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**Generation Gap: Explaining new and emerging word-order phenomena in
Mayan-Spanish bilinguals**

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Abstract

We investigate asymmetries in the behavior of NP subjects and objects in Sipakapense (Maya) across three generations of Sipakapense-Spanish bilingual speakers. Often, the two languages are typologically classified into separate groups, with SVO word order assumed as the traditional sequence in Spanish, and VSO in Sipakapense. We illustrate that this typological partition is artificial: in Spanish, as in Mayan, VSO can serve as the basic, declarative word order, where the subject maintains its internal-VP position with a neutral interpretation. Both Spanish and Sipakapense obtain the SVO configuration via subject topicalization. Thus, the key factor in the shift from VSO to SVO observed occurs in the second generation of Sipakapense speakers is not directly related to a “dominant” influence of Spanish, but instead is based on independent cognitive strategies as the bilinguals “economize their cognitive burden” by applying the same operations to the VSO structures existing in both languages. We further demonstrate that the third generation of bilinguals exhibits a preference for SOV order in Sipakapense. We provide a principled explanation for this development, based on the confluence of the bilingual’s cognitive strategies for organizing his/her languages and the sociolinguistic factors that impact this particular community.

Key words: *Language contact, Maya movement, Word order, Bilingualism and Cognition, Endangered languages*

1. Introduction

We are interested in mechanisms constraining word order across generations of Sipakapense-Spanish bilingual speakers. We provide an analysis for recent shifts from VSO to SVO specifically with an eye to Sipakapense syntax, demonstrating that this change is not directly related to a “dominant” influence of Spanish. We show that the typological partition between canonical word orders in Sipakapense and Spanish is artificial, illustrating that in Spanish, as in Mayan, VSO functions as the ‘default’ order. SVO results from topicalization independently in Spanish and Sipakapense, since VSO is the base sequence in both. SVO shift in Sipakapense is best explained as bilingual “economy” to lighten the cognitive/linguistic burden (Satterfield 2003), rather than as transfer or convergence.

Underlying this study is the notion that bilinguals have specialized cognitive strategies used to develop and maintain linguistic knowledge under variable conditions. The coexistence of two or more systems at similar levels of linguistic competence involves concurrent organizational processes, such as *correspondence* (matching like or related aspects across both systems), and *differentiation* (isolating aspects within each system), and a strategy of *universality* (Seuren and Wekker 1986) to supply default grammatical options containing overarching, non-language-specific knowledge.

In this project, the social contexts for each generation of speakers are also relevant. We argue that particular contact situations trigger unique sets of bilingual

“economy” strategies. Our analysis extends to a younger generation of Sipakapense-Spanish bilinguals (born 1980s-1990s), with SOV emerging in the Sipakapense grammar (Barrett 2003). We attribute this new shift, as before, to bilingual cognitive strategies, rather than to interference or dominance of Spanish.

The remainder of the paper characterizes word order properties of Sipakapense and Spanish, outlines the social context in which these syntactic phenomena occur, and presents corroboration from natural language data across three generations of Sipakapense-Spanish bilinguals.

2. Syntactic-Semantic Properties: Spanish and Sipakapense

2.1 Spanish

Subject positions in Spanish are restricted by topic and focus-marking requirements, with the interpretation of “new” versus “old” information depending on the position of the constituent (Contreras 1976, Casielles 1998, and Zubizarreta 1994, 1998). In Spanish, new information occurs postverbally, whereas old information occurs in preverbal position. The grammatical concepts of “topic” and “focus” fall out from these notions of “old” and “new” information:

- (1) a. **Marta leyó la carta.** (SVO) [phrases in bold = focus constituents]
 ‘Marta read the letter’
- b. #**MARTA** leyó la carta. (SVO) [capitalized bold = contrastive focus]
 ‘Marta read the letter’
- c. ?Marta leyó **la carta.** (SVO)
 ‘Marta read the letter’
- d. **LA CARTA** leyó Marta. (OVS)
- e. La carta, la leyó **Marta.** (O-Clitic-V S)
- f. Leyó la carta **Marta.** (VOS)
- g. Leyó Marta la carta. (VSO)

In (1a), the entire sentence may be the focus. In (1c), the object is in its canonical final position, and cannot be marked unambiguously with narrow focus. Thus, (1a) and (1c) are ambiguous as to whether narrow or broad focus interpretation shows on the object. Focused subjects or objects appearing to the left of the verb (preverbal position) are obligatorily associated with a contrastive or emphatic reading in Spanish. The subject in (1b) is marked by emphatic/contrastive stress within SVO order. Sentence-final ‘*la carta*’ in (1c) is preferred by Spanish speakers over (1d). Although (1c) is ambiguous with respect to the scope of focus, the fronted object in (1d) can only have focus with an emphatic reading, corresponding to the marked option.

Irrespective of syntactic function, preverbal NPs in Spanish are further constrained by a *specificity* requirement, unless contrastively focused. [+Specific] NPs include

definite NPs or indefinite NPs with a referential, partitive, or generic collective reading. Such indefinites will be termed [+strong] indefinites. Semantic restrictions in the preverbal field are indicative of a topical domain. Spanish uses clitic-left dislocations (CLLD) to leave “old” information out of the sentence, as in (1e). Both (1e) and (1f) are felicitous to the question ‘*Who read the letter?*’ where the focused subject appears in final position.

Assuming without further discussion that: a) subjects are generated internal to the VP (Koopman and Sportiche 1991); and b) movement not conditioned by “virtual conceptual necessity” is to be avoided based on principles of Economy (Chomsky 1995, 1998), the basic surface order of Spanish is:

(2) [_{IP} [_{INFL} V_i + INFL [_{VP} Subject [_{V'} t_i Object]]]]

Recent analyses advance VSO as the canonical word order in Spanish (e.g., Contreras 1991, Suñer 1994, Alexiadou and Anagnostopoulou 1998a, Ordóñez 2000, etc.). This structure is associated with broad focus readings, constituting the unmarked order of constituents in a neutral context.

2.2 Sipakapense

Sipakapense is best classified as a VSO language. SVO is possible with specific combinations of definite and indefinite NPs when topicalization occurs. Definiteness of NPs in Sipakapense is tied to discourse prominence and, in turn, discourse prominence constrains word order, lending independent motivation for similar claims discussed for Spanish. Patterns here reflect the grammar of the oldest generation of Sipakapense speakers, who use VSO most frequently. For older speakers, SVO occurs with subject topicalization and when V is marked with an inverse suffix (the focus antipassive), detransitivizing V. OVS in Sipakapense is acceptable with object focus. VOS is rare and only occurs in restricted contexts (cf. Barrett 1999):

- (3) a. Krka'yij pon ri aliit ri alab' (VSO)
INC+3sABS+3sERG+see clitic the girl the boy
'The girl is looking at the boy.'
- b. Krka'yij pon ri alab' ri aliit. (VSO)
INC+3sABS+3sERG+see clitic the boy the girl
'The boy is looking at the girl.'
- c. Ri aliit krka'yij pon ri alab' (SVO)
the girl INC +3sABS+3sERG+see the boy
'The girl is looking at the boy.'
- d. Ri alab' krka'yij pon ri aliit. (SVO)
the boy INC +3sABS+3sERG+see the girl
'The boy is looking at the girl.'
- e. *Ri aliit ri alab' krka'yij pon. (*SOV/*OSV)
the girl the boy INC+3sABS +3sERG+ see

- f. *Ri alab' ri aliit krka'yij pon. (*SOV/*OSV)
the boy the girl INC+3sABS +3sERG+ see

Sipakapense structures are constrained by a specificity requirement. If both subject and object are [+definite] and marked with the definite proximate determiner *ri*, VSO and SVO are acceptable word orders, and changing the position of the NPs will alter the meaning of the sentence as in (3a)-(3d). (3e) and (3f) illustrate that both NPs marked with *ri* render SOV and OSV word orders unacceptable. If one NP is marked with *ri* and the other with *wu*, specifying a [+definite] obviate reading, then the NP marked with *ri* is always interpreted as the subject. In (4a), VSO order is acceptable when the subject is marked with *ri*, but if constituents are reversed as in (4b), the sentence is ungrammatical:

- (4) a. Krka'yij pon ri aliit wu alab' (VSO)
INC+3sABS+3sERG+see clitic the girl the boy
'The girl is looking at the boy.'
- b. *Krka'yij pon wu alab' ri aliit. (*VOS/*VSO)
INC+3sABS+3sERG+see clitic the boy the girl
*'The boy is looking at the girl.'

In (5), fronting one of the NPs to preverbal TOPIC gives SVO or OVS order depending on the NP fronted. In either case, the NP marked with *ri* is always interpreted as the subject:

- (5) a. Ri aliit krka'yij pon wu alab' (SVO)
the girl INC +3sABS+3sERG+see the boy
'The girl is looking at the boy.'
- b. Wu alab' krka'yij pon ri aliit. (OVS)
the boy INC +3sABS+3sERG+see the girl
'The girl is looking at the boy.'

In (6), NP constituents are fronted to TOPIC and FOCUS preverbal slots. SOV word order is acceptable only when the subject is in TOPIC and is marked with *ri*. OSV order is unacceptable. SOV is unacceptable if the NP marked with *wu* is the intended subject:

- (6) a. Ri aliit wu alab' krka'yij pon. (SOV/*OSV)
'The girl is looking at the boy.'
- b. *Wu alab' ri aliit krka'yij pon. (*OSV/*SOV)
*'The boy is looking at the girl.'

Several possible word orders arise when one NP is [+definite] *ri* and the other is [+indefinite]*jun*. The NP marked with *ri* is always interpreted as the subject and all

word orders are acceptable except for OSV. In (7), the indefinite determiner, *jun*, is interpreted as object, even when preceding the other NP postverbally.

- (7)
- a. Krka'yij pon ri aliit jun alab' (VSO)
'The girl is looking at a boy.'
 - b. Krka'yij pon jun alab' ri aliit. (VOS)
'The girl is looking at a boy.'
 - c. *Jun alab' ri aliit krka'yij pon. (*OSV)
 - d. Jun alab' krka'yij pon ri aliit. (OVS)
'The girl is looking at a boy.'/'It's a boy who the girl is looking at.'
 - e. Ri aliit krka'yij pon jun alab' (SVO)
'The girl is looking at a boy.'
 - f. Ri aliit jun alab' krka'yij pon. (SOV)
'The girl is looking at a boy.'

If both NPs are indefinite and marked with *jun*, the acceptable word order is SVO and all other possible word orders are unacceptable. Sentences with both NPs marked with *jun* are only interpretable when one of the NPs is fronted to preverbal TOPIC:

- (8)
- a. Jun aliit krka'yij pon jun alab'. (SVO) (*OVS interpretation)
'A girl is looking at a boy.'
 - b. *Jun aliit jun alab' kirka'yijpon (*SOV/*OSV)
 - c. Jun alab' krka'yij pon jun aliit.(SVO) (*OVS interpretation)
'A boy is looking at a girl.'
 - d. *Krka'yij pon jun aliit jun alab' (*VSO/*VOS)

Table 1 summarizes these points:

Table 1: Sipakapense

NP Constituents		Possible word orders					
Subject	Object	vso	vos	svo	sov	ovs	osv
Definite (“ri”)	Indefinite (“jun”)	√	√	√	√	√	*
Definite (“ri”)	Definite (“wu”)	√	*	√	√	√	*
Definite (“wu”)	Indefinite (“jun”)	√	*	√	√	*	*
Indefinite (“jun”)	Definite (“wu”)	√	*	√	√	*	*
Definite (“ri”)	Definite (“ri”)	√	*	√	*	*	*
Definite (“wu”)	Definite (“wu”)	*	*	√	*	*	*
Indefinite (“jun”)	Indefinite (“jun”)	*	*	√	*	*	*
Definite (“wu”)	Definite (“ri”)	*	*	*	*	*	*
Indefinite (“jun”)	Definite (“ri”)	*	*	*	*	*	*

2.3 Syntactic analyses

We hypothesize that Sipakapense and Spanish have parallel VSO base structures. Topic- and focus-marking are the same in both languages. Subject NPs can remain in the [Spec, VP] site, or they can be topicalized in a preverbal position via CLLD. The former operation retains the neutral VSO structure. The latter results in SVO. TOPIC does not target [Spec, IP]; rather, preverbal TOPIC constituents are generated as CLLD adjuncts where the overt NP adjoins to IP:

- (9) a. $[_{IP} \text{TOPIC-Subject}_i [_{IP} \text{pro}_i [_{INFL} V_j [_{VP} t_i t_j \text{Object}]]]]]]$
- b. $[_{IP} \text{Ri aliit}_i [_{IP} \text{pro}_i [_{INFL} \text{krka'yij pon}_j [_{VP} t_i t_j \text{ri alab' }]]]]]] (\text{SVO})$
 ‘The girl is looking at the boy.’
- c. $[_{IP} \text{Ri aliit}_i [_{IP} \text{pro}_i [_{INFL} \text{krka'yij pon}_j [_{VP} t_i t_j \text{wu alab' }]]]]]] (\text{SVO})$
 ‘The girl is looking at the boy.’
- d. $[_{IP} \text{Ri aliit}_i [_{IP} \text{pro}_i [_{INFL} \text{krka'yij pon}_j [_{VP} t_i t_j \text{jun alab' }]]]]]] (\text{SVO})$
 ‘The girl is looking at a boy.’
- e. $[_{IP} \text{Jun aliit}_i [_{IP} \text{pro}_i [_{INFL} \text{krka'yij pon}_j [_{VP} t_i t_j \text{jun alab' }]]]]]] (\text{SVO})$
 ‘A girl is looking at a boy.’
- f. $[_{IP} \text{Marta}_i [_{IP} \text{pro}_i [_{INFL} \text{leyó}_j [_{VP} t_i t_j \text{la carta}]]]]]] (\text{SVO})$
 ‘Marta read the letter.’

In (9), the preverbal subject is in TOPIC. IP contains subject *pro*, the non-phonologically realized pronoun, generated in [Spec, VP]. *Pro* undergoes (covert) movement to [Spec, IP] to check N(D)-features. TOPIC is associated with subject *pro* via an A-bar chain, and is analyzed as the antecedent of *pro*. A difference between

TOPIC in Sipakapense and Spanish corresponds to the specificity requirement semantically restricting Spanish from topicalizing [-strong] indefinite NPs. (9b) through (9e) provide evidence.

Preverbal contrastive FOCUS derives from movement (Hernanz and Bruccart 1987). FOCUS patterns with Wh-movement, both constituting A-bar movement to [Spec, CP]. Assuming that TOPICS of any category precede the fronted FOCUS constituent, (10a) illustrates [XP] OVS order with VP-internal subject. In (10b) OVS obtains with the subject in situ and no additional constituent generated as TOPIC. In (10c), subject topicalization yields SOV, where the object receives focus:

- (10) a. [CP TOPIC [CP FOCUS_i [C' Verb_j [IP [I' t_j [VP Subject t_j t_i]]]]]]]
 b. [CP FOCUS_i [C' Verb_j [IP [I' t_j [VP Subject t_j t_i]]]]]
 c. [CP TOPIC-Subj_k [CP FOCUS-Obj_i [C' Verb_j [IP pro_k [I' t_j [VP t_k t_j t_i]]]]]]]

FOCUS constructions are viable for both Spanish (11a-b) and Sipakapense (11c-d):

- (11) a. [CP en julio [CP **LA CARTA**_i [C' leyó_j [IP [I' t_j [VP Marta t_j t_i]]]]]]]
 in July the letter read-3sPAST Marta
 b. [CP **LA CARTA**_i [C' leyó_j [IP [I' t_j [VP Marta t_j t_i]]]]]
 c. [CP Wu alab'_i [C' krka'yij pon_j [IP [I' t_j [VP ri aliit t_j t_i]]]]]
 'The girl is looking at the boy.'
 d. [CP Jun alab'_i [C' krka'yij pon_j [IP [I' t_j [VP ri aliit t_j t_i]]]]]
 The girl is looking at a boy.'/'It's a boy who the girl is looking at.'

Examples (12a)-(12c) show the preverbal subject in TOPIC and the object in FOCUS. SOV order is acceptable only when the subject is a TOPIC marked with *ri*. OSV order is unacceptable for either combination. Two NPs as indefinite and marked with *jun* are unacceptable, as in (12d). Sentences with both NPs marked with *jun* are only interpretable when one of the NPs is fronted to pre-clausal TOPIC, as above in (11d):

- (12) a. [CP Ri aliit_k [CP wu alab'_i [C' krka'yij pon_j [IP pro_k [I' t_j [VP t_k t_j t_i]]]]]]]
 'The girl is looking at the boy.' (SOV/*OSV)
 b. *[CP Wu alab'_k [CP ri aliit_i [C' krka'yij pon_j [IP pro_k [I' t_j [VP t_k t_j t_i]]]]]]]
 *'The boy is looking at the girl.' (*OSV/*SOV)
 c. [CP Ri aliit_k [CP jun alab'_i [C' krka'yij pon_j [IP pro_k [I' t_j [VP t_k t_j t_i]]]]]]]
 'The girl is looking at a boy.' (SOV)
 d. *[CP Jun aliit_k [CP jun alab'_i [C' krka'yij pon_j [IP pro_k [I' t_j [VP t_k t_j t_i]]]]]]]

Table 2 recapitulates these orders:

Table 2: Word orders

Possible surface orders SIPAKAPENSE / SPANISH						
VSO	SVO	VOS	SOV	OVS	OSV	
√	√	?	√	√	*	Sipakapense
√	√	√	*	√	*	Spanish

We next situate these syntactic characterizations within their complex social and political contexts.

3. Social Contexts

Families of the participants in the current research are all active in the Maya movement. Participants represent three distinct generations. Generation One (GEN1) includes three subjects born before 1940. GEN1 was raised monolingual in Sipakapense, although many learned Spanish as (young) adults, primarily working on coffee fincas or (for males) during obligatory military service.

Generation Two (GEN2) includes three subjects born 1960-1970. All attended Spanish-language schools and were child bilinguals. GEN2 was pressured to use Spanish in school and punished for speaking Sipakapense. As adults, they became involved in the *movimiento Maya* working towards language standardization. All are involved with the local branch of the Academy of Mayan Languages of Guatemala. Sipakapense activists in the Maya movement are protective of the distinctiveness of their language and take care to ensure that their children and younger siblings speak “pure” Sipakapense.

Generation Three (GEN3) includes four subjects born 1980-1990. All attend Spanish-language schools, albeit with more positive attitudes towards Sipakapense. Parents and older siblings of GEN3 are involved in the language revitalization movement. GEN3 is regularly corrected for speaking Spanish and for using Spanish borrowings in Sipakapense.

4. Analysis of Data

Our central hypotheses:

- If Spanish-like SVO has been adopted in Sipakapense, simplification should occur, with anti-passive markers and indefinite subject TOPICS decreasing in Sipakapense, on analogy with Spanish. If bilingual strategies are in place, definite and indefinite subject TOPICS should be retained in Sipakapense, since such elements are necessary for the differentiation of the two languages.
- If Sipakapense has been subsumed by Spanish patterns, SOV order should not occur in Sipakapense. When bilingual strategies are in place, SOV will

be present in Sipakapense, since SOV is uniquely available in Sipakapense, but not in Spanish.

4.1 SVO order

Figure 1 and Table 3 compare data across the three generations. The data are taken from naturally-occurring conversations, including inter- and intra-generation data.

Figure 1: SV(O) Order

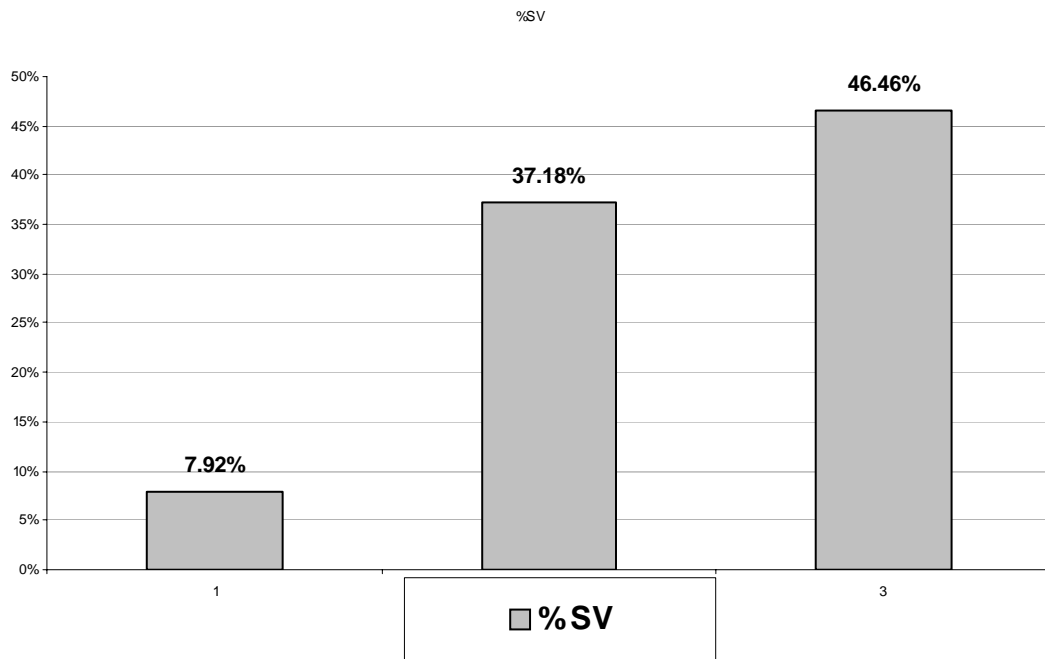


Table 3: SVO order

generation	total # overt subject NPs	# of topicalized subject NPs	# of topicalized subject NPs with verbal suffix
One	101	8 (7.9%)	4
Two	156	58 (26.2%)	17
Three	99	46 (46.45)	5

The data include all sentences with subject NPs (with or without the NP object). The incidence of SV(O) in GEN1 is low, at 8% (n= 101). GEN2 uses SV(O) constructions at a frequency of about 37% (n=156).. GEN3 produces SV(O) at 46.5% (n=99).

Given our working hypothesis, Sipakapense has not yet converged to a Spanish SVO pattern. The GEN2 uses SV(O) more regularly than the preceding or subsequent generations, but GEN2 bilinguals have sufficient competence in both Spanish and Sipakapense to carry out the syntactic operations deriving identical SVO orders across the two languages. Ultimately, this results in less cognitive “cost” for these

speakers. Furthermore, GEN2 produces the antipassive verbal suffix in 10% of the SVO orders, which serves as a clear differentiation mechanism. Thus, the rise of SVO production in GEN2, and perhaps GEN3, is not directly attributable to Spanish, but rather to cognitive processes of proficient bilinguals. Future studies will show whether these particular bilinguals also maintain a semantic distinction between the two languages due to the specificity requirements imposed on the TOPICS despite SVO.

4.2 *OV order*

Figure 2 and Table 4 present the data on fronted objects:

Figure 2: Preverbal Object

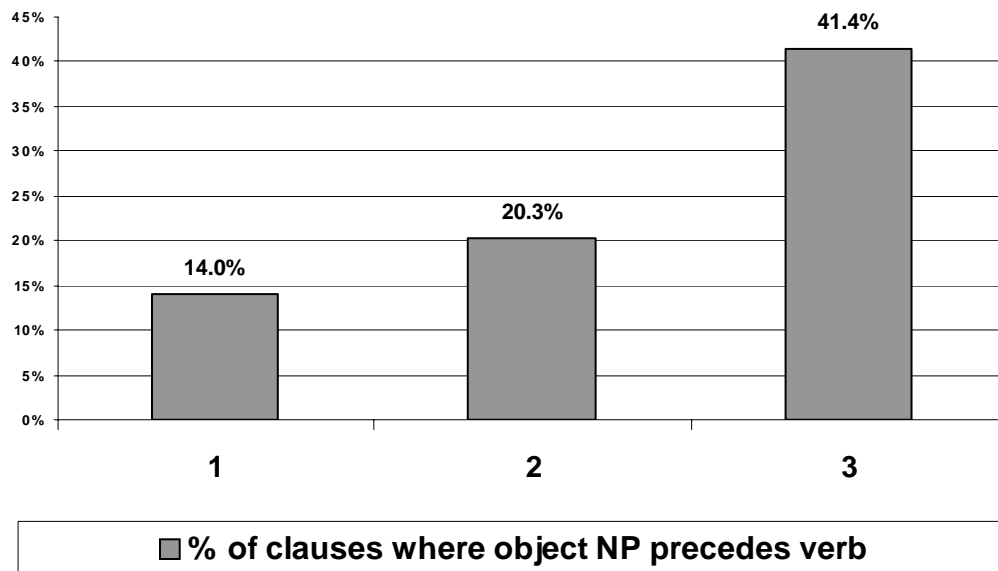


Table 4: OV word order

generation	total # overt object NPs	# of focused object NPs
One	107	15 (14.0%)
Two	128	26 (20.3%)
Three	58	24 (41.4%)

GEN1 bilinguals use OV at a rate of 14% (n=107), compared to GEN2 adults at 20.3% (n=128), and GEN3 at 41.4% (n=58). GEN1 produces more OV than SV(O), while GEN2 has fewer OV than SV(O). GEN3 has equal frequencies of OV and

SV(O). Orders such as OV(S) fall out from the same existing focus operations in Spanish and Sipakapense. OV(S) is available in both languages. The rise of OV production in GEN2 and GEN3 is not directly attributable to “dominant” effects of Spanish, but rather to bilingual correspondence strategies. Evidence comes from the production of SOV for GEN3. The topicalized subject preceding the focused object is marginal in Spanish and significantly constrained by specificity requirements in Sipakapense. If Sipakapense in contact was mirroring Spanish, the SOV orders attested in the data would not be emerging. We argue that GEN3’s cognitive strategies help them to function in a unique language contact scenario. The youngest bilinguals are gradually adopting SOV, a word order that unambiguously identifies Sipakapense, and allows for effective cognitive organization of the two languages.

4.4 Overt NPs

Figure 4 and Table 5 display data on overt NPs :

Figure 4: Overt NPs

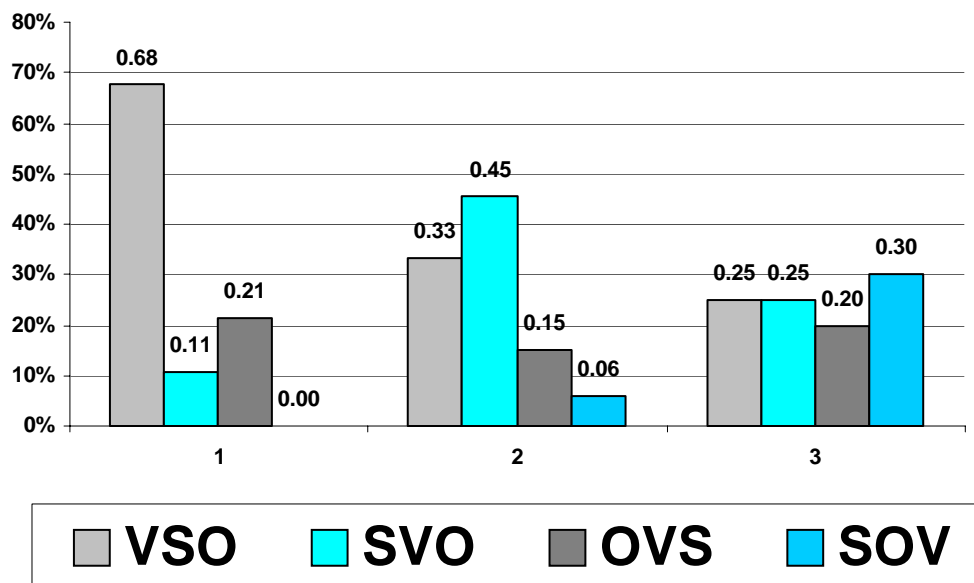


Table 5: Word orders

generation	total # of sentences with two overt NPs	VSO	SVO	OVS	SOV
One	28	19	3	6	0
Two	33	11	15	5	2
Three	20	5	5	4	6

GEN1 uses VSO at 68% (n=28). SVO occurs in this group at a frequency of 11%, while OVS order is at 21%. SOV is not produced by GEN1. GEN2 shows a preference for SVO in 45% of their utterances (n=33). They use VSO at a lower frequency than SVO. GEN2 uses OVS with a frequency of 15%. Most notable are the GEN2 instances of SOV.

GEN3 uses the four word orders at equivalent frequencies, with SOV structures appearing only slightly more than the others. Possibly, the innovative emergence of SOV began with GEN3 and is diffusing to GEN2. Future investigations will explore this question.

5. Conclusions

While Sipakapense is undergoing a transformation, the change taking place cannot be attributed to Spanish convergence. We show that the most competent bilingual speakers of the community have extended their Sipakapense grammar through the use of uniquely bilingual cognitive strategies. Younger generations have a higher frequency of topicalization in their grammar, as demonstrated by SVO sequences. Yet the same mechanism has independently played a role in sentence derivations of Sipakapense, and is not a direct result of Spanish influence. More than anything, younger generations are exploiting bilingual proficiency in an efficient manner. The emergent SOV order of Sipakapense in GEN3 bilinguals supports our point. Furthermore, given the community's efforts in language revitalization, the combination of social and cognitive processes portend a successful reduction in the quantity of Spanish elements in Mayan speech, and also an increased likelihood for the maintenance of Sipakapense.

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