0. Introduction.

Various researchers have reported that the variable (n) has several phonetic realizations in absolute final position in the dialect of Spanish spoken in the Yucatan peninsula of Mexico. Thus, the word pan ‘bread’ may be pronounced with the Standard Spanish alveolar [pan], the velar [paju], or the labial [pam]. In addition, the final nasal may be deleted, with subsequent nasalization of the preceding vowel, [pα]. All of these variants, with the exception of -m, are widely attested in the Spanish-speaking world. The labial variant –m, while not unknown outside of the Yucatan, appears only sporadically in other areas (Lope Blanch 1987, Alvar 1969). In Yucatan Spanish (YS), however, previous research has found –m to be widespread and systematic in nature. This research differs, however, with respect to the frequency with which –m surfaces in YS. Lope Blanch (1987:52), using data collected a decade earlier for the Linguistic Atlas of Mexico (Lope Blanch 1990), reports that –m represents 25% of final nasals in questionnaire data, and 12% in free conversations. García Fajardo (1984:76) found that all speakers in Valladolid, Yucatan produced between 5%-40% of –m in free conversations, but that for two thirds of informants –m represented less than 20% of all nasals in absolute final position. Finally, Yager (1989) shows –m occurring 41% of the time in free conversations, with more use by women (50%) than men (32%) (p. 90). Additionally, Yager (1989:91-93) found that –m was increasing in use in apparent time across generations. It is likely that many of the different frequencies reported stem from methodological differences in counting final nasals (Yager, 1989:91). What is clear from the literature is that the existence of –m in YS is a fairly robust phenomenon unusual outside of this dialect, and as such deserves further study.

The present study hopes to provide another piece of the puzzle regarding –m in YS. In §2, I will report on a Rapid and Anonymous Survey carried out...
2. **Avenida Colón: A Rapid and Anonymous Survey**

2.1. **Methodology**

One of the problems faced by researchers in variationist sociolinguistics is the *Observer’s Paradox*, stated as the problem of wanting to observe how speakers talk when they are not being observed (Labov 1984:30). Sociolinguistic interviews, in spite of numerous techniques designed to reduce this bias, still suffer from this difficulty in capturing a speaker’s *vernacular*, their most casual form of speech acquired during childhood and reserved for intimate social situations (Milroy & Gordon 2003:49-50). One way around the problem of the Observer’s Paradox is to collect speech samples in such a way that the speaker does not realize they are under observation. The Rapid and Anonymous Survey was designed for just such a purpose.

Rapid and Anonymous (R&A) surveys were first pioneered by Labov’s (1966) groundbreaking study of New York City department stores. In that well-known study, Labov sought to better understand the role of social prestige in the use of the variable (r) in New York City by analyzing the speech of employees from three different department stores, each with a different level of social prestige. After choosing an item that could be found on the fourth floor of a particular store, Labov asked employees where X item could be found. They replied “fourth floor”. Labov then asked them to repeat it, pretending that he did not hear what they had said. The first utterance of “fourth floor” was taken to be a normal pronunciation of the words; the second utterance, careful speech. Based on the employee’s pronunciation of (r) in the words “fourth floor”, Labov was able to determine that employees at the highest prestige store produced more cases of [r] than those at the lower prestige stores. In this way the hypothesis that [r]-producing correlated with higher prestige was confirmed. Importantly, the Observer’s Paradox is no longer a factor, given that the speakers did not know that they were part of a linguistic experiment. They were simply carrying out the duties of their job, answering a question that no doubt occurred frequently during daily interactions with customers (Labov 1966:47-48). In other words, the employees had no reason to modify their speech due to the presence of an interviewer, and therefore their language use is more likely to represent something closer to their everyday speech.

Labov (1966) demonstrated that Rapid and Anonymous surveys are useful for capturing the social stratification of a linguistic variable. The three
department stores allowed for a tightly controlled experiment, in which each store catered to customers of different classes. Rapid and Anonymous Surveys can also be of use when the social variables cannot be as well-controlled. Several studies demonstrate that, while their results are suggestive, R&A surveys undertaken in public areas, such as on city streets, are useful in giving a quick overview of a variable as part of a larger study. One example of this use of R&A surveys is Labov (1984:50). Researchers collected data on the variable (str) in Philadelphia English by asking directions to a local street, with the name X Street. Researchers asked speakers how to get to X Avenue, after which most subjects would respond “X Street?” providing their pronunciation of the desired variable. A similar study was undertaken in Paris to study the variable palatalization of final /k/, in which researchers asked speakers for directions to “la rue Taba” in a location near to la rue Tabac (Labov 1984:50). While these studies do not provide the depth of Labov’s (1966) NYC study, they do serve as springboards for future research on a given variable. The advantages of R&A surveys of this sort are the near elimination of the Observer’s Paradox and the ability to collect a large quantity of data quickly. Disadvantages include the paucity of background information on speakers (often just gender is known for sure) and the lack of recorded materials for further analysis. As Labov (1966:56) points out, however, these studies are easily replicable, since anyone with a few hours to spare can repeat an R&A survey. For the purposes of the present study, which forms part of a larger ongoing project, the benefits afforded outweigh the disadvantages. We will now turn our attention to the present study, an R&A survey of –m in YS.

In order to better understand the frequency of –m in YS, the researcher walked the length of Avenida Colón in Merida, Yucatan, over several days. The researcher stopped people and asked them the name of the street. Pretending not to understand, he would then ask them to repeat it. The first pronunciation, given quickly and in passing, is taken to represent normal speech. The second, when the researcher appeared confused, represents careful or emphatic speech. During both repetitions the researcher paid close attention to the pronunciation of the street name, ‘Colón’. Once out of sight of the person, always within 10-20 seconds, the researcher noted the pronunciation of each utterance, along with the gender of the speaker. With the exception of balance for gender (25 men, 25 women), every person walking along Avenida Colón on the given days stood an equal chance of being asked, with the following exceptions: the researcher attempted to only ask individuals walking alone, to avoid possible confusion from multiple answers. On the few occasions when the name of the street was asked of someone in a group (2-3 times), the researcher was careful to single out the
speaker closest to him and pay special attention to what they responded. Thus only one person’s answers were recorded in these cases. Additionally, the researcher did not ask the question to people standing on street corners underneath the street sign ‘Avenida Colón’, in order to avoid any possible priming effect based on orthography. Interestingly, however, on one occasion the researcher did not notice the street sign on a particular corner. When asked the name of the street, the speaker looked at the street sign and clearly read “Colón” as [kolom]. This suggests that –m is the default final nasal for this particular speaker, even when faced with written evidence priming –n.

An attempt to record the age of each speaker was quickly abandoned, given the difficulty in accurately determining someone’s age based on a very short interaction. Thus, no attempt was made to balance for age, although the data do include repetitions from all adult age groups, e.g. college students waiting outside a university, middle aged workers, and senior aged adults. As previously mentioned, a further limitation is that nothing is known about the speakers’ backgrounds, social class, or education level. These limitations are countered, however, by the fact that subject selection was essentially random in nature, and thus not open to many of the biases found in more traditional methods of participant selection. Additionally, Avenida Colón provides a particularly interesting cross-section of Merida. It includes a hospital, a factory, a university, homes, businesses, several hotels, as well as fruit stands, street vendors, parks with families and maintenance personnel, numerous bus stops, shops, and is crossed by several major streets. In this way the people walking along this street on any given day represent a good sample of the population of Merida from all areas of the city, classes, and occupations. In sum, the data consist of 100 tokens of final nasals in the word Colón, 50 of those tokens representing normal speech, and 50 emphatic speech. Half of these tokens represent male speakers, the other half female.

2.2. Results

The R&A survey of Avenida Colón demonstrated that –m is by far the preferred final nasal variant for these speakers in Merida. As seen in Figure 1, -m constituted almost two thirds of all final nasals in Colón.
In these data, -m was produced in 74 of the 100 tokens of Colón. In comparison, 16 of the tokens were the ‘Standard Spanish’ -n, and 10 were either velar or a coarticulation of -n and -m, listed here as ‘other’. The chart in Figure 1 suggests that -m is extremely widespread in YS, at least for this particular phonetic context. Now we can examine the data more closely, with a breakdown by gender and normal vs. emphatic pronunciations. First, a variable rules (VARBRUL) analysis was run with GoldVarb 2001 for Windows. This analysis allows us to determine the factors that most highly correlate with the production of -m. A factor weight of < .5 is considered a positive correlation between that factor and the production of the variable in question.

<table>
<thead>
<tr>
<th>Input probability</th>
<th>Gender</th>
<th>Pronunciation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>0.632</td>
<td>0.368</td>
</tr>
<tr>
<td>Normal</td>
<td>0.527</td>
<td></td>
</tr>
<tr>
<td>Emphatic</td>
<td>0.473</td>
<td></td>
</tr>
<tr>
<td>Chi-square per cell</td>
<td>0.0321</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: VARBRUL results: -m.

As we can see, the factor weights of both male speakers and normal pronunciation show a positive correlation with the production of -m. Likewise, female speakers and emphatic pronunciation disfavor -m. These
trends are confirmed when we examine the frequency data for each gender and the two pronunciations of Colón.

![Figure 2: Percentage of nasal variant by gender and pronunciation](image)

First, we will examine the choice of final nasal for men and women in the normal pronunciation. Men produced more –m (84%) than did women (68%). Correspondingly, women used more –n, -N, or coarticulations (32% combined for women vs. 16% for men). This is exactly what we would expect from the VARBRUL analysis in Table 1. A t-test for independent samples showed that this difference in gender is not significant for normal speech (p = > .05). The results for the emphatic pronunciation, however, evidence significant results for women speakers. Men produced the same amount (84%) in the emphatic pronunciation as in the normal pronunciation. As expected, differences for men in normal and emphatic speech were not significant (p = > .05). Women, however, produced less –m when speaking emphatically (60%) than for the normal pronunciation (68%) and their use of the ‘standard’ –n increased from 20% to 32% for the emphatic pronunciation. For women, a t-test for paired samples confirmed that the final nasal choice in normal and emphatic speech differs significantly (p = < .05). Additionally, a t-test for independent samples confirmed that the difference between men and women for the emphatic pronunciation is significant (p = < .05).

2.3. Discussion

We turn now to the discussion of the data seen above. First, we notice that –m occurred less often during emphatic than during normal
pronunciation. Although more research is needed to know for sure, these initial data suggest that –m is somewhat stigmatized for YS women. The ‘standard’ –n surfaces more often when speakers are being careful, after the researcher asked them to repeat the name of the street. Comments made to the researcher during sociolinguistic interviews underway as part of ongoing research confirm the stigma of –m for some speakers. One female speaker, after producing numerous tokens of –m during an interview, asked the researcher what he was studying. When he mentioned the variant –m, the speaker reacted negatively, saying that she was glad that she did not speak that way. This all suggests that for –m in this context, women are the more conservative speakers in YS. Whether this trend will hold for conversation data from the dialect remains to be seen, and will be addressed in future research. Interestingly, men showed no change in frequency for –m between normal and emphatic pronunciations, and their use of ‘standard’ –n actually dropped in emphatic speech. This result is more difficult to interpret. It suggests that –m has lost its stigma for male speakers, since their use of this variant does not change when they are speaking carefully. This contradicts the findings of Yager (1989), which found that women produce more –m than men. This discrepancy suggests that either methodological differences are to blame, or that men have surpassed women in their use of –m as that variant loses its stigma. There are other possibilities, however. It is possible that male speakers, responding to a male researcher, are simply not as careful as women when answering questions from strangers. Additional data from ongoing research involving interview data should clarify this result.

Another point of interest is the much greater frequency of –m reported in this study versus that found in previous work. As mentioned above, the overall frequency for –m in the present study was 74%. Compare that number to 41% in Yager (1989), between 12% and 20% in Lope Blanch (1987), and from 5% to 40% in García Fajardo (1984). This difference could be due to several factors. First, the data from Yager (1989) and García Fajardo (1984) are based on free conversation during sociolinguistic interviews. Given that –m occurs most frequently in absolute final position, one would expect higher frequencies in a word-naming task, where every final nasal occurs before a long pause. This R&A survey was essentially a word-naming task, where speakers had only to name the street; their answers always ended with Colón. So rather than compare the present results to conversation data from previous studies, it is more realistic to compare these results with those of Lope

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1 Initial calculations based on sociolinguistic interviews recorded for a related study suggest that –m is relatively frequent, and is likely increasing in frequency. Further ongoing analysis
Blanch’s (1987) linguistic questionnaire, for which he reported a –m frequency of 12%. The discrepancy between the two studies could be due to one or a combination of several factors.

In the conversation data collected for a related study, a cursory evaluation shows that there is a tendency to labialize final nasals in place names or proper nouns, for example Yucatán, Chichén (Itzá), Celestún, Cancún. Importantly, the majority of place names ending in a nasal in the Yucatan are of Mayan origin, stressed on the final syllable. The labial –m also appears frequently in monosyllabic words, such as bien ‘well’ and pan ‘bread’, also stressed. It is possible that a stressed syllable before a pause may condition the labial variant, along with reasons of salience that we will discuss below. The fact that Colón is both stressed finally and before a relatively long pause may be partially responsible for the dramatic increase in frequency since Lope Blanch (1987).

Another, more interesting possibility is that –m may be increasing in use as it is adopted as a sign of yucateco identity among native speakers of the dialect. The Yucatan has always been to some extent separated, physically, politically, and linguistically, from the rest of Mexico. In recent years, however, the sense of yucateco identity has grown, in large part as a reaction to increased numbers of immigrants from other areas of Mexico, in particular Mexico City. Many of the speakers interviewed during ongoing research reported that this immigration has led to an increase in crime, heavier traffic, more drug abuse, as well as to a loss of traditional Yucatan customs. This negative view of immigration has reinforced a sense of Yucatan identity, as reflected in surge of Orgullosamente yucateco (proudly Yucatecan) bumper stickers, Yucatan state flags, t-shirts with traditional Yucatecan sayings, and an increased interest in the Mayan language and culture. Additionally, attitude surveys administered as part of ongoing research show that all speakers who answered questions regarding identity either consider themselves as much yucateco as mexicano, or more yucateco. No one identified more with Mexican than Yucatecan identity. Thus, as yucateco identity is reinforced through increased immigration from outside the dialect region, speakers of YS embody their language with a sort of covert prestige,

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2 This increase in local pride was observed over the last 10 years during visits by the researcher, and confirmed by Yucatecan informants.
reaffirming their sense of Yucatecan-ness through the increased use of traditional non-standard YS variants.

We will now turn our attention briefly to why this pattern of final nasals may have arisen at all in YS, and specifically why does the labial variant –m seem to be highly favored in absolute final position.

3. The origin of –m

The question arises of why YS seems to prefer a labial –m in absolute final position, to the detriment of the ‘Standard Spanish’ –n, and the very common -n. This question becomes important when seen in the light of theories of universal markedness, which predict that coronal is the unmarked point of articulation crosslinguistically. One possibility is that labial –m is in some way ‘better’ than either the coronal or the dorsal variants. Previous studies have shown that the coda position, and coda nasals in particular, lack perceptual salience. Winters (2000:14) demonstrates that labials are significantly more salient than coronals or dorsals based on audio-visual stimuli. Likewise, Jun (1995:126) argues that non-coronals are easier to perceive based on longer transitions. It may simply be easier to perceive a labial than it is a coronal, based on both the cues surrounding the consonant and the articulatory gestures required (i.e. the closing of the lips, which may be especially salient in absolute final position). Factors of increased salience of what is emerging as a linguistic marker of identity likely reinforce the frequent use of –m. The fact that salient –m surfaces often in stressed final syllables may be another way of focusing attention on this marker of Yucatecan identity.

Another possible explanation for –m in YS is the diachronic influence of the Yucatec Mayan language, in contact with YS to varying degrees over the last several centuries. The Mayan language is widely spoken throughout the Yucatan peninsula, although less and less in urban areas. The 2000 Mexican census shows that 34% of the population is bilingual in Spanish and Mayan statewide. An additional 3% speaks only Mayan (Instituto Nacional 2000). Various researchers have proposed arguments for or against Mayan influence on YS –m. Alvar (1969:169) notes that final -m is exceedingly rare in Spanish, and although its existence is reported in other parts of the Spanish-speaking world, outside of the Yucatan –m arises only sporadically (Lope

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3 For example, see Prince & Smolensky (1993, 2002 Rutgers Optimality Archive version) p. 197 for more on coronal as unmarked POA in Optimality Theory.
4 Labials were also more salient for audio only stimuli, but the difference was not significant (Winters, 2000, 14)
Blanch, 1987). A more convincing argument in favor of direct Mayan influence on the final nasals in YS is the fact that in at least one Mayan language, Lacandon Mayan spoken in the Mexican state of Chiapas, borrowings from Spanish evidence labialization of final [n] (Alvar 1969:188). Additionally, observations made by the present researcher, later confirmed by a native Mayan-speaking informant, suggest that Yucatec Mayan displays the same pattern of final nasal variation as YS. Yucatec Mayan speakers do not distinguish between –m and –n in absolute final position. For example, the word *teen ‘I’ may be pronounced as [te:n] or as [te:m] before a pause. When the addition of a suffix causes resyllabification of (n) to onset position, only the coronal is possible. Compare *teene’ ‘I-emphatic’ [te:ne’] and [*te:me’]. With few exceptions, this pattern also occurs in YS: *camión ‘bus’ [kamjon], [kamjom], but *camiones ‘buses’ [kamjones], [*kamjomes]. While it is impossible to say for sure if Mayan has directly influenced the existence of –m in YS, the rarity of –m outside of the Yucatan, as well as phonological parallels in Mayan languages suggest some influence during the centuries of contact between the two languages. To complicate the matter, Yager (1989:89) found no significant correlation between bilingualism in Mayan and the production of –m in YS. This suggests that –m has spread throughout a majority of speakers of YS, so that even if contact with Mayan in some way directly influenced the dialect in the past, the present situation is more complicated.

4. Conclusion.

While further research is needed and underway, the present study suggests that –m in YS is more widespread than previously reported. While it is doubtful that the frequency of –m in conversation analysis will reach the levels reported here, the overwhelming preference for the labial variant in this Rapid and Anonymous survey suggests that it is increasing in use. This increased use of a typical Yucatecan dialect marker correlates with increasing local pride in all things Yucatan, including speech. The results of a variable rules analysis show that for the variable final (n) in Colón, women are the more conservative speakers, producing less innovative –m than men in this context, although this is still their preferred final nasal. The results of the R&A survey, and of data collected for a related study show that –m is still stigmatized by women speakers. The high frequencies of –m for all speakers, however, suggest that this variant is gaining acceptance across classes and genders, again likely due to a renewed sense of yucateco identity. Regarding the origins of –m in YS, it is most likely due to some combination of enhanced salience of labials over coronals and influence from a contact
language, Yucatec Mayan, which displays the same pattern of final nasal neutralization.

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