtepec Mixtec.’ Paper presented at the Society for the Study of the Indigenous Languages of the Americas Annual Meeting, Oakland, California.
- Paster, Mary and Rosemary Beam de Azcona. 2004a. ‘A phonological sketch of the Yucunany dialect of Mixtepec Mixtec.’ *Proceedings of the 7th Annual Workshop on American Indian Languages*, ed. by Lea Harper and Carmen Jany, 61-76. UC Santa Barbara.
- Paster, Mary and Rosemary Beam de Azcona. 2004b. ‘Aspects of tone in the Yucunany dialect of Mixtepec Mixtec.’ Paper presented at the Conference on Otomanguean and Oaxacan Languages, University of California, Berkeley.
- Pike, Eunice V. and Thomas Ibach. 1978. ‘The phonology of the Mixtepec dialect of Mixtec.’ *Linguistic and Literary Studies in Honor of Archibald A. Hill, Volume 2: Descriptive Linguistics*, ed. by Mohammed Jazayery, Edgar C. Polomé, and Werner Winter, 271-285. The Hague: Mouton.