

Kawa and the variable stopping of obstruents in Ende

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This paper details a study investigating sociophonetic variation in Ende, a language spoken in Papua New Guinea. The study examines speech produced by 30 individuals, investigating what social and linguistic factors are linked with the variable alternation between stopped and affricated realizations of Ende retroflex obstruents [ʂ~t] and [ɕ~tʃ].

Our analysis provides evidence that the obstruents in question are more likely to be realized as stops when they are voiced and when the speakers are orators. Orators are people who practice *kawa*, a long-standing practice whereby select individuals perform regular public orations. Among orators, the speaker's age also appears to play a role in retroflex stopping. The link between the stop variant and social factors can be understood within the context of the distribution of power in the community, even in the absence of any explicit standard.

1. Introduction

This paper presents patterns of sociophonetic variation in Ende, a Pahoturi River language spoken by the Ende *tān mit* in Western Province, Papua New Guinea. This study explores the distribution of Ende retroflex obstruents [ʂ~t] and [ɕ~tʃ] and what social and linguistic factors may be linked with their variable affrication. This work also highlights the locally relevant social factor of community orator, a prestigious role through which individuals in the Ende community perform daily public orations in a long-standing practice called *kawa* (Lindsey, 2019a, pp.242–243). Much like how the locally relevant class categories of Estate Class and non-Estate Class in Rickford (1986)'s study of Guyanese creole use in Cane Walk revealed ideological patterns in social class and linguistic practice, the locally relevant distinction of orator in Limol allows us to consider how gender and power operate within the community and map onto linguistic variation. This work speaks to the dual necessities of (1) studying variation in understudied lin-

guistic settings, including indigenous, minority, endangered, under-documented, or otherwise underrepresented languages, and (2) ensuring that, in doing so, locally meaningful social categories and community-specific social structures are considered alongside more commonly studied demographics. With these goals in mind, we continue the long tradition of ethnographic sociolinguistics (pioneered by Milroy [1980] and Rickford [1986] and notably by Sankoff [1980(1976)] in Papua New Guinea) following a second-wave variationist approach in that our analysis draws on a local practice (i.e., *kawa*) identified through ethnographic methods. Further, we consider how other aspects of an individual speaker's identity might help inform patterns of variation observed in their speech. This study contributes to a new but growing body of work looking at variation in southern New Guinea (see Ellison, Evans, Kashima, Schokkin, & Williams, 2016; Schokkin, 2017, 2018, 2021; Barth, Schokkin, Travis, Lindsey, & Stanford, 2019; Kashima, Lindsey, Schokkin, & Strong, 2019; Lindsey, 2021b) and emerges from the mutually beneficial intersection of variationist sociolinguistics and language documentation (see Hildebrandt, Jany, & Silva, 2017; Meyerhoff, 2015, 2017; Nagy, 2017).

Since the inception of the variationist framework in the 1960s (Labov, 1966, 1969), sociolinguistic studies have centered around particular languages that are predominant in Western contexts, focusing primarily on the speech of monolingual English communities (Hildebrandt et al., 2017; Nagy & Meyerhoff, 2008). Therefore, there is understandable concern about the generalizability of dominant sociolinguistic theories that have been developed based on such a small subset of the world's languages (Rickford, 1986; Smakman & Heinrich, 2015, p.270). Indigenous, minority, endangered, and otherwise under-represented languages are frequently overlooked. However, the potential for differences in social stratification is high in the contexts where these languages are spoken (see e.g., Barth et al., 2019; Clarke, 2009; Skilton, 2017; Suokhrie, 2016). Mansfield and Stanford (2017, p.117) call this the *Principle of Sociolinguistic Distance*, arguing that the greater the distance between a lesser-studied community and traditional sociolinguistic settings, the higher the likelihood that such research will pose challenges to current sociolinguistic theories. Further, it is ideal for variationist analyses to be conducted on understudied languages not only to contrast and compare with existing models, but also to arrive at theories of language that are representative of other populations than only those that are easily studied by scholars at Western academic institutions.

While predetermined categories of age, gender, ethnicity, and socioeconomic status have consistently been found to be closely linked with socially-conditioned phonetic variation (e.g., Eckert, 1989; Labov, 1990; Wassink, 2015), additional or alternative social categories that are meaningful to the speech community

can be identified through ethnographic research. As mentioned above, Rickford's pioneering work on Guyanese Creole complicated previous notions of class as defined for Western communities, while more recent work on Sui (Stanford, 2009) and languages of Vanuatu (Meyerhoff, 2015) have shown the importance of complicating traditional social variables such as class and bringing in new ones, such as clan. Of course, this second-wave approach is not only applied to lesser-studied languages (see for example, studies on English-speaking Jocks and Burnouts at a Detroit high school [Eckert, 2000], Mandarin-speaking yuppies and government employees in Beijing [Zhang, 2005], and English-speaking Mobile Black Professionals, Hood Kids, and Bikers in the African American community of Rochester, New York [King, 2018], but examples from lesser-studied languages highlight the benefits of ethnographic documentation in understudied speech communities and demonstrates how social categories identified through this approach can be incorporated into variationist analyses (see, e.g., Skilton [2017], who outlines phonological and morphological variation in Máfhiki [Peru] through the lens of speaker membership in early life communities of practice, and Clarke [2009], who investigates phonological variation in the aboriginal Sheshatshiu community [Canada]).

The current study draws on a previous analysis of phonetic variation in Ende, in which Lindsey (2019b, 2021b) demonstrates how final /n/-elision in Ende can be best understood through strong associations with the local practice of community oration. To meet the need for more work that is “pattern-driven, rather than variable-driven” (Hay & Drager, 2007, p. 88), the present study examines the relationship between this practice of oration and a second variable: retroflex affrication. This study furthers our understanding of the variation of retroflex obstruents in the context of Ende more broadly and examines how this particular variable aligns with, or contradicts, greater patterns of variation in the language. If community orator status is linked with patterns of realization for multiple variables, this may allude to a relationship between style and social categorization, necessitating a third wave examination of orator speech style in further research (Eckert, 2012).

2. Ende

2.1 Language background

Ende (ISO 639-3 code: kit) is spoken by the Ende *tān mit* (‘tribe’) primarily in Limol, Malam, and Kinkin in Western Province, Papua New Guinea. The Ende Language Committee was established in 2003 by Warama Kurupel (Suwede) with

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Wagiba Geser and Tonny (Tonzah) Warama¹ for the primary aim of Bible translation and community literacy.² The committee currently engages in on-going community-emergent linguistic work to document the Ende language, among other programs such as orthography development, technology workshops, and literacy-building efforts. All of the data analyzed in this study are drawn from the Language Corpus of Ende and other Pahoturi River Languages (Lindsey, 2015), which contains over 100 hours of recorded material in Ende collected between 2015 and 2018. There are between 600 and 1,000 speakers of Ende (Lindsey, 2019, p.123). A type of regional egalitarian multilingualism is commonplace among Ende speakers where no local language holds more prestige than another. Along with English as the primary medium of education and religion, surrounding local languages Gogodala, Kawam, Taeme, Em, and Bitur are also commonly spoken by the Ende population due to long-standing traditions of marriage exchange among clans, subclans, and neighboring settlements (Lindsey, 2019, p.241). Likewise, there is no power differential between clans and, even if there were, there is no evidence of clan-based variation in Ende and the relevance of clan affiliation appears to be decreasing.

2.2 Gender among the Ende *tän mit*

In the Ende patriarchal social system, men hold primary power. Community defined leadership roles, such as chief, community secretary, and community treasurer, as well as paid government positions, such as judge (magistrate), police officers, and health workers, are positions restricted to men. Leadership roles for women are limited to pastors, teachers, and positions in local women's committees.

Daily work is heavily segregated, with women doing most of the heavy lifting including raising the children, obtaining food and water, maintaining the home, and caring for neighbors and the elderly. Daughters are coveted for the amount of labor they perform for the family. Men begin hunting and cutting grass as teenagers and learn to build houses, shape canoes, fall large trees, and build garden fences when they start their own families. A husband's employment may bring in money or influence that can offset the women's labor.

1. In using parentheses, we are keeping with community practices, whereby names in parentheses after the second name indicate their grandfather's name, and names in parentheses after the first name indicate nicknames.

2. While Ende has no explicit standard in that there appears to be no metalinguistic commentary about the use of any given form, the Ende Language Committee has established an orthography. The orthography is based largely on the forms produced by the committee members, and it is possible that this could affect future perceptions of standardness.

A traditional marital practice of extra-local sister exchange, by which two men exchange their sisters (usually across village lines) in order to marry, is an impediment for women seeking upward economic and social mobility. Because of this practice, many married women find themselves in communities where they are cultural and linguistic outsiders with extremely limited avenues to power. Even Ende women who do marry within the Ende *tān mit* struggle to gain leadership roles. From an early age, daily chores take precedence over their education, which is a requirement for a paid government position. In adulthood, these same chores often prohibit them from engaging in leadership activities. Thus, the main avenue to power for women is to reduce one's duties through marriage to an employed man or by having an abundance of children and gardens. An abundance of children provides daughters, or sons who marry women, who can then assist in the daily labor. Likewise, a surplus of food from a flourishing garden can be used to barter for other women's work. Once women achieve a high enough social status through such avenues, they can begin to influence the community through the practice of *kawa*, thereby gaining even higher status within the community.

2.3 Kawa public oration

In the Ende community, there is a traditional practice of public oration called *kawa* (see Lindsey, 2019:Appendix B.5.1 Public Oration for more details). Practitioners of *kawa* make daily speeches, typically in the early morning, about local news, teachings, goings-on, and other matters of importance in the village. These speeches can be performed while walking, in a public square, or outside of specific houses whose inhabitants are the intended recipients of the particular speech. *Kawa* performances are highly prestigious. As described by *kawa* practitioner, Wagiba Geser, “members of the community, particularly those in positions of respect and leadership, instruct other members of the community in best practices for living a good life” (Lindsey, 2019, p.242). In this way, speakers use *kawa* to command respect and act on the responsibility of instructing, informing, admonishing, and persuading the broader community. Being a practitioner of *kawa* is not an official status within the community, unlike, for example, clan affiliation. Instead, orator status is based on who Lindsey observed orating between 2015 and 2018. Throughout this paper, we follow Lindsey (2021b) in using the category ‘orator status’ as a way to distinguish those who have been observed practicing *kawa* and those who have not.

Given that previous work demonstrates a link between orator status and n-elision (Lindsey, 2021b), it is possible that other linguistic variables may also be linked with whether or not the speaker practices *kawa*. Thus, in the current study we examine a second variable: retroflex obstruents.

2.4 Retroflex obstruents in Ende

The variable examined in this study is the Ende retroflex affricate, of which there is a voiceless / $\widehat{t}s$ / and a voiced phoneme / $\widehat{d}z$ / (Lindsey, 2021a). These obstruents are variably realized as affricates [$\widehat{t}s}$ $\widehat{d}z$] and stops [t d] in production. For example, compare the stop in Figure 1 with the affricate in Figure 2.

Variation between retroflex stops and affricates is attested for other languages but is described as free variation (see, e.g., Echeverría & Contreras, 1965, p.133 for Araucanian). We hypothesize that the variation among retroflex obstruents in Ende is not free, but is conditioned by some of the linguistic factors outlined in Section 3.4 or some of the social factors examined: gender (Section 3.2), orator status (Section 3.3), and age. Age was included to explore the possibility that the observed variation reflects a change in progress. If Lindsey’s (2019, p. 140) suggestion that retroflex obstruents in Pahoturi River languages can be reconstructed as stops in the proto-language is correct, then variable retroflex affrication in Ende could be a sound change in progress. In that case, we would expect older speakers to produce a higher proportion of tokens as stops and younger speakers to produce a higher proportion as affricates.

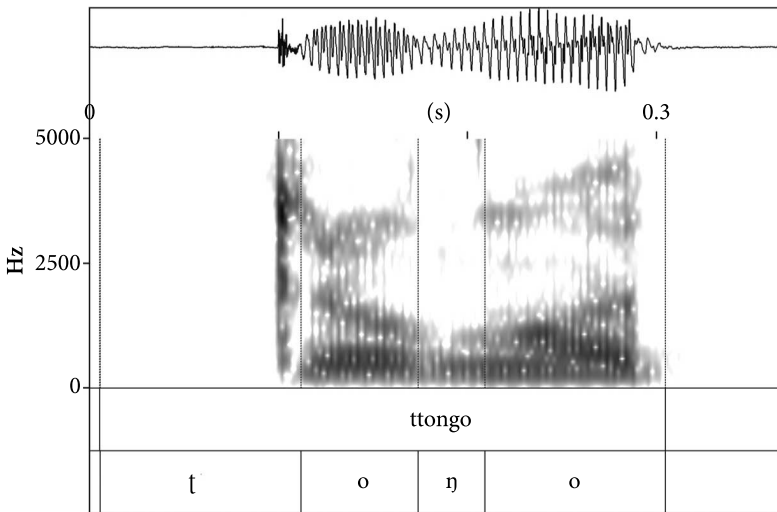


Figure 1. Waveform and spectrogram of [t] from the word *ttongo* ‘one, another, a, next’, with realization of the variable as a stop. The characteristics of a voiceless stop visible in the waveform include a release burst (a sudden high-intensity pulse after a period of silence) followed by limited frication (irregular pulses) before quickly transitioning into the vowel (regular pulses)

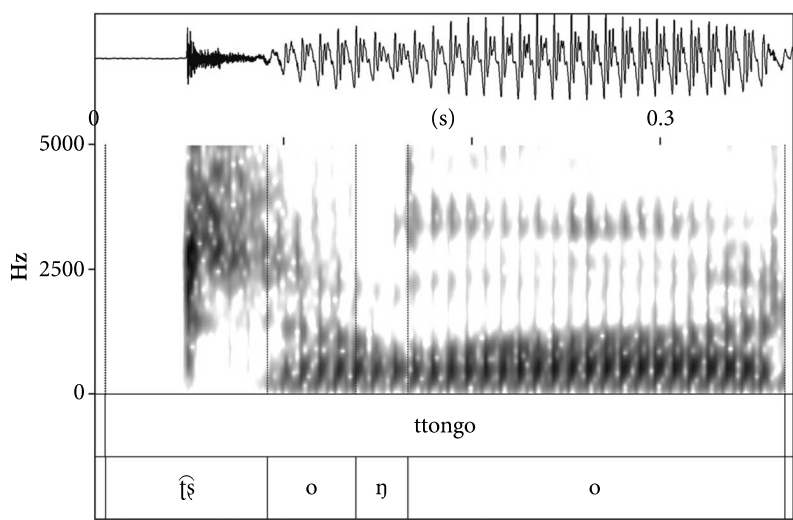


Figure 2. Waveform and spectrogram of [tʃ] from the word *ttongo* ‘one, another, a, next’, with realization of the variable as an affricate. The characteristics of a voiceless affricate visible in the waveform include a release burst (a sudden high-intensity pulse after a period of silence) followed by extended unvoiced frication (irregular pulses with no voicing bar visible in the spectrogram) before quickly transitioning into the vowel (regular pulses and visible voicing bar)

3. Methods

3.1 Data

To address whether Ende retroflex obstruents show variable affrication, this study used auditory analysis to examine the spontaneous speech data of 30 speakers from Limol village. The data are drawn from sociolinguistic questionnaires recorded in 2018 for the Ende Language Corpus (Lindsey, 2015), with durations of about 20–40 minutes per speaker. The questionnaire, which was conducted monolingually in Ende by the second author, was tailored to investigate particular social and linguistic practices of the community, drawing on both instruction from Wagiba Geser and Warama Kurupel (Suwede) and eleven months of ethnographic fieldwork by the second author in Limol. Moreover, the questionnaire was adjusted during collection to reflect new insights gathered from speakers within the community. In this way, we learned that the numerical measure of someone’s age is not culturally significant; instead, speakers group themselves into four generations or cohorts based on speaker home village, education, and shared life history (Lindsey, 2021b). In the last seventy-five years, the geographic location of Limol village changed twice (once 60 years ago, and again 45 years ago), and the

educational opportunities changed twice (secondary education was introduced 45 years ago and elementary education in Limol was introduced 30 years ago). Speakers thus group themselves into approximately 15-year age cohorts based on this shared history. In our analysis, we grouped speakers into groups of approximate ages 15–29, 30–45, 46–61, and older than 62. Just as numerical age was not as important a metric as we may have predicted, we also found that clan affiliation seems to be losing relevance within the community with many younger speakers unaware of their mothers’ clan group or even their own.

3.2 Speakers

Of the 73 individuals who participated in the interviews, 30 were selected for the current study to provide as balanced a sample as possible in terms of gender, age, and orator status. The following social variables were annotated for each speaker: age, gender, orator status, hometown, marital status, and (sub-)clan affiliations. The demographic information is provided by Lindsey (2019, p. 146) and is summarized for age, gender, and orator status in Table 1. Age as a factor is categorized into the four emic groups described by Lindsey (2019b). Gender is categorized as “man” and “woman” based on self-reporting and social presentation; we do not have data from non-binary or transgender people that we are aware of at this time.

Table 1. Summary of demographic information from the 30 speakers selected for this study, shown across age, gender, and orator status

	Orator					Non-orator				
	15–29	30–45	46–61	62+	Total	15–29	30–45	46–61	62+	Total
Men	2	2	2	2	8	2	2	2	1	7
Women	1	2	2	2	7	2	2	2	2	8
Total	3	4	4	4	15	4	4	4	3	15

Among the non-orators included in Table 1 is one speaker, Jubli Sowati, who has a social status that requires elaboration. Jubli is categorized as a non-orator because he was not observed by the second author engaging in *kawa*. However, during the 52 weeks that the second author was in Limol, Jubli was only in Limol for holidays. He lives outside of Limol in nearby Upiara, where he works as an English teacher, a job that carries a great deal of prestige in Limol. His father holds

a prestigious position within the community called the recorder.³ Thus, while Jubli is not an orator, as defined, he holds a different and more prestigious position than other non-orators, especially when compared with others from his age group (15–29). Despite having a very different social profile from the other non-orators in the youngest age group, his data was analyzed for this study as a way to shed light on the extent to which the variable being investigated is indexed directly with the social role of being a *kawa* practitioner or if, instead, the stopped variant is used by practitioners of *kawa* because it is linked with power and prestige more generally. As a result of his particular social profile, we do not include his data in the statistical analysis presented herein but instead mark it separately in the data plots so that patterns in his speech can be compared with others in his cohort.

3.3 Extraction and auditory analysis

Tokens containing retroflex obstruents were extracted from recordings of the sociolinguistic interviews in ELAN using a structured search with regular expressions. Ffmpeg audio converter commands were then utilized to process the extractions into individual audio files. We treated the variable as categorical and binary (affricate or stop), and the first author coded all tokens by listening to each individual audio file over headphones (SONY dynamic stereo MDR-7506). 73 tokens were removed prior to analysis due to ambiguity or elision of the variable of interest.

This study examined 2,686 tokens in total, with 67% of tokens coded as an affricate ($n=1,791$) and 33% coded as a stop ($n=895$). Each token was annotated for multiple linguistic and social factors, outlined below. The third author coded 10% of the tokens to check for intercoder reliability. The coders agreed on 69% of the total tokens, with the second coder identifying more of the tokens as stops. Despite the relatively low intercoder reliability, the results and discussion presented in Sections 4–5 are valid because of the consistency and direction of the difference; all of the tokens which were marked differently by the two coders were perceived as an affricate by the first author and as a stop or flap by the third author, indicating that they have different perceptual boundaries but their coding was consistent. While consistency was similar across men and women, intercoder consistency was higher for non-orators (77%) than orators (59%). This means that the reported difference between the orators is, if anything, smaller than the difference would be if all of the tokens were coded by the second coder. Therefore, the results presented below are from the analysis of the full dataset coded by the

3. A recorder is someone who takes notes from meetings and prepares documents for official business.

first author. Further acoustic analysis is being planned in order to investigate the variable in a way that more accurately reflects its gradience.

3.4 Linguistic factors

In addition to each speaker's age, gender, and orator status, the following linguistic factors were annotated for each token: voicing of the segment, prenasalization, the type and quality of the preceding and following segments, position within the syllable, position within the word, preceding retroflex in the same utterance, lexical frequency, and grammatical category. Lexical frequency was calculated as the count of a given lexical form from a spoken corpus of Ende containing 210,000 words.

4. Results

4.1 Quantitative patterns

Using the R package *ggplot2* (Wickham, 2016), the raw data were plotted to examine patterns. The plot in Figure 3 provides evidence that the likelihood of producing a stop is linked with three social factors: speaker age (four age groups), gender (women vs. men), and orator status (orator vs. non-orator). There is a marked difference in behavior across orators and non-orators, whereby orators, as a whole, produce a larger number of their tokens as stop, and exhibit much more regular patterning across age and gender. Among the orators, when comparing each consecutive age group, the older group produces a higher percentage of tokens as stops compared to the younger group, and, within each age group, the women produce a higher percentage of tokens as stops than the men do, except for the youngest group.

The statistical analysis presented herein focuses on two logistic regression models with mixed effects. Models were fit using the package *lme4* (Bates, Maechler, Bolker, & Walker, 2019; R Core Team, 2019). Both are the maximal models that converged and were justified through model comparisons using ANOVA, in line with recommendations by Barr and colleagues (2013). Prior to statistical analysis, data from one of the speakers, Jubli Sowati (JSS), was removed due to his distinct social profile (see Section 3.2). The first model was fit to data from the remaining 29 speakers, with obstruent realization (stop vs. affricate) as the dependent variable. Orator status and voicing were the independent variables, and the model included random intercepts of word and speaker. Also included was a by-speaker random slope for voice since the relationship between voice

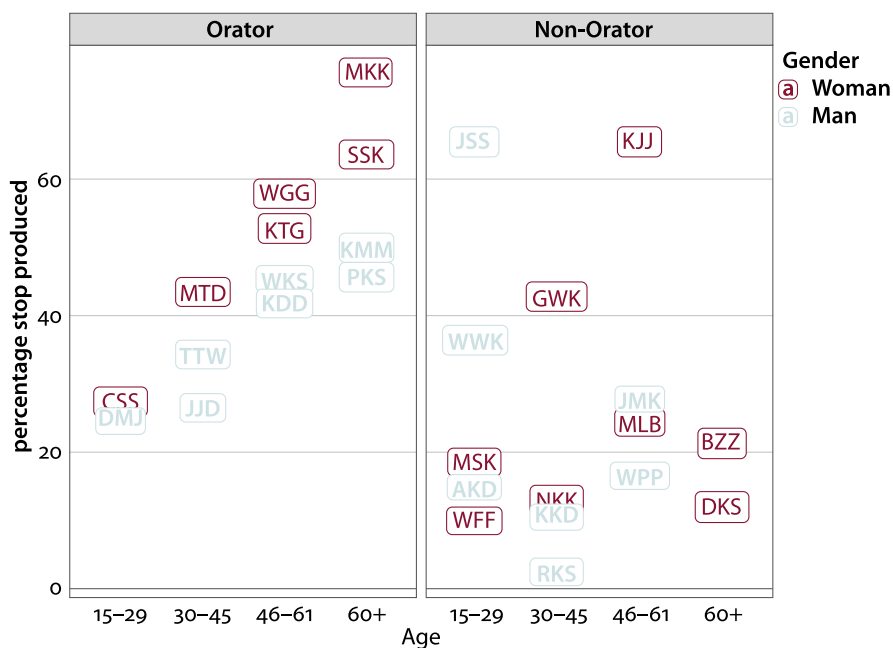


Figure 3. By-speaker percent of tokens realized as stops by orators (left panel) versus non-orators (right) across age, with women shown in dark purple and men in light green. Two speakers, BMK and DKS, produce a similar percentage of stops and are therefore indistinguishable from each other on the plot

and the dependent variable was not necessarily consistent across all speakers. The structure of the model is shown in the caption for Table 2. Syllable position was originally considered as a fixed effect, following prior work with a smaller number of data points (Strong, Lindsey, & Drager, 2020), but including it in the model fit to the current dataset did not significantly improve model fit so it was removed. Convergence was not reached when both age and gender were included as fixed effects. Gender alone did not improve the fit of the model so was removed. Likewise, word frequency (logged) and word category are not included in the model since they only improve model fit (for word frequency) and allow for model convergence (for word category) when word is not included as a random intercept in the model. The model output is presented below in Table 2.

There is a significant effect of orator status ($p < .0001$) and voicing ($p < .0001$) on the likelihood of affrication. Tokens are more likely to be realized as a stop by speakers who are orators compared with non-orators, as evident in Figure 3, and when voiced. These effects are discussed further in Sections 5.1 and 5.3, respectively.

Table 2. Output of model fit to data from 29 speakers, orators and non-orators: Glmer(Affricate.vs.Stop ~ Orator.Status + Voicing + (1 | Word) + (1+Voicing | Speaker), data=Endedata, family=binomial)

Fixed effects	Estimate	Std. error	Z value	Pr(> z)
(Intercept)	-0.9542	0.2777	-3.436	0.0006
Orator = yes	1.5233	0.3402	4.477	<.0001
Voicing = voiceless	-1.22	0.2426	-5.029	<.0001

In order to test whether the observed trends among the orators reach statistical significance, a second model was fit to only the tokens produced by the fourteen orators. In this more restricted model of 1,187 tokens, obstruent realization was the dependent variable, and age and voicing were included as independent variables. Because the model did not converge with the random slope included in the model fit to the full dataset, the analysis of the more restricted dataset used a simpler model with speaker and word as random intercepts.

Table 3. Output of model fit to data from the 14 orators: Glmer(Affricate.vs.Stop ~ Age + Voicing + (1 | Word) + (1 | Speaker), data=Orator.data, family=binomial)

	Estimate	Std. error	Z value	Pr(> z)
(Intercept)	-0.3693	0.3584	-1.030	0.3028
Age: 30–45	0.3854	0.3526	1.093	0.2744
Age: 46–61	1.1878	0.3462	3.431	0.0006
Age: 62+	1.4998	0.3527	4.253	<.0001
Voicing = voiceless	-1.4344	0.2411	-5.950	<.0001

The restricted model indicates that orators in the second to oldest age group ($p < .001$) and the oldest group ($p < .0001$) are significantly more likely to produce stops than those in the youngest group, and that the voiced variable was significantly more likely to be realized as a stop compared to the voiceless variable ($p < .0001$). The age-based difference may be indicative of a change in apparent time or may result from age grading, where orators increasingly adopt the stop variant over the course of their lifetimes. The tendency for the voiced phoneme to be realized as a stop more often than the voiceless phoneme is discussed further in Section 5.3.

As is evident in Figure 3, women orators in the three oldest age groups produce a larger percentage of tokens as a stop compared to men in the same age groups. However, including speaker gender in the model results in an overfit

model. Speaker gender reaches significance in the overfit model and also in a model that was not overfit but that did not include a random intercept for speaker. No age- or gender-related effects were observed among the non-orators when evaluated with a similar model.

4.2 Voice, stops, and affricates

Across both analyses, the results demonstrate a strong tendency for a larger number of the voiceless tokens to be realized as an affricate compared to the voiced tokens. This finding is consistent with a cross-linguistic tendency for voiceless stops to be more likely to undergo affrication than voiced stops. For example, in a typological study of 63 languages, Hall and Hamann (2006) find that voiced stops cannot undergo assibilation (e.g., *di* → *dzi*) unless voiceless stops also do (e.g., *ti* → *tsi*). The authors motivate this implication by appealing to the phonetic properties of assibilation contexts. The release of coronal stops (*t*, *d*) co-occurs with a turbulent friction phase that is significantly longer when released into a high front vocoid (*i*, *j*) than if the same stop were released into a non-high or non-front vocoid (Clements, 1999; Kim, 2001; Ohala, 1983). Crucially, this friction phase is significantly longer after voiceless stops than after voiced ones (Hall, Hamann, & Zygis, 2006), an observation that also holds for velar stops (Guion, 1998).

The results presented herein differ from previous work in that the variation in manner is not categorical, nor is it restricted to only some phonological contexts (e.g., when preceding /*i*/). While the largest percentage of affricates is observed for tokens preceding /*i*/ compared to those that precede other vowels, the number of tokens that precede /*i*/ is relatively small ($n=20$),⁴ the difference is subtle, and the observation is only true when considering the voiced and voiceless tokens together; when considering the voiceless tokens alone, the smallest percentage of stop tokens is observed when the following segment is /*o*/ (see Figure 4), the most frequent environment for retroflex obstruents.

If we assume retroflex obstruents in Pahoturi River languages can be reconstructed as stops (see Lindsey, 2019, p.140), then the age-based variation described herein likely stems from a change in progress observed in apparent time. However, the phonetic account provided by Hall and colleagues cannot serve as the impetus for the difference between voiced and voiceless tokens that we observed.

4. The small number of tokens with following /*i*/ is unsurprising given that retroflex consonants typically condition backing of preceding and following vowels (Flemming, 2003).

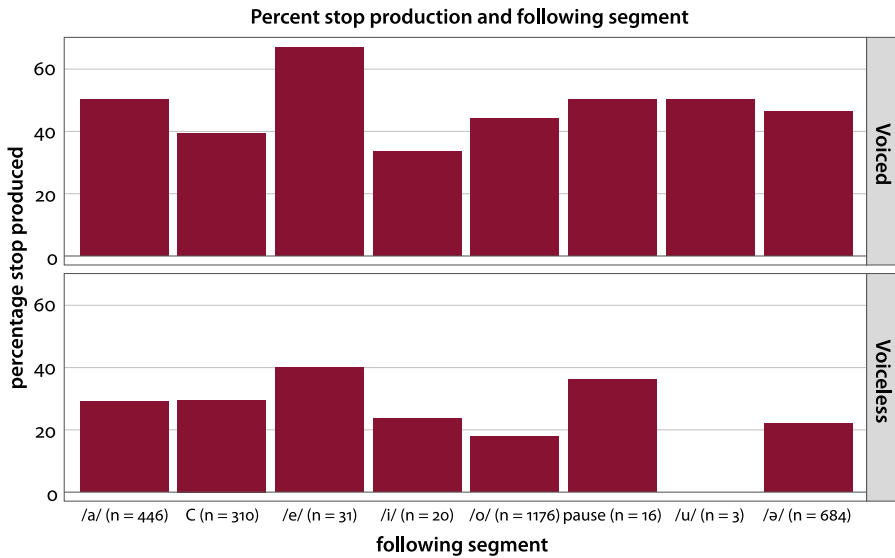


Figure 4. The percentage of tokens within each following segment category that were realized as a stop. The number of tokens within each category is shown in parentheses

5. General discussion

5.1 Group patterns

The quantitative analysis presented in Section 4 provides evidence that the likelihood of affrication is linked with a combination of social factors: speaker age, participation as a community orator, and, to a lesser extent, speaker gender. Compared with non-orators, orators are more likely to realize retroflex obstruents as stops, and, among the orators, older speakers are more likely to realize tokens as stops compared with younger speakers. Given the prestige associated with being an orator and being older, it stands to reason that the forms orators use may carry some level of prestige. While gender is not included as a fixed effect in the models presented herein because it leads to a near singular fit, we believe that the effect of gender is legitimate given that most people who are known to orate in Limol are included in this study, and we observe an effect of gender within every age group except the youngest. Thus, in the remainder of this subsection, we consider the results within the context of gender roles within the community.

In the Ende community, women have less power than men. These highly fixed gender roles empower men and assign them the highest status positions in the village, and orators who are women have less power than orators who are men. We argue that the higher rates of stopping observed among the woman orators stem

from the women harnessing the prestige associated with the variants in an effort to access symbolic power. This interpretation is consistent with work on widely spoken languages in the West (Labov, 1966, 1990; Eckert, 1989), which demonstrates that, in linguistic changes from above, women tend to use standard variants more often than men. Eckert (1989, p.265) argues that the tendency arises in cases when women use prestige variants as a way to access symbolic power when real power (e.g., socioeconomic, political) is not available to them. Given this link between gender and power, we argue that women orators in Ende may produce the stop variant as a way of accessing symbolic power.

That the stop variant, like *n*-elision (Lindsey, 2021b), is linked with orator status raises questions about the extent to which the stop variant directly indexes being an orator, or whether instead its greater use by orators stems from its indexation with other social meanings, meanings that orators frequently index. In the next section, we explore the extent to which there is a direct index between the stopped variant of the retroflex obstruents and the researcher-observed category of being a practitioner of *kawa*. To do this, we discuss the proportion of the stopped variant in the speech of select individuals within the context of their social characteristics and position within the community.

5.2 Individual patterns

In order to gain a better understanding of the ways in which individual speakers' realizations pattern in regard to who they are, in this section, we consider the variants produced by select individuals alongside descriptions of their lifestyles, occupations, and community roles.

We begin by focusing on Jubli Sowati (i.e., JSS in Figure 1), a “big man” in the village who works as a teacher outside of Limol. Jubli is of particular interest because, despite being in the youngest age group and not being observed doing *kawa*, Jubli works in a prestigious position and comes from an influential family. None of the other speakers in the sample have a social profile that is similar to Jubli's; among the non-orators, there is no one other than Jubli whose job holds a similar level of prestige. This offers the opportunity to see whether the tendency for orators to use the stopped variant of the retroflex obstruents directly indexes orator status or if it is instead imbued with meanings associated with prestige more generally. If the stopped variant is directly indexed with orator status, we would expect that a small proportion of Jubli's tokens would be realized as a stop since he is not an orator. If, on the other hand, the stopped variant is indirectly indexed to orator status via an association with power, prestige, or other stylistic choices frequently made by orators, then we might expect Jubli to produce a large number of tokens as the stop variant. As shown in Figure 3, Jubli produces

a high proportion of tokens as the stop variant, much higher than others in his age cohort, including those who practice *kawa*. In fact, there are only three speakers for whom analysis revealed a similarly high proportion of stops, two of whom are orators in the oldest age group. Thus, Jubli's distinct social profile is consistent with the especially high number of stopped tokens in his speech. This suggests that the stop variant is linked with power and prestige more generally, and it is accordingly used by orators.

Other non-orators who produce a large number of stops are Kalamato Joanang (KJJ), Gloria Warama (Kurupel) (GWK), and Winson Warama (Kurupel) (WWK). We did not anticipate that these three speakers would behave differently than the other non-orators. We present their profiles here so that they may inform our interpretation of the stopped variant. Kalamato is the treasurer of the Ende Language Committee, and she comes from a prestigious family. Her father, Biku Madura, is the oldest male member of the *Limollang* clan, the clan whose origin place is in Limol. In addition, her husband, Geoff Rowak, holds a very important role in the community, the community chairman, who is tasked with managing the community and helping everyone to live properly (Rowak, 2018, p. 89). These connections may afford Kalamato the sort of position where she might feel inclined to use prestigious forms. The other two speakers may also produce a relatively large number of stops as a result of their family connections. Gloria and Winson are siblings, and they are the children of Warama Kurupel (Suwede) and Wagiba Geser, both of whom are orators and in positions of power in the village. While neither Gloria or Winson use the stopped variant as much as Jubli or Kalamato, they use higher rates than the other non-orators and similarly high rates to one another. Taken together, the high use of the stopped variant by Jubli, Kalamato, Gloria, and Winson may suggest that the variant is indexed with social meanings associated with power and prestige rather than directly indexed to being an orator.

This interpretation, however, is complicated by the production patterns observed in the speech of the late Rex Kurupel (Suwede) (RKS). Rex was Warama Kurupel (Suwede)'s youngest brother, so not only is he related to Gloria and Winson but he is the child of Kurupel (Suwede), who was the founder of the current location of Limol village, and thus was a very "big man" in the village. While such family connections may lead us to expect high rates of the stop variant, Rex produced the lowest proportion of stops of all of the speakers analyzed. Indeed, of his 100 tokens, only 3 were stops. Rex was well respected, and was also a quiet man who worked hard and kept to himself, using his time to build fences or hunt. His brother, Warama, and his nephew, Winson, are similar in nature.

Thus, while the patterns of stop production may suggest that the stopped variant is linked with being an orator via its connection with power and prestige,

it is not the case that all Ende speakers who have power frequently use this variant. A more nuanced understanding of the relationship between phonetic realization and social meaning could be gained in future work that uses discourse analysis to examine how the linguistic forms may be employed for stance taking. In addition, since orator status is based on ethnographic observation, it is possible that some of the individuals coded as non-orators for this analysis have practiced *kawa* when Lindsey is not present. Likewise, orator status is not a stagnant category. Confirmation from community members regarding whether certain individuals practice *kawa* and additional ethnographic observations in the future may help better understand the relationship between linguistic variation and power in Ende.

6. Conclusion

In this study, we have demonstrated that retroflex obstruents in Ende are realized variably as stops and affricates and that this variation is linked with voicing, speaker age, and whether the speaker is someone who practices *kawa*. The observed effect of age among the orators could easily have gone unnoticed if orator status was not previously identified as a relevant local social factor, highlighting the importance of including locally relevant social factors in quantitative variationist analysis. Our ability to explore the relationships between *kawa* oration and linguistic behavior in this paper has been reliant on the diligent collection of a range of ethnographic metadata related to the community-specific cultural context, and that these materials have been made accessible. This work continues a long tradition of incorporating ethnographic fieldwork into sociolinguistic analysis for uncovering locally relevant social categories that inform our analyses of social ideologies and linguistic practice.

Further, the current study suggests that the social meanings associated with the stopped variant are those having to do with power and prestige, rather than there being a direct link between the variant and an individual's status as a community orator. To understand this, it was vital that we examine variation in the speech of select individuals whose social profiles vastly differed from other individuals whose speech was analyzed. Doing so allowed us to better understand the social meanings underlying the variation we observed, and it crucially relied on the careful observations made by the second author during fieldwork.

Future work that draws on ethnographic documentation to explore broader patterns of variation in understudied languages will enhance, and likely challenge, our understanding of dominant sociolinguistic trends.

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Abstrakt

Ge peba da Ende ekong llayaba eka kutt eka tän pallall dan. Ngämi mermerae intngemenyamalla 30 Ende Llimoll att llayaba eka panynenatt de, umllang ede ada ngaseka oba eka panynen ngallen a ttongdae dan o ddone. Ede ngämi eka dântamenyaemnalla eka tän komlla dändär ede, ge <tt> a <dd> alle darbnenang a o ttaemang a erag. Ge eka kutt ngallen a *ttatta* wa *ddaddu* eke kutt me dag. Ddob eka panynenang lla da ddone buddobuddog ttaem amalloy ge eka kutt de (pällämpälläm eka walle: *stop*) be ddoagabi ge eka kutt eka tän de buddobuddog (llällam peyang) ttaem amalloy (pällämpälläm eka walle: *affricate*).

Ngämi umllang gogmam ada eka panynenang lla da ami kawawang dag ttängäm makäp me ede ubi eka kutt eka tän de ddone buddobuddog dântaemaemneyo. Kawawang llabatt lla da ge eka kutt eka tän de ddone buddobuddog (llällam peyang) dântaemaemneyo. Eka kutt eka tän <dd> da ddone buddog (llällam peyang) ttaemang dan ge <tt> da alla. Ngämi mit de däbl-leya ada llabatt a kawawang a eka kutt eka tän de ddone buddobuddog (llällam peyang) ttaem amalloy ge sisor lla da wa kawameny lla da alla, adawatta kawawang a wa llabatt lla da ttängäm me nyammenma lla dag.

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