

UC Santa Cruz

Proceedings of Form and Analysis in Mayan Linguistics 5 (FAMLi 5)

Title

Demographic effects on word order in Ch'ol

Permalink

<https://escholarship.org/uc/item/7vf0c7nz>

Journal

Proceedings of Form and Analysis in Mayan Linguistics, 5

Author

Rodriguez, Jamilläh

Publication Date

2019-04-01

DEMOGRAPHIC EFFECTS ON WORD ORDER IN CH'OL*

JAMILLÄH S. RODRIGUEZ

University at Albany, State University of New York

The present study reexamines data collected by Clemens et al. (2017), who collected the semi-spontaneous responses of 30 native Ch'ol speakers through the use of visual prompts for five different focus types: broad, subject, object, contrastive subject, and contrastive object. I examine how the word order of Ch'ol speakers in a given focus context varies according to four demographic factors: language profile, sex, age, and municipality (Tila vs. Tumbalá). All factors are self-reported. I conclude that age and language profile are the best predictors of the word order of a response in a given focus condition. I posit that older monolingual Ch'ol speakers do not obligatorily encode focus through fronting, and that bilingual speakers may be influenced by Spanish word order.

Keywords: Ch'ol, sociolinguistic variables, word order, focus

1 Introduction

Ch'ol, also known as Chol or Lakty'añ, is a language of the Ch'olan branch of the Mayan language family. Although the basic word order of Ch'ol is verb-initial, fronting can occur to focus or topicalize constituents (England 1991; Aissen 1992; Vázquez Álvarez 2011). The factors that determine post-verbal word order, i.e. the difference between VSO and VOS, have also been discussed in the literature (England 1991, Coon 2010, Clemens & Coon 2018, and others). The purpose of this paper is to examine the effects of several demographic factors on word order choice of native speakers in various contexts of focus: language profile, sex, age and municipality. I find that these factors do indeed have an impact on word order, and that language profile and age are the best predictors for word order in a given focus type. Furthermore, I find that some groups do not unambiguously encode focus through the fronting of focused constituents.

The use of metadata can be an important factor in fully understanding linguistic patterns (Good 2002; Burnard 2004), as language patterns vary between groups of individuals with shared characteristics. A look at word order preferences in the context of a given focus type of individual speakers in the data of this paper indicates a high range of variability, while looking at responses of all speakers as a single entity gives the illusion of little to no variability. When demographics are utilized as a grouping method, distinct patterns become more easily visible.

Furthermore, crucial information about the influence of a dominant language on a minority language can be observed, including structural influences on the syntax like that of Spanish on Ch'ol. Although past literature (Kistler 2005; Clynes 2012) states that the majority of dominant influence of colonizing languages can be seen in the phonological system and lexicon, it is clear through this study that syntactic impacts should be considered as well.

2 Background

In this section I introduce a background of the Ch'ol language as well as the speakers who provided the data for the present research.

*I extend my sincere thanks and gratitude to Lauren Clemens, Jessica Coon, Carol-Rose Little, Morelia Vázquez Martínez, Julia Jennings, and Adam Gordon. I would also like to thank the anonymous reviewers of FAMLi 5 and the audience of SSILA 2019.

2.1 Ch'ol language

Ch'ol is a language of the Ch'olan branch of the Mayan language family; alongside Chontal, Ch'orti', and Ch'olti', which is now dormant with no living speakers. Ch'ol, like nearly all Mayan languages, is verb-initial. While VSO and VOS occur, VOS is relatively more common¹. Post-verbal word order is dependent on the structure of the object (Coon 2010; Vázquez Álvarez 2011). While VOS requires a bare NP object, VSO requires a full DP object, as shown in (1) and (2).

- (1) Tyi i-k'uch-u si' aj-Maria.
 PFV A3-carry-SS wood NC-Maria
 'Maria carried wood.'
- (2) Tyi i-k'uch-u aj-Maria jiñi si'.
 PFV A3-carry-SS NC-Maria DET wood
 'Maria carried the wood.'

(Coon 2010: 355)

Ostensibly, both VSO and VOS word orders should be associated with broad focus, meaning that there are no particular constituents being focused or emphasized in verb-initial order. The data analyzed in this paper considers broad focus as well as the other types of focus investigated in Clemens et al. (2017): broad focus, subject focus, object focus, contrastive subject focus, and contrastive object focus.

Büring (2012) distinguishes between regular, or constituent, focus and contrastive focus. In constituent focus, one constituent is emphasized, e.g. when it is the answer to part of a wh-question. In comparison, contrastive focus marks the constituent that distinguishes a sentence from a previous sentence and is typically corrective in nature. If the response to the question *Who bought the beans* is *The girl bought the beans*, then the response features subject focus because it is offering new information as a constituent to a wh-question. If the question is *Did the boy buy the beans* and the response is *The girl bought the beans*, then the response features contrastive subject focus because it is correcting the information of the previous utterance.

Some Mayan languages have a focus marker to indicate a focus constituent along with fronting, like Ki'chee', which has a focus marker that is optional in certain contexts, such as when the focused constituent is a bare NP (Velleman 2014).

- (3) (Aree) leej ka-tij-ow chla'.
 (FOC) tortilla INC-eat-UNACC DEM
 'They eat *tortillas* there.'

(Velleman 2014: 101)

Sometimes this focus marker is required, as in (4), where the focused constituent is a full DP.

- (4) *(Aree) ri a Xwaan x-riq-ow-ik.
 (FOC) D youth Juan CPL-find-AF-SS
 'It was *Juan* who found it'.

(Velleman 2014: 102)

¹Neither VOS nor VSO are very frequently occurring, because Ch'ol is a pro-drop language and because nominals are frequently fronted (Coon 2010).

Ch'ol is unlike Ki'chee' in this respect and does not have a focus marker, and instead has been reported to utilize fronting as the only method to encode focus information (Coon 2010; Vázquez Álvarez 2011). Following this notion, SVO is generally indicative of subject focus, as in (5) while OVS word order is associated with object focus, as in (6). Focus is indicated in the example sentences below with italics.

- (5) Jiñ lukum tyi i-k'ux-u x'ixik.
 DET snake PFV A3-bite-SS woman
 'The snake bit the woman.'
- (6) Jiñ xixik tyi i-k'ux-u ili lukum.
 DET woman PFV A3-bite-SS DEM snake
 The snake bit *the woman*.'

(Clemens et al. 2017: 10)

As discussed in Section 4, there is evidence in the present data that subject focus can occur in orders other than SVO and object focus can occur in orders other than OVS, as shown below, where (7) is an example of subject focus with VOS order and (8) is an example of object focus with SVO order. Both responses are from the same speaker and visual prompt.

- (7) a. Maxki ta' imäñä bu'ul sajmä?
 who PFV buy bean today
 'Who bought beans today?'
- b. sajmäl [tyi mäñä]_V [bu'ul]_O [xch'ok]_S.
 today PFV buy bean girl
 'The girl bought beans today.'

Subject focus, sfc_1_1_2

- (8) a. Chuki ta' imäñä xch'ok sajmä?
 what PFV buy girl today
 'What did the girl buy today?'
- b. [jiñi xch'ok]_S [tyi mäñä]_V [bu'ul]_O sajmäl.
 DET girl PFV buy bean today
 'The girl bought *beans* today.'

Object focus, sfc_1_1_3

This is not surprising, given that other Mayan languages permit focus without fronting. Yucatec Maya allows for in-situ object focus (Verhoeven and Skopeteas 2015), as in (9).

- (9) túun tul-ik hun-p'éel kamyòon
 PROG:A.3 push-INCMP(L).B.3.SG one-CL.INAN pick.up
 'He is pushing a *pickup*'.

2.2 Ch'ol speakers

Table 1 shows the distribution of each of the sociolinguistic variables among the native Ch'ol speakers from which the data of this paper was collected. All demographic factors were self-reported. 21 female speakers

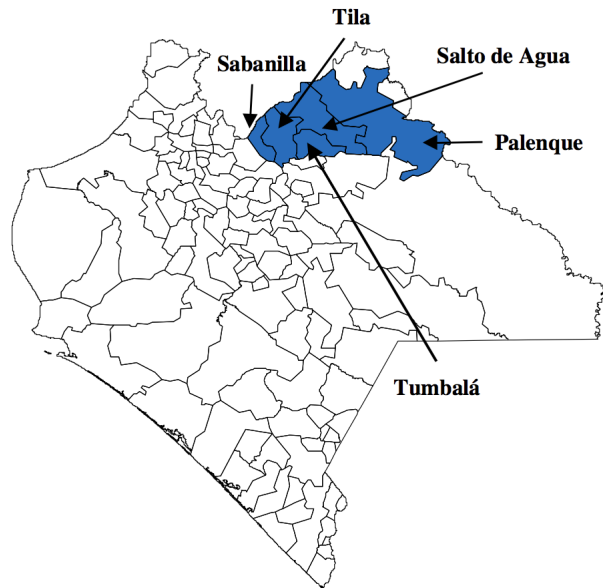
and 10 male speakers were represented in the sample. While 21 speakers identified as bilingual speakers of both Ch’ol and Spanish, 10 identified as monolingual Ch’ol speakers. The average age of speakers was approximately 35 years, with a range of approximately 20 years. 13 speakers resided in the Tila region, while 17 resided in Tumbalá at the time of data collection. Table 1 shows the distribution of these characteristics among the 31 speakers.

Table 1: Distribution of demographic factors among 31 speakers

	Frequency	Percentage (%)
Sex		
Female	21	68
Male	10	32
Language profile		
Monolingual	10	32
Bilingual	21	68
Age		
<35 years	19	61
>35 years	12	39
Municipality		
Tila	13	42
Tumbalá	18	58

The data discussed in this paper come from speakers residing in Tila and Tumbalá municipalities, and there are generally thought to be two main varieties of Ch’ol: Tila Chol, and Tumbalá Ch’ol. All varieties of Ch’ol are mutually intelligible (Attinasi 1973; Schumann Galvez 1973; Vázquez Álvarez 2002). Figure 1 below shows a map of the state of Chiapas, with regions with large numbers of Ch’ol speakers highlighted in blue.

Figure 1: Map of the Ch’ol-speaking regions of Chiapas (Vázquez Álvarez 2002: XVI)



Children born in Ch'ol-speaking regions often grow up speaking Ch'ol as their first language and may speak Ch'ol in primary school, but Spanish is the dominant language of education beyond the early years. Furthermore, Spanish is typically required of individuals who travel outside of the region for work or further education (Coon 2004).

This heavy and growing influence of Spanish, especially among younger speakers, is possibly affecting the syntax of their first language, as we will see in Section 4. Bilingual speakers are using SVO order more evenly across focus contexts, including broad focus.

3 Data collection

The data in this paper was collected by Clemens et al. (2017), whose study elicited semi-spontaneous responses to pre-recorded questions. Speakers were asked questions via audio recordings designed to elicit responses of specific focus types, with illustrated visual prompts as aids. This method of elicitation was meant to avoid influencing participants through the use of a lingua franca or requiring literacy in Ch'ol for participation. Below is an example of a visual prompt with the questions utilized to elicit responses for each focus type.

Figure 2: An illustrated visual prompt for recorded elicitations (Illustrations by Blare Coughlin)



- | | | |
|------|---|---------------------------|
| (10) | a. Chuki ta' ujtyi sajmä?
'What is happening today?' | Broad focus |
| | b. Maxki ta' imäñä bu'ul sajmä?
'Who bought beans today?' | Subject focus |
| | c. Chuki ta' imäñä xch'ok sajmä?
'What did the girl buy today?' | Object focus |
| | d. Jiñi alob ta' imäñä bu'ul sajmä?
'Did the boy buy beans today?' | Contrastive subject focus |
| | e. Ta' imäñä ch'um xch'ok sajmä?
'Did the girl buy chayote today?' | Contrastive object focus |

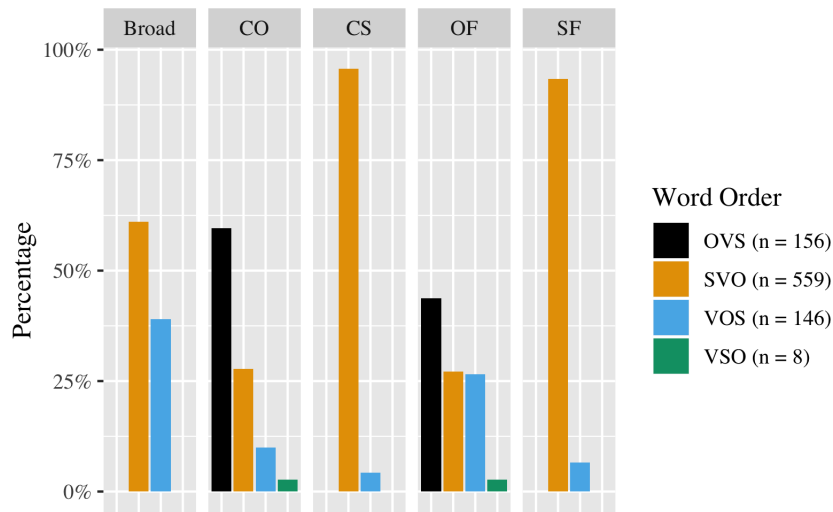
Participants were given time to practice during a training stage, and those who were uncomfortable using the computer were assisted with pressing the recording button. They were also introduced to the characters in the illustrations beforehand and given names to refer to them by.

A total of 1,549 responses were collected. Each recording was annotated by a native speaker of Ch’ol for fluidity, or confidence and completeness, on a scale of 1 to 3, with one being least fluid and 3 being most fluid. Fluid responses were those with no hesitation markers or pauses. Files with a fluidity of 1 (n = 325) or a fluidity of 2 (n = 310) were omitted from analysis. Infelicitous responses (n = 289), files with clipped audio (n = 30), responses with a discontinuous hesitation marker (n = 2), and responses with pro-drop, such as OV or SV (n = 145), were omitted as well. Many items exhibited more than one of these characteristics. The remaining files totaled to 869 responses.

4 Results

Figure 3 below illustrates the distribution of the four observed word orders in the five focus conditions before sociolinguistic variables are considered.

Figure 3: Frequency of word orders across focus conditions



Both VOS and SVO are found in all focus conditions, while OVS and VSO are only found in object focus and contrastive object focus.

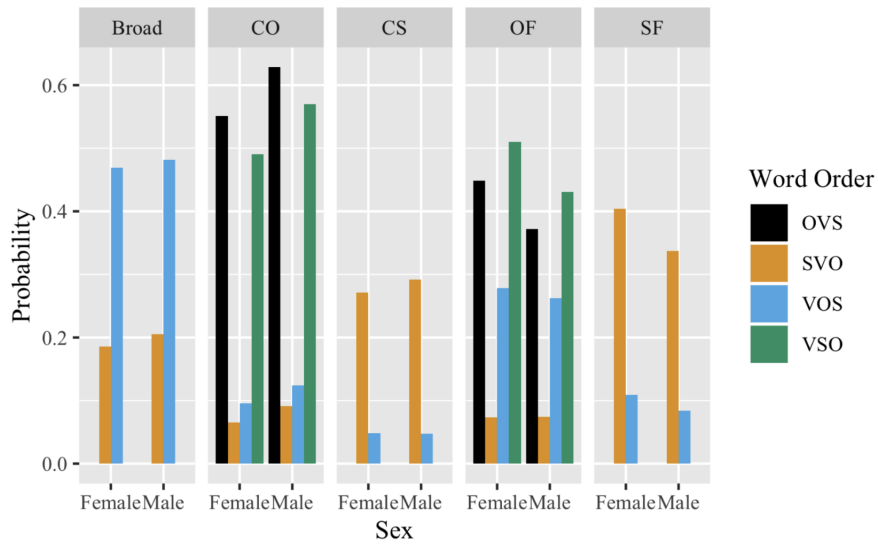
In broad focus, SVO and VOS word orders are possible, with VOS being the most likely outcome. Subject focus and contrastive subject focus are similar in that they are both more likely to have an SVO order, although VOS is also permitted. Object focus and contrastive object focus have more possible word orders than the other focus types because OVS and VSO orders are exclusive to these contexts. OVS and VSO are both preferred in regular object and contrastive object focuses, with OVS being the more probable outcome of the two.

A multinomial logistic regression was run on the data using R (R Core Team 2014). An ANOVA was then utilized to compare models differing in one variable. It was concluded that sex and municipality are not significant predictors of the output, as women and men exhibit neatly identical patterns, and speakers from Tila and Tumbalá pattern nearly identically as well. Language profile was found to contribute significantly to the model ($p < 0.01$). Although age by itself is not a significant contributor, the interaction of age and language profile is ($p = 0$). In conclusion, age and language profile are the best predictors of output word order within a focus condition.

4.1 Sex

Figure 4 below shows the probability of word orders in the five focus types grouped by sex. Female and male speakers pattern almost identically in the word order of their responses across focus conditions.

Figure 4: Probability of word orders across focus conditions by sex



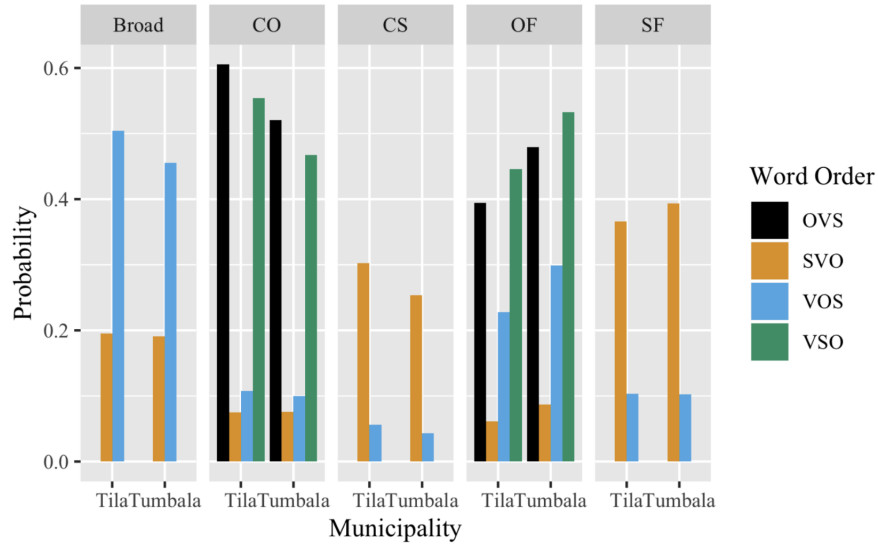
VOS order is primarily used for broad focus, but SVO is also utilized. OVS and VSO word orders are reserved for object focuses, both regular and contrastive. SVO is used primarily for regular and contrastive subject focuses, although it is observed in all focus contexts, as is VOS.

These facts are true regardless of sex, so this demographic factor can not be considered a significant predictor of word order for a given focus.

4.2 Municipality

The next factor considered was municipality, with responses analyzed from Ch'ol speakers in the Tila and Tumbalá municipalities.

Figure 5: Probability of word orders across focus conditions by municipality

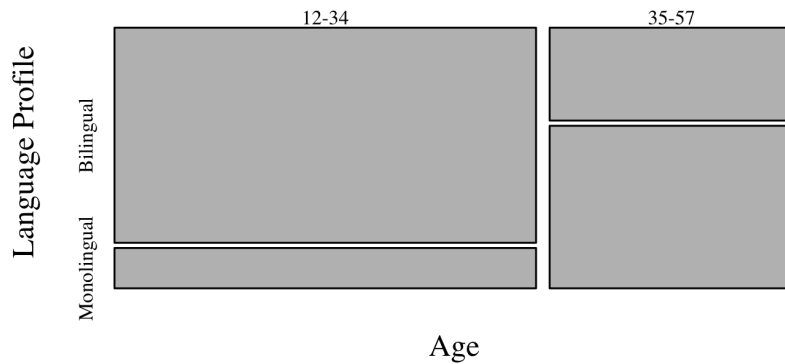


Similarly to sex, the municipality of speakers does not significantly contribute to output word order.

4.3 Age and language profile

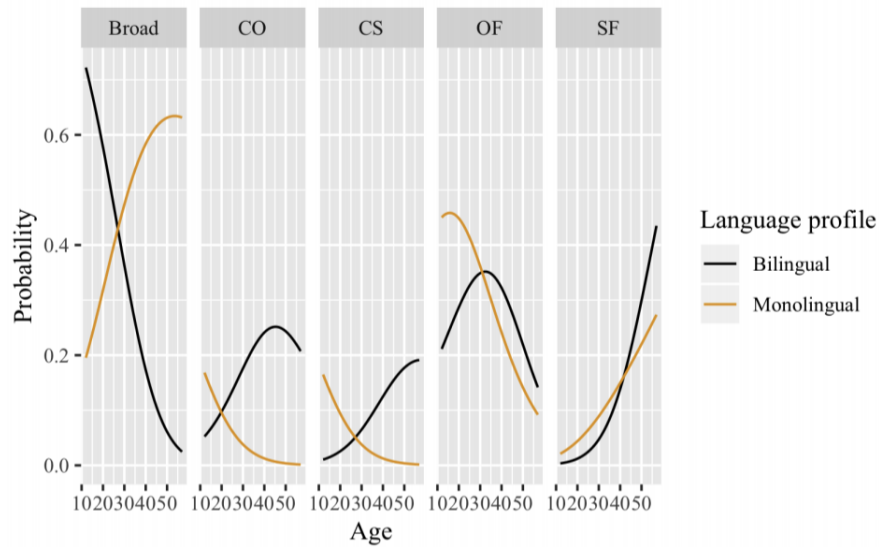
A Fisher's exact test was calculated comparing the proportion of bilingualism and monolingualism in younger speakers compared to older speakers. A significant interaction was found ($p < .004$). Younger speakers are more likely to be bilingual than older speakers, as shown in Figure 6. There were no significant interactions between these and other factors, including sex and municipality. Because there was a significant interaction between age and language profile, these two demographic factors were analyzed simultaneously.

Figure 6: Proportion of Ch'ol speakers by age and language profile



In comparison to sex and municipality, the output word order of a response in regards to age and language profile is much more variable. The probability of a certain word order in focus context is more dependent on these demographic factors than seen previously with sex and municipality.

The probability of VOS order responses across focus conditions in respect to age and language profile are shown in Figure 7.

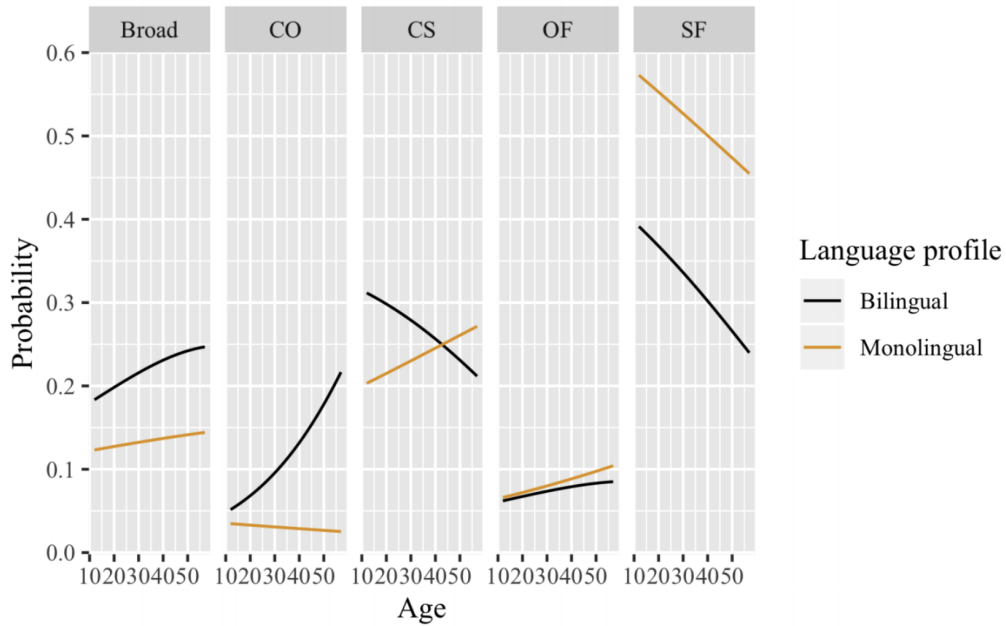
Figure 7: Probability of VOS order across focus contexts (n = 146)

Surprisingly, VOS is most probable in broad focus responses of young bilingual Ch'ol-Spanish speakers, and older monolingual Ch'ol speakers. Younger monolingual speakers use VOS in object focus conditions, while older bilingual speakers use VOS in subject focus.

One possible explanation of this distribution is that younger bilingual speakers and older monolingual speakers are staying home and communicating with each other, creating a similarity in the way they encode broad focus. Older bilingual speakers are most likely to travel to larger economic centers where Spanish is the lingua franca. It should also be noted that this sample size of younger monolingual speakers was only 3 of the 31 speakers; smaller than the other demographic groups. As a result, the probabilities of younger monolingual speakers may be less reliable and should be investigated with a larger sample size.

Figure 8 shows the probability of SVO in responses. Although SVO is not considered to be a basic order of Ch'ol, it appears in all focus conditions, as was shown in Figure 3 above. Of all conditions, SVO order is most probable in subject focus, especially among younger monolingual speakers.

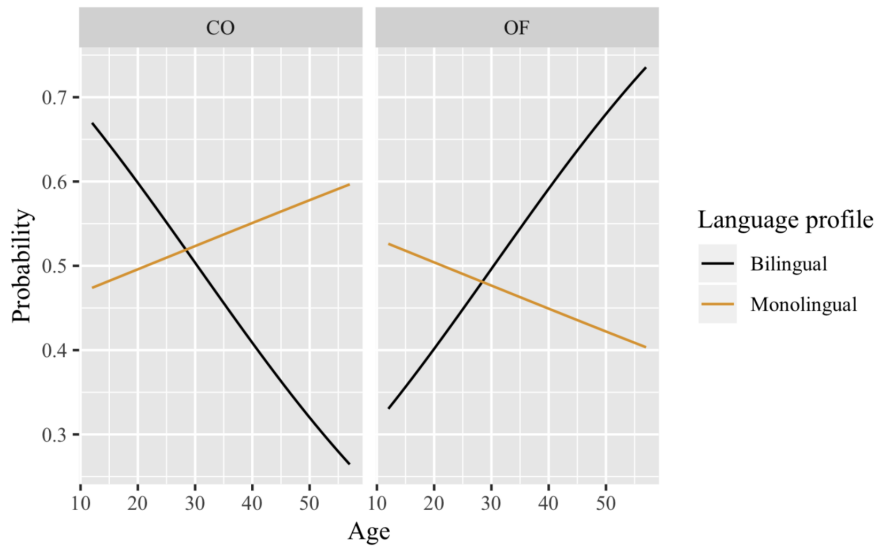
Figure 8: Probability of SVO order across focus contexts (n = 559)



SVO is seen in all conditions, but is prevalent in broad focus, subject focus, and contrastive subject focus. When it is utilized for contrastive object focus, it is used by older bilingual speakers. A possible influence of Spanish can be seen in the more even distribution of bilingual speakers across broad, subject, and contrastive subject focuses. We see relatively equal rates of SVO, the basic word order of Spanish, in broad focus by bilingual speakers where we would expect the basic word order of Ch’ol: V1.

The probability of OVS across focus conditions is shown in Figure 9 below. OVS order is only utilized for contrastive object and object focus, and is not seen in other contexts of focus.

Figure 9: Probability of OVS order across focus contexts



In terms of demographic groups, contrastive object and object focus use OVS order differently. While OVS is only ever used as a way to encode focus through fronting, it is not the only order that signals

object or contrastive object focus. Younger bilingual speakers use OVS as fronting to indicate contrastive object focus, while older bilingual speakers use OVS for object focus. Monolingual speakers, regardless of their age use OVS evenly for object and contrastive object focus.

We can conclude that OVS appears for the two object focus conditions exclusively. The four demographic groups created by language profile and age can use OVS more frequently for one than the other, but can also all use OVS for both conditions.

VSO is very rarely utilized as a word order in these responses. In this data, only 8 of the 869 responses were VSO, and as a result they were not analyzed in depth. Clemens and Coon (2018) offers a discussion of right-side topic and focus position in Ch'ol. It should be noted, however, that VSO responses only occurred in object focus and contrastive object focus. VOS has been stated to only appear with definite objects, while VSO only appears with objects that are bare nouns (Coon 2010). This fact accounts for the appearance of VOS solely in object focuses since the objects are being focused as full DPs. The data for this paper does not show a similar pattern for definite and bare subject nominal phrases. Both bare and definite subjects appeared in all word orders.

5 Conclusion

Evidence that word order is not a solitary cue for word order in a given focus condition, along with the fact that different demographic groups seem to encode focus information differently, leads me to believe that focus may be encoded through prosody. Acoustic measurements including pitch, duration, and intensity; of the responses of Ch'ol speakers were collected from the data and analyzed among the four demographic factors.

Analysis into these acoustic measurements and how they encode focus is ongoing. It is unlikely that the differences in intensity are meaningful because the change across focus types only amounts to around 5 dB, a change that is imperceptible to the human ear.

Because initial responses were edited for a prosodic analysis, it may also be useful to include removed responses for a more complete demographic account as well.

Although the present research reveals that there are patterns and differences in the ways that speakers of varying sociolinguistic variables use word order across focus conditions, this information could benefit from in-depth research into the sociolinguistic motivations behind these differences. Because Spanish is becoming increasingly influential in regions with Ch'ol speakers, an investigation into the benefits of utilizing characteristics from a dominant language could reveal deeper nuances.

In conclusion, there are differences within the data in the way that Ch'ol speakers encode focus with respect to language profile and age. Monolingual speakers use SVO for subject focus, and OVS for object and contrastive object focuses. While younger monolingual speakers use VOS for object focus, older monolingual speakers use VOS for broad focus, following the basic order of Ch'ol.

Bilingual Ch'ol-Spanish speakers use SVO more evenly across broad, subject, and contrastive subject focus contexts. Bilingual speakers of different ages differ in the way they utilize VOS and OVS. Younger bilingual speakers use VOS in broad focus and OVS in contrastive object contexts, but older bilingual speakers use VOS in subject focus and OVS in object focus.

The analysis of demographic factors alongside word orders in various focus contexts leads to the understanding that word order alone can not predict the focus condition of an utterance, regardless of demographic group. We can use information, such as metadata about speaker demographics, to further support our predictions on a word order outcome. Furthermore, it is evident that the influence of Spanish can be seen within the syntax of Ch'ol, and that colonizing languages influence language outside the lexicon and phonology.

Language profile and age are key predictors of word order and focus type. Sex and municipality were not sufficient predictors for word order, except in object focuses. In contrast, word order of speakers with respect to their age and language profile across focus contexts was much more variable, but predictable across demographic groups. In conclusion, fronting is a good indication of focus, but it is not the solitary way that focus information is encoded, especially among older Ch'ol speakers.

References

- Aissen, Judith L. 1992. Topic and Focus in Mayan. *Language* 68:43–80.
- Attinasi, John Joseph. 1973. Lak t'an. A grammar of the Chol (Mayan) word. Doctoral Dissertation, University of Chicago.
- Burnard, Lou. 2004. *Metadata for corpus work*, Chapter 3.
- Büring, Daniel. 2012. *Focus and intonation*, 103–115. Routledge.
- Clemens, Lauren, and Jessica Coon. 2018. Deriving verb-initial word order in Mayan. *Language* 94:237–280.
- Clemens, Lauren, Jessica Coon, Carole-Rose Little, and Morelia Vázquez Martínez. 2017. Encoding focus in Ch'ol semi-spontaneous speech. Paper presented at the Society for the Study of the Indigenous Languages of the Americas (SSILA), Austin, Texas.
- Clynes, Adrian. 2012. Dominant Language Transfer in Minority Language Documentation Projects: Some Examples from Brunei. *Language Documentation and Conservation* 6:253–267.
- Coon, Jessica. 2004. Roots and Words in Chol (Mayan): A Distributed Morphology Approach.
- Coon, Jessica. 2010. VOS as Predicate Fronting in Chol Mayan. *Lingua* 120:345–378.
- England, Nora C. 1991. Changes in Basic Word Order in Mayan Languages. *International Journal of American Linguistics* 57:446–486.
- Good, Jeff. 2002. A gentle introduction to metadata. URL <http://linguistics.berkeley.edu/~jcgood/bifocal/GentleMetadata.html>.
- INAFED Instituto para el Federalismo y el Desarrollo Municipal. 2010. Enciclopedia de los Municipios y Delegaciones de México. URL <http://siglo.inafed.gob.mx/enciclopedia>.
- Kistler, Sarah Ashley. 2005. Loanwords and Code-switching: Distinguishing Between Language Contact Phenomena in Ch'ol. *Alternate Routes* 21:82.
- R Core Team. 2014. *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria. URL <http://www.R-project.org/>.
- Schumann Galvez, Otto. 1973. *La Lengua Chol, de Tila (Chiapas)*. Serie cuadernos / Universidad Nacional Autónoma de México, Centro de Estudios Mayas. México: UNAM, 1st edition.
- Simons, Gary F., and Charles D. Fennig, ed. 2018. *Ethnologue: Languages of the World, Twenty-first edition*. SIL International. URL www.ethnologue.com.
- Velleman, Leah (née Daniel). 2014. Focus and movement in a variety of K'ichee'. Doctoral Dissertation, The University of Texas at Austin.
- Verhoeven, Elisabeth, and Stavros Skopeteas. 2015. Licensing Focus Constructions in Yucatec Maya. *IJAL* 81:1–40.
- Vázquez Álvarez, Juan Jesús. 2002. Morfología del Verbo de la Lengua Chol de Tila, Chiapas. Master's thesis, Instituto Nacional Indígena.
- Vázquez Álvarez, Juan Jesús. 2011. A Grammar of Chol, a Mayan language. Doctoral Dissertation, The University of Texas at Austin.