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The Effect of Language Shift on a Sound
Change in Progress

Maya Ravindranath*

*University of Pennsylvania

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Abstract

The literature on variation in endangered languages has largely focused on the structural and stylistic simplification that occurs when languages contract or on cases where variation is introduced through interference in the form of a non-native variant that exists alongside a native form (Dorian 1981, Mougeon and Beniak 1981; Aikhenvald 2002; Campbell and Muntzel 1989; among others). Some studies have considered the effect of language shift or moribundity on variation that existed in the healthy language. King's (1989) study of Newfoundland French, for instance, concludes that variation can be maintained in dying languages, but the variation no longer carries the social meaning that it did in a healthier speech community. This paper, on variable /r/-deletion in Garifuna, presents an apparent change in progress in an endangered language and explores the effect of incipient language shift on previously existing variation.

Garifuna is an Arawak language spoken in disparate communities throughout Central America. It is a moribund language in most of the Garifuna communities in Belize, where speakers are variably trilingual in Garifuna, English, and Belizean Creole (BC). In the village of Hopkins intergenerational transmission of Garifuna still occurs but locals and non-locals alike believe that Hopkins will follow the path of nearby Garifuna communities in shifting to English and BC, abandoning the use of Garifuna entirely.

The /r/-deletion data in this paper come from speech samples of 26 Hopkins speakers (16F, 10M), ranging in age from 6 to 65. All speakers were asked to tell a story based on a children's picture book (Mayer 1967), and the recordings were coded for deletion of the variable /r/. This variable (previously reported on by Hagiwara, ms) was chosen as an example of a sound change that is not likely to be a result of language contact. Post-vocalic /r/-vocalization exists in BC, but /r/ in Garifuna only occurs intervocalically and thus the environment is different from that of /r/-vocalization in BC, where it occurs in preconsonantal or word-final positions.

An apparent time (Labov 1963) analysis of the data suggests that deletion of /r/ is a female-led change in progress: each successive age group shows increased deletion of /r/, and women lead in rate of deletion within each age group. This report is the first to describe this variation as a change

*Many thanks to Gillian Sankoff, David Embick, Bill Labov and Michael Friesner for comments on this paper, to Zita Castillo for help with the Garifuna material, and to the SAS Dissertation Research Fellowship for funding this first portion of my dissertation fieldwork.

in progress, and it concludes that the progression of a change akin to that in a healthy language may occur even while the language community is undergoing shift.

The Effect of Language Shift on a Sound Change in Progress

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1 Introduction

The literature on variation in endangered languages has largely focused on the structural and stylistic simplification that occurs when languages contract, or on cases where variation is introduced through interference in the form of a non-native variant that exists alongside a native form (Dorian 1981, Mougeon and Beniak 1981; Aikhenvald 2002; Campbell and Muntzel 1989; among others). Some studies have considered the effect of language shift or morbidity on variation that existed in the healthy language. King's (1989) study of Newfoundland French concludes that variation can be maintained in dying languages, but the variation no longer carries the social meaning that it did in a healthier speech community, and Silva-Corvalán (1986) finds that language attrition through contact with English has accelerated the diffusion of an internally motivated change in Los Angeles Spanish. This paper explores the topic further by looking at sound change in a language that is still spoken, in a healthy and vibrant speech community, but that is likely to be on the verge of morbidity if current conditions persist. The paper reports on variable /r/-production in Garifuna and presents two types of sound changes affecting production of /r/: one that is likely to be as a result of language contact with English (an *externally motivated* change) and one an apparent change in progress (an *internally motivated* change).

Garifuna is an Arawak language (Taylor 1977) spoken in disparate communities throughout Central America. It is a moribund language in most of the Garifuna communities in Belize, where speakers are variably trilingual in Garifuna, English, and Belizean Creole (BC). In the village of Hopkins, intergenerational transmission of Garifuna still occurs, but locals and non-locals alike believe that Hopkins will follow the path of nearby Garifuna communities in shifting to English and BC, thus abandoning the use of Garifuna entirely.

This paper is part of a larger study on the necessary elements for successful language transmission of an indigenous minority language, where I also explore the competing social and linguistic forces that contribute to either language maintenance or shift in this community.

2 Background and Locus of the Study

Garifuna has a unique language contact history, even in the Caribbean, where extensive language contact is the norm. The history of the Garinagu¹ begins with the Arawak, Amerindians from the South American continent who migrated to the island of St. Vincent in the Lesser Antilles sometime around 600 A.D. Three or four centuries later the Arawak were followed by Carib Indians, also from the Amazonian basin, and by the time Europeans arrived in the New World the two groups had intermarried and were speaking a language with Arawak grammatical structure and a mixture of Carib and Arawak vocabulary.

The first Africans are widely believed to have reached St. Vincent in 1635, on two slave ships which shipwrecked somewhere off the coast of the island. At some point these Africans, along with marooned slaves from nearby islands, mixed with the Carib-Arawak population that was already living on the island. This new group was called *Black Caribs*. The Black Caribs in St. Vincent were involved in hostilities between the French and the English throughout the eighteenth century, and were mostly allied with the French. The linguistic implications of this are that there are a great number of French borrowings in Garifuna, including all of the numbers above three.

In 1797, sometime after St. Vincent officially became a British colony, the British deported about 5000 Black Caribs (now known as *Garinagu*) from St. Vincent to the island of Roatan, off

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¹*Garinagu* is the term usually used for the people, while *Garifuna* is used for the language and as the adjectival form.

the coast of Honduras. The Caribs who were deported to Honduras were, by this time, a group of people with African features and few if any Amerindian physical features who spoke an Arawakan language with extensive borrowing from Carib and French but with very little evidence of African grammatical influence (though there are a handful of lexical items from African languages).

From Roatan, throughout the 19th century, groups of Garinagu moved up along the Honduran coast to Belize and eastward along the coast as far south as Bluefields, Nicaragua. In most of these settlements they came into contact with English-speaking slaves, former slaves, and former slave-owners, which accounts for the high numbers of English speaking Garinagu even in Spanish-speaking Central America. The largest migration to Belize came in 1832.

2.1 Structural Background

Today, Garifuna is one of about 40 living Arawak languages. It is the only Arawak language currently spoken in Central America, and, despite the fact that it is moribund in many of the communities where it was once spoken, remains the language with the largest population of speakers in the Arawak family, which itself contains the largest number of languages in South America (Aikhenvald 1999:65). Despite its unique history of language contact, the phonemic inventory of Garifuna, shown in Table 1, does not diverge significantly from the rest of the Arawak family (Aikhenvald 1999:76), and for the most part has changed little since Taylor's (1955) description of the Hopkins dialect. The one exception to this generalization is the focus of this paper.

| | | | | |
|---|---|----|---|---|
| p | t | | k | |
| b | d | | g | |
| f | s | | | h |
| | | ch | | |
| m | n | ñ | | |
| | l | r | | |
| w | | | | |

Table 1: Phonemic inventory of Garifuna²

2.2 Language Shift in Hopkins

The Garifuna communities in Belize are shown in the map in Figure 1. They include the mostly ethnically homogenous villages of Hopkins, Seine Bight, Georgetown, and Barranco, as well as the two larger and more heterogeneous towns of Dangriga and Punta Gorda. Of these six communities, Hopkins remains the only one where the majority of children are still learning Garifuna and using it with each other. As with all Garinagu in Belize, Garifuna speakers in Hopkins over the age of five are all multilingual in English and BC. Many children of pre-school age are monolingual in Garifuna, but most have at least some knowledge of English and/or BC. The case of Garifuna in Hopkins is either one where language shift is delayed but imminent, following the trend of other Garifuna communities, or one where some set of sociocultural factors has ensured the success of continuing language transmission despite the fact that apparently similar communities have ceased to transmit their historical ethnic language. In either case, so far the language has been maintained. But it seems clear that social and economic pressure to do otherwise might soon cause the loss of Garifuna in Hopkins as well.

The village of Hopkins is located in the southern part of Belize, on the coast, about 20 miles by road to Dangriga, the closest town and the economic capital of the district (in the sense that villagers must go to town pay bills, do their banking, and do much of their shopping). The

²I follow here the orthography of Cayetano (1992), where 'y' is a palatal glide, 'ñ' is a palatal nasal, and 'ch' is a voiceless palatal affricate. This last phoneme, however, is variable in Belizean Garifuna (as well as in the English of some older people from Hopkins) between an affricate and a fricative with the same place of articulation.

village has a total population of about 1700, almost a quarter of which is made up of school children aged four to thirteen. High school students must travel to Dangriga daily to attend school.



Figure 1: Map of Belize, from *CIA: The World Factbook* (Garifuna communities added by author)

Until recently the primary sources of income in Hopkins were fishing and farming. In the last ten years, however, the number of foreign-owned tourist resorts has gone from one to seven, not including any of the small hotels or other foreign-owned small businesses in the village. Work in the tourism service industry is now the primary source of income in the village for many if not most families.³ One outcome of the increase in tourism is an increase in the number of non-Garinagu living in the village, a population that now includes Chinese, Creoles, Spanish-speaking people from Belize and other parts of Central America, as well as Americans and Canadians. This may prove to be the most important factor in considering language shift in Hopkins, as more and more non-Garifuna-speaking children move into the village and interact with Hopkins children, more often than not shifting the language of interaction to BC, the *lingua franca* that unites all Belizeans.

3 Two Types of /r/-variation in Garifuna

3.1 Externally-motivated Change: [r], [r] ~ [ɹ]

Aikhenvald (1999) writes that a typical Arawak language has a single liquid phoneme with either a flap or a lateral articulation. She includes Garifuna in the category of languages that have one lateral and one rhotic, which she defines as being a trill in Garifuna. Breton (1667), who described the language as it was spoken in the Caribbean in the 1600's, also describes it as a trill, and Douglas Taylor (1955), who described the language as it was spoken in Hopkins in the 1950's describes the /r/ phoneme as a "tapped or mildly trilled apical [r]." In contrast to all of these descriptions Hopkins speakers today mostly use a retroflex approximant of the American English variety. The tapped variety is found very rarely, and generally among older speakers; most speakers do not use this variety at all in casual speech. Clearly a change has occurred, and this change seems very likely to be as a result of contact, as the English and Creole that are spoken by every Garifuna

³Remittances from relatives living in the U.S. were, and still are, a major source of income for most families in Hopkins. The replacement of fishing and farming with work in the tourist industry has not had an effect on this source of income.

speaker in Hopkins also use a retroflex /r/. In my experience this same change has not occurred in Guatemala or Honduras, where speakers are generally bilingual in Spanish and are not speakers of English. Neither is it as common in the southernmost Belizean village of Barranco, where speakers do alternate with a retroflex /r/ but are regular users of the tap /r/ in casual speech. I attribute this to the fact that speakers in Barranco are very close to the Guatemalan border and are in regular contact with speakers in the Garifuna town of Livingston in Guatemala.

This shift, from a tap to a retroflex /r/, seemingly falls under the category of what in the shift and attrition literature have been labeled *externally* motivated changes, or sometimes, *convergence*. An externally motivated change is, simply speaking, one that appears to be as a result of contact with the dominant language. Whatever the social motivation for acquiring the retroflex /r/ might be, the linguistic outcome is a structural change to the phonemic inventory, where one phoneme, the Garifuna rhotic, is replaced with another phoneme (the American English rhotic), from the second language. More often than not the changes that have been described in moribund languages are of the externally-motivated variety, as speakers of the moribund language transfer structural aspects of the expanding language to the shrinking language, but of course externally-motivated changes are not limited to moribund languages, and the existence of convergence phenomena does not necessarily portend language attrition (see Romaine 1989 and Woolard 1989, for a discussion of some of these issues and on the potential problems with labeling internally- and externally-motivated changes).⁴

In the pilot experiment described below I coded speakers' production of /r/ and found instances of the tap /r/ in only one of my speakers, a 65-year old male. In casual speech this speaker generally uses the retroflex /r/, but often uses the tap in formal contexts such as reading the Bible or when talking prescriptively about correct use of the language. Clearly use of the tap is on its way out in Hopkins Garifuna, and the shift to retroflex /r/ is almost completed.

3.2 Internally-motivated Change: /r/ ~ Ø

The second type of variation in this phoneme is the variable deletion of /r/. Devonish and Castillo (2002) mention /r/-deletion, as does Hagiwara (no date). Neither describes the variation as a change in progress; Devonish and Castillo describe it as a dialectal feature of Seine Bight Garifuna. Both write that /r/-deletion is sensitive to rate and register. During my preliminary work on Garifuna I unexpectedly came across the realization that /r/-deletion is also variable according to a speaker's age, and this encouraged me to explore the possibility of it being a change in progress. If this variation is indeed a change in progress, it is a change from below (Labov 1994:78), in the sense that speakers are not conscious of the variation, and as we will see below, the change is language-internal and not borrowed or externally motivated.

All of the examples (1–9) below exhibit deletion in my data. Deletion generally occurs intervocally, but also occurs word-initially in at least one case, as in (6). Deletion is not restricted to underived forms; it happens in both morphologically simple forms and in morphologically complex forms such as (1, 3, 8), where it occurs across a morpheme boundary. When deletion occurs between *a* and *i*, as in (9) or between *a* and *u*, as in (7, 8), we can get *vowel coalescence* (Hagiwara ms.) both within and across morpheme boundaries, so that *a + i > ei*, and *a + u > ou*. However, this is not always the case, as we can see in (1), where *a + i > ai*, and no vowel coalescence occurs.

- (1) *t-arigi* 'after (her)' ([taɾigi] ~ [taigi])
- (2) *barana* 'sea' ([baɾana] ~ [ba:na])
- (3) *erenga* 'to tell' ([ɛɾɛnga] ~ [ɛ:nga])
- (4) *l-iri* 'his-name' ([liɾi] ~ [li:])
- (5) *wurinouga* 'yesterday' ([wuɾinouga] ~ [wuinouga])

⁴Whether linguistic convergence (or externally-motivated change) should be interpreted as mutually exclusive phenomena (Cook 1989, 1995) or not (Bullock and Gerfen 2004), and whether convergence is necessarily a portend of language attrition, is a topic beyond the scope of this paper.

- (6) *ru* ‘to give’ ([ɹu] ~ [u])
 (7) *haruga* ‘tomorrow’ ([haɹuga] ~ [houga])
 (8) *duna-rugu* ‘in the water’ ([dunəɹugu] ~ [dunougu])
 (9) *ariha* ‘to see’ ([aɹiha] ~ [eiha])

To the extent that we can define changes in language as being either externally motivated or internally motivated, the first type of variation in Garifuna appears to be externally motivated and the second, internally. While the variation between flap and retroflex *r*, and the consequent shift toward the retroflex *r* seems to be as a result of language contact, there is as yet no reason to believe that *r*-deletion in Garifuna is anything other than an internal sound change of the type that we might see in any healthy language.

Belizean Creole does have vocalization of post-vocalic *r*, and corresponding lengthening of the vowel when *r* is deleted, as is common in many varieties of English and English-lexified creoles. As in these languages, /r/-vocalization is most common word-finally, as in: *labsta* ‘lobster’, *dalla* ‘dollar’, *waata* ‘water’, and *shuga* ‘sugar’. However, /r/-vocalization in Creole, as in /r/-less varieties of English, does not extend to the loss of intervocalic *r*, and /r/-deletion in Garifuna is therefore very unlikely to be as a result of contact with *r*-less varieties of English, where only in a few extreme cases is intervocalic *r* deleted.

My hypothesis is that the change toward a retroflex *r*, therefore, is contact-induced, and that *r*-deletion is an internal change that was started before the first change was finished. In order to explore this hypothesis further I conducted a story-telling experiment with twenty-six Hopkins speakers, ranging in age from 6 to 65.

4 Exploring *r* variation in Garifuna

4.1 Experiment

The 26 speakers were asked to participate in a short linguistic task. Sixteen females and ten males, ranging in age from 6 to 65, were asked to look at Mercer Mayer’s (1967) picture book, *A Boy, a Dog, and a Frog*, and tell the story in Garifuna. As might be expected with this unusual task, speakers treated the task fairly formally, and some speakers, especially younger ones, made a conscious effort to tell the story completely in Garifuna without using English/Creole words. The style of speech is therefore fairly formal, but not as formal as a controlled style of reading, since the speakers were telling the story based on pictures, and therefore were not influenced by orthography. Except for two individuals, all of my speakers under 25 were telling the story with only peers around them. The majority of the older speakers were telling the story with children present.

4.2 Results

The raw results of this pilot experiment are shown in Table 2. Based on dictionary pronunciation (Cayetano 1993) of the words, each speaker’s rendition of the story was coded for number of times *r* was deleted over the number of possible environments for deletion, resulting in a deletion percentage for each speaker, shown in the far right column. The total number of tokens for a given speaker ranges from only 18 for one of my youngest speakers, to 125 for one particularly eloquent story-teller, so we are working with a relatively small *n*. Nonetheless, the results are interesting. Roughly, we see that deletion rates are higher for women than they are for men, and that deletion rates increase in younger speakers. This trend is underscored when we see the data as presented in Figures 1 and 2.

Figure 1 shows deletion rates for each of the speakers according to their age. The upward slope of the line suggests a change in progress taking place, visible in apparent time (Labov 1963). Although the regression line does not show a very good fit to the data ($R^2 = .46$), we do see a clear trend toward increased deletion of *r* by younger speakers which, combined with the historical data, suggests a change in progress.

Furthermore, when the sample is pooled into age groups and divided by gender, as in Figure 2, the chart shows that in each age group women are deleting more than men. This pattern

of women leading change is not unfamiliar in the sound change literature (Cedergren 1973, Trudgill 1974, Wolf and Jiménez 1979, Haeri 1996, among many others) and as such may be seen as further indication that deletion of *r* in Garifuna is a change from below (following Labov 1994).

| Speaker | Age | Total N | % deletion |
|---------|-----|---------|------------|
| F14S | 6 | 22 | 41% |
| F16A | 7 | 32 | 56% |
| F15S | 9 | 18 | 72% |
| F13I | 11 | 29 | 76% |
| F1KW | 13 | 18 | 44% |
| F10NC | 18 | 54 | 33% |
| F12ML | 18 | 42 | 62% |
| F2JC | 18 | 52 | 56% |
| F3P | 26 | 39 | 62% |
| F4CN | 28 | 111 | 59% |
| F5AL | 29 | 67 | 49% |
| F6AN | 29 | 33 | 39% |
| F7SC | 38 | 45 | 13% |
| F11PM | 50 | 125 | 30% |
| F8LS | 50 | 63 | 35% |
| F9MC | 59 | 70 | 21% |
| M7RC | 9 | 40 | 40% |
| M6AH | 11 | 27 | 44% |
| M9I | 12 | 47 | 45% |
| M4S | 13 | 50 | 58% |
| M8KC | 21 | 74 | 41% |
| M1A | 25 | 60 | 32% |
| M3KM | 30 | 78 | 32% |
| M2K | 43 | 64 | 34% |
| M10LC | 50 | 56 | 25% |
| M5RC | 65 | 89 | 18% |

Table 2: Sample and results

The age groups in Figure 2 correspond to generational groups in Hopkins: “Over 45” represents grandparents; “26–45”, parents; “15–25”, youth and young parents; and “Under 15”, school-age children. Thus, an apparent time (Labov 1963) interpretation of the data suggests that deletion of *r* is a female-led change in progress: each successive age group shows increased deletion of *r*, and women lead in rate of deletion within each age group.

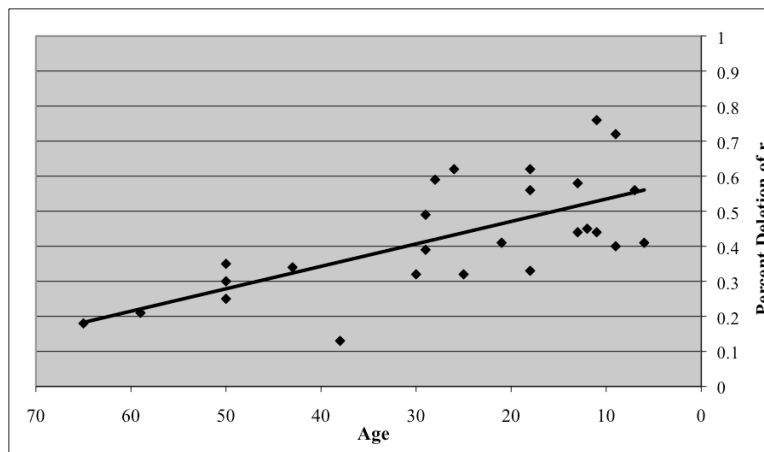


Figure 1: Deletion of *r* as a ratio for all speakers by age

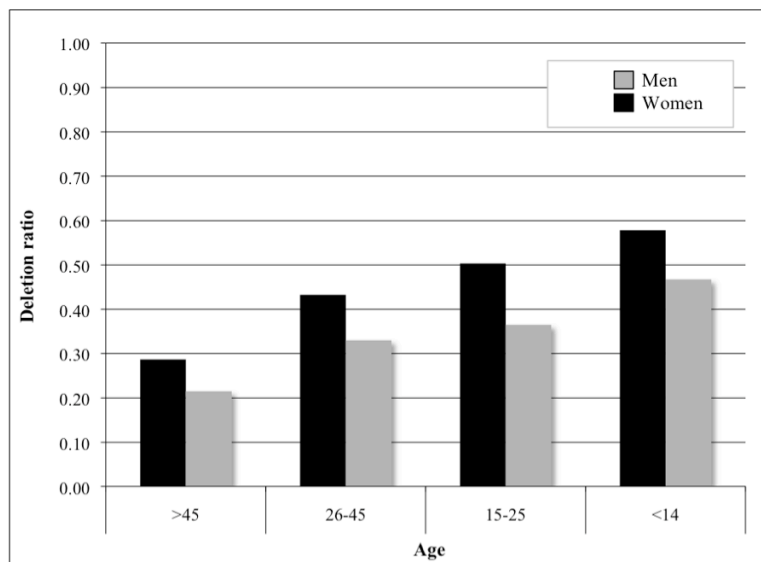


Figure 2. deletion of *r* by age group and gender

4.3 Externally-motivated vs. Internally-motivated Sound Changes

This finding, of what appears to be an internally motivated sound change occurring in Garifuna, is interesting for a number of reasons. It shows that internal sound changes may occur in a language undergoing shift. Despite signs of incipient language shift in Hopkins, we discover a change progressing in the same pattern that we see in healthy languages.

This finding in particular shows us that externally motivated and internally motivated changes may occur alongside each other, even affecting the same part of the phonemic inventory. Although the change from a tap to a retroflex *r* in Hopkins Garifuna has progressed almost to completion, so that young people in the village almost never use the tap, the tap has not completely disappeared, and we know that it exists in nearby varieties of the language, such as in Barranco. Meanwhile, the apparent time interpretation of the data suggests that deletion of *r* must have come into the language at least fifty years ago, since the older speakers in the sample exhibit some deletion. Thus the change must have begun before the shift to a retroflex *r* had been completed, and in addition, started when the process of language shift may have already begun in Hopkins, since all of the older speakers in this sample grew up in Hopkins and were bilingual in the majority language English from at least school-age.

5 Conclusion

The preliminary research presented here is a part of my dissertation work on the necessary elements for successful language transmission of an indigenous minority language. To explore the competing social and linguistic forces that contribute to either language maintenance or shift in this community, the project aims to examine both inter- and intra-speaker variation in the Garifuna of the Hopkins speech community. Quantifying variation in the language allows for an examination of the social correlates of variation in Hopkins, a correlation that may have implications for our model of how and why language shift happens. From a variationist perspective, as Stanford (2007) points out, indigenous minority languages offer a “new ‘laborator[y]’ to view language variation in more diverse environments [that may] support or challenge longstanding principles of variation.”

It may be that there is a point of no return at which sound changes in a language undergoing shift no longer resemble those in healthy languages. This could present itself in a number of ways. Either there are no longer any changes in the language that are *not* contact-induced, that is, all of the change occurring in the language is a result of convergence toward the expanding language. Or,

as King (1989) concludes, the variation that is maintained in dying languages no longer carries the social meaning that it did in a healthier speech community, so that while internally-motivated change may be progressing in some form, the variation is not socially-indexed in the same way that it previously had been. Woolard (1989:355) poses the question of whether certain types of changes in linguistic structure can be predicted when we know a language has undergone contraction in number of speakers or domains of use, and this extends to the question of whether the mechanisms of change in contracting languages remain the same as in healthy languages.

With these larger questions in mind, the fact that the change reported on in this paper follows the familiar pattern of a female-led sound change is an interesting finding. It contributes additional evidence for our theory of language change, with yet one more example of female speakers leading in change from below, in this case in an indigenous minority languages under threat of endangerment. The paper shows that an internally motivated change may occur in a language undergoing shift, and that this type of change may occur alongside an externally motivated change resulting from contact with the dominant language, even affecting the same part of the phonemic inventory. Despite signs of incipient language shift in Hopkins, we discover a change progressing in the same pattern that we see in healthy languages.

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Department of Linguistics
 University of Pennsylvania
 619 Williams Hall
 Philadelphia, PA 19104-6305
 mayar@babel.ling.upenn.edu