Title

The Lowland Mayan first person shift in typological context

Permalink

Journal

Proceedings of Form and Analysis in Mayan Linguistics, 5

Author

Bates, Jonah D.

Publication Date

2019-04-01

THE LOWLAND MAYAN FIRST PERSON SHIFT
IN TYPOLOGICAL CONTEXT[*]

JONAH D. BATES
University of Kansas

For some languages of the Lowland Mayan area, the Proto-Mayan 1PL markers shifted from general plural reference to some other number or clusivity: 1SG, 1DUAL, 1PL.INCL, or 1PL.EXCL. In this paper, the Lowland Mayan first person shift is compared to other instances of person marker referent reanalysis found in a recent comprehensive survey of these processes in Bantu, Dravidian, Mayan, Mongolic, Semitic, and Totonacan. Shifts from 1PL sources are found to be very common in these language families, putting the Mayan shifts in good company. Further, evidence is presented that the common 1PL > 1SG shift is actually a multi-stage change cycle, involving at least two steps: 1. plural form shifts to general number reference destroying paradigmatic number contrast, and 2. the general is forced into singular reference upon the morphological innovation of a new plural for contrast renewal. The two clusive outcomes of the first person shift (1PL > 1PL.INCL and 1PL > 1PL.EXCL) share a common pathway with the loss and gain of clusivity in Mongolic and Dravidian, in which the innovation of a new clusive forces the 1PL into the opposite clusivity. Finally, although the shift from 1PL > 1DUAL is not present in any of the other families studied, it answers the question of what happens to a plural marker when both a new inclusive and new exclusive are innovated. These last three shifts appear to be fundamentally different than the 1PL > 1 shift, corresponding to a general division in the referent reanalyses surveyed between dependent shifts (e.g. 1PL > 1DUAL), occurring as responses to other changes in the person marking paradigm, and independent ones (1PL > 1SG), which are not dependent on any other changes. This division is predicted by models of pronoun structure where some ɸ-features are structurally encoded while others are pragmatically implicated due to paradigm contrast.
Keywords: person-marking, diachronic, features, typology

1 Introduction: The Lowland Mayan First Person Shift

> "Perhaps the most dramatic developments in the system of person marking
> in Lowland languages happened in the first person." (Law 2014:84)

Person marking in Mayan languages involves two sets of person markers: Set A, which is used to reference ergative arguments and possessors and Set B, which is used for absolutive argument reference. A reconstruction of the Proto-Mayan system (based on Kaufman & Norman 1984 and Robertson 1992) can be seen in Table 1 below.

Table 1. *Proto-Mayan person marking*

		1SG	2SG	3SG	1PL	2PL	3PL
Set A	__C	nu-	aː-	u-	qa-	eː-	ki-
	__V	w-	aːw-	r-	q-	eːr-	k-
Set B		=iːn	=at	Ø	=oʔŋ	=iʃ/-eʃ	=eb'

Shifts in the referent features of the Mayan '1PL' marker have been noted in several languages over the years and can easily be seen by comparing the systems in the current languages against the reconstruction above. Proto-Mayan had singular *nu/w-* 'A1SG' and *=i.n* 'B1SG' and plural *qa/q-* 'A1PL' and *=oʔŋ* 'B1PL'. Some languages like Kaqchikel preserved the Proto-Mayan paradigm, as seen in Example (1), while the cognates in other languages like Ch'ol (Example (2)) did not.

(1) KAQCHIKEL
    nu-*tz'i'*   **qa-***tz'i'*
    'my dog'   'our dog'
                          (McKenna Brown et al. 2006:155)

(2) CH'OL
    k-*ts'i'*   **la=k-***ña'*
    'my dog'   'our mom'
                      (Vasquez Alvarez 2011:118, 258)

1.1 Outcomes of the First Person Shift

The Mayan First Person Shift resulted in three different outcomes from the source plural: singular, dual, and inclusive or exclusive. The plural-to-singular shift impacted five languages in the Ch'olan-Tzeltalan branch. As discussed in Law (2009:236-237), this does not appear to be a development in Proto-Ch'olan-Tzeltalan since the Ch'olan languages Ch'olti' and Ch'orti' did not participate. Instead it is probable that the shift was innovated in the common ancestor of the Western Ch'olan languages, Ch'ol and Chontal, and was diffused through contact with the Tzeltalan languages and Tojolabal.

(3) TZELTAL
    k-*ixim*   **k-***ixim-***tik**
    'my corn'   'our corn'
                   (Polian 2013:130)

The four languages participating plural-to-dual shift are also genealogically disparate. Three of them, Q'anjob'al, Chuj, and Akatek, come from the Q'anjob'alan branch while the fourth, Lakantun, is Yukatekan. The languages are geographically distant, which stands as evidence against this change being spread. Additionally, with Mocho' and Popti' reflecting the Proto-Mayan first person number contrast and Q'anjob'al only participating in the PL > DUAL shift dialectally, it does not appear to have been a Proto-Q'anjob'alan innovation. What they all have in common that sets them apart from the other Mayan languages is an innovation of both a marked exclusive and inclusive. Why this should result in a shift from plural to dual will be discussed below.

(4) AKATEK
    miman **ko-***teːl*
    big   A1-long
    'We **two** (you and I) are tall'
                 (Zavala, 1992:84-85)

For the last five languages, the result was not a change in number but clusivity. In the Mamean languages Mam and Teko, the Proto-Mayan plural was relegated to an inclusive reading with the innovation of a marked exclusive as seen in the Mam contrast in (5).

(5) MAM
    q-jaa   **q-**jaa-ya
    'our house' 'our (excl) house'
                             (England 2013:3)

Conversely, in the Yukatekan languages Yukatek, Itza', and Mopan the reflex of the 1PL was shifted to exclusive reference upon the innovation of a new inclusive, resulting in a Set A paradigm like that in (6).

(6) YUKATEK
    k=   **k**= ...-o'ne'x
    '1pl(excl)' '1pl(incl)'
                           (Bohnemeyer et al. 2015:53)

2 Comparing against Typology of Person Marking Change

> "Unlike most other grammatical domains, that of personal pronouns is clearly under-researched in works on grammaticalization."
>
>   (Heine & Song 2011:587)

How does the Mayan first person shift compare to diachronic changes in person marking reference seen in other language families? Is change from a 1PL source a common phenomenon cross-linguistically or are these Mayan languages unique? What about the results: 1SG, 1DUAL, 1PL.EXCL and 1PL.INCL? In order to answer some of these questions, we will compare them with the results of a large-scale survey of *person marking referent reanalysis* or **PMRR** from Bates (2018). PMRR can be defined as a change in which one phonological form *f* in a language's person marking system is remapped from expressing one set of ɸ-features to expressing another.

    In order to uncover evidence of PMRR, the person marking systems of 302 language varieties across six diverse language families were compared to the system of their respective reconstructed proto-language. Deviations are noted and categorized as PMRR or non-PMRR changes and within PMRR to the categories: Person Shift, Number Shift, and Clusivity Shift. These language families were: Bantu, Dravidian, Mayan, Mongolic, Semitic, and Totonacan.

2.1 Comparing Number Shifts

In the survey, number shifts were found to be the most common changes, outnumbering clusivity shifts and the almost non-existent person shifts but a wide margin. The results of the number shifts can be seen in Table 2 below. The first letter(s) of the family of each language is given in parentheses after the language name: (B)antu, (D)ravidian, (Ma)yan, (Mo)ngolic, (S)emitic, and (T)otonacan.

Table 2. *Number Shift Results (from Bates 2018)*

SOURCE NUMBER	Shifted Features			Languages Impacted
SINGULAR	1S > 1PL		3	Brahui (D), Koti (B), Makhuwa (B)
	2S > 2 > (2PL)		3	[2pl]: Doko (B), [2s]: Leke (B), [2s]: Uru-wundu (B)
PLURAL	1PL	> 1 > 1 > 1S	19	Pove (B), Gondi (D), Ch'ol (Ma), Chontal (Ma), Tseltal (Ma), Tzotzil (Ma), Tojol-ab'al (Ma), Mongghuer [dialectal] (Mo); Arabic (S): Algerian, Dhofari, Egyptian [dialectal], Libyan, Moroccan, NW Egyptian Bedouin, Tunisian; Tlachichilco Tepehua (T), Pisaflores Tepehua (T), Huehuetlá Tepehua (T)
		> 1DUAL	4	Q'anjob'al (Ma), Chuj (Ma), Akatek (Ma), Lakantun (Ma)
	2PL > 2 > 2s		7	Yao (B), Gondi (D), Written Mongol (Mo), Shira Yughur (Mo), Tlachichilco (T), Pisaflores (T), Huehuetlá (T)
GENERAL	1 > 1S		2	Northern Totonac (T), Sierra Totonac (T)

These breadth of these results from a variety of genetically distinct language families strongly suggest that Number Shifts from a 1PL source, like the Lowland Mayan first person shift, are quite common typologically. In fact, every language family that was investigated showed at least one instance of 1PL shifting to another number. Only nine out of twenty-three instances are Mayan so their presence did not skew the results.

2.2 Comparing Clusivity Shifts

Table 3. *Clusivity Shift Results (from Bates, 2018)*

Shifted Features			Languages Impacted
1PL.INCL > 1PL (>INCL) (>EXCL)		21	Tamil (D), Malayalam (D), Kannaḍa (D), Koḍagu (D), Telugu (D), Gondi [dialectal] (D), Konḍa (D), Kui (D), Kuvi (D), Buryat (Mo), Bonan (Mo), Khamnigan Mongol (Mo), Mangghuer (Mo), Moghol (Mo), Mongghul (Mo), Ordus (Mo), Oirat (Mo), Santa (Mo), Shira Yughur (Mo)
1PL.EXCL > 1PL (>EXCL)		10	Tamil (D), Malayalam (D), Kannaḍa (D), Koḍagu (D), Telugu (D), Gondi [dialectal] (D), Konḍa (D), Kui (D), Kuvi (D)
1PL	> INCL	2	Mam (Ma), Teko (Ma)
	> EXCL	3	Yukatek (Ma), Itza' (Ma), Mopan (Ma)

Like the 1PL > 1SG shift, a close look at clusivity changes in the Dravidian and Mongolic languages (as in Table 3) reveals evidence that aligns with what we observe in Mayan. To start with, Janhunen (2003:19) proposes that the Pre-Proto-Mongolic system had no clusivity contrast, with *ba* serving as a general 1PL. Then a morphologically transparent inclusive was formed from the combination of *bi* '1SG' + *ta* '2SG' → Proto-Mongolic *bida* '1PL.INCL'. Similar to what happened in the development of Yukatek, Itza', and Mopan, Janhunen provides evidence that the introduction of *bida* '1PL.INCL' to the Proto-Mongolic system "restricted [*ba* '1PL'] to the exclusive function". This proposed 'forced' shift, of 1PL > 1PL.EXCL due to the innovation of a contrasting inclusive, is exactly what is described for the three Yukatekan languages Yukatek, Itza', and Mopan (Law, 2014:84-91).

Clusivity changes continued in the later Mongolic languages. Proto-Mongolic had a contrast between 1PL.EXCL *ba* and 1PL.INCL *bida* in the nominative case. In the ancestor of all modern Mongolic languages but Dagur, the reflex of *bida* shifted to general plural reference, ousting *ba*. In some Mongolic languages, the story did not end there. Since the clusivity contrast had been annihilated in the nominative (and spreading to all other cases for many languages), a new 1PL.EXCL.NOM was innovated, re-establishing

the contrast and forcing reflexes of *bida* back into solely inclusive reference. This change parallels that seen in Mam and Teko: 1PL > 1PL.INCL.

However, this progression was not a given and in fact proceeded in the opposite direction in some Mongolic languages. In Shira Yughur, for instance, the Post-Proto-Mongolic shift of *bida* from 1PL.INCL > 1PL spurred the innovation of all new 1PL forms across the oblique cases as well and eventually the system expressed no clusivity, having only reflexes of *bida* [*buda*] with general plural meaning. Then the language reinvented the clusivity contrast with the innovation of a new 1PL.INCL by affixing a plural morpheme -*s* to *buda*. This invention in turn forced *buda* not back to an inclusive reference as in the other languages mentioned but into a new exclusive reading.

The Dravidic languages listed in the table also underwent similar changes. In the ten languages impacted, the Proto-Dravidian *naːm* '1PL.INCL' shifted to 1PL. The lack of clusive contrast made it so that the exclusive *yaːm* also lost clusivity, resulting in two competing 1PL forms. The results of this competition were diverse. Kannaḍa lost reflexes of *yaːm* altogether while in others this occurred in only some cases (like NOM) but not others. Finally in some languages like Tamil, a new exclusive was formed based on the affixation of a plural morpheme -*kaḷ*. In those languages, the reflex of *naːm* returned to being inclusive.

The Mongolic and Dravidian examples together mean that the Mayan shifts from a 1PL to an inclusive or exclusive meanings are well attested both in the pattern of the shift and the apparent reasons for the shift taking place. Specifically, it appears that some clusive readings may be based on paradigmatic contrasts, appearing when a contrasting element is innovated and disappearing when the contrast is eliminated.

2.3 The rarity of the 1PL to 1DUAL shift

Finally, the Mayan languages Q'anjob'al, Chuj, Akatek, and Lakantun were the only languages in the survey in which 1PL shifted to 1DUAL. This change then can be taken to be much rarer. The rarity can be understood in context though. As mentioned previously, the one part of the person marking innovations that took place in common between all four of these languages, which did not happen in any of the other Mayan languages, was the innovation of both a morphologically salient inclusive *and* a morphologically salient exclusive through the addition of morphemes to the original plural. This 'forced' the original plural into the dual meaning. Since this particular set of circumstances was not found in any of the other surveyed languages, it is not necessarily surprising that no others showed a 1PL > 1DUAL shift.

3 Analysis and Classification of the Shifts

3.1 Dividing PL > SG Number Shift into a PL > GENERAL & GENERAL > SG Cycle

When the shifts from 1PL (and 2PL) to singular reference are examined more closely, an interesting cross-linguistic cyclical pattern emerges. Compare the selected Semitic, Dravidian, and Mayan examples below.

1. Semitic
   - PS prefix conjugation: *ʔa-* '1SG'   *ni-* '1PL'
   - Tunisian Arabic IMPV: *ni-* '1SG'   *ni-*....-*u* '1PL'
     New first plural innovated based on –*u* suffix of Semitic 2PL and 3PL

2. Dravidian
   - Pre-Gondi: *yaːn* '1SG'   *ñam* '1PL(INCL)'
   - Gondi: *ñam* '1SG'   *ñam-oṭ* '1PL(INCL)'
     New first plural innovated based on plural –*oṭ* suffix

3. Mayan
- Proto Mayan Set A: *nu-* '1SG'   *q(a)-* '1PL'
- Tzeltal: *k-* '1SG'   ⬋   *k-...-tik* '1PL'
  New first plural innovated based on plural *–tik* suffix

At first glance, the cycle appears to begin with the reanalysis of 1PL as singular followed by the innovation of a new plural form using available pluralizing morphology. However, this cycle remained incomplete in some languages like Yao (Bantu), resulting not in singular number reference but general (i.e. number neutral)[1]. This suggests that the cycle is in fact two distinct steps:

1. PL > GENERAL
2. (With innovation of new plural) GENERAL > SG

What is most interesting about this model of the PL > SG change is that it breaks the cycle into a first stage that occurs independently and a second stage that is responsive to, or dependent on, a separate change in the paradigm.

3.2 Independent vs. Dependent Shifts

This pattern of independent and dependent shifts is consistent across the data from the survey. In other words, all of the shifts that were noted can be relegated to either one or the other group. ***Independent shifts*** were those that were able to be found as the only change to the person marking system, although they may induce other shifts. ***Dependent shifts*** were those that were always concomitant with other changes or innovations in the system and for which independent evidence exists that the shift was "caused by" other changes/innovations.

An example of an independent change can be found in the descent of the second person plural of Proto-Bantu to a general second person marker in Yao (P21). This change does not appear to have impacted any other part of the Yao person marking paradigm.

(7) PB *mʊ-* '2PL' > Yao (P21) *mu-* '2'
                    (Babaev 2008:170,178)

An example of a dependent change can be found in the descent of Proto-Dravidian first plural exclusive to Tamil general plural in (8).

(8) PD *yaːm* '1pl(excl)' > Tamil '1pl'
                    (Krishnamurti 2003:246-247)

Specifically, evidence exists that this change occurred as a result of a shift from PD *ñaːm* '1PL(INCL)' to Tamil '1PL'. Once the clusivity contrast had been eliminated, the reflex of the proto-exclusive was also used for both functions. The following three sources are evidence for a shift being caused by (dependent on) another innovation/shift in the paradigm:

1. Contemporary written evidence
2. Primary author claims
3. Heterogeneous outcomes

---

[1] This is similar to the change from Old English *ye* '2PL' to Modern English *you* '2', which can reference both singular and plural entities. Furthermore, in dialects that have innovated a new '2PL', such as *y'all*, the form *you* is now heavily pragmatically restricted in its plural reference and has a default singular reading. One questions whether a system could possibly have only a singular marker for some person (1st or 2nd) or a singular/general contrast.

Contemporary written evidence is used when a change occurred while the language was either written or being written about and the order of the change in relation to the innovation/shift in question was either directly or indirectly attested in the record. Primary authors of the language grammars or works on the proto-languages for the families in the study also gave evidence for the dependency of the changes. Where they do, we defer to their expertise. The last type of evidence is invoked when a set of changes involve one that is shared between all the languages of a (sub)family but the other changes differ between the individual languages. This outcome is evidence that the shared change was independent and the others were dependent.

Table 4. *Independent vs. Dependent PMRR shifts*

Independent	Dependent
PL > GENERAL 2SG > 2GENERAL 1PL.INCL > 1PL	GENERAL > SG 1SG/GENERAL > 1PL 1PL.EXCL > 1PL 1PL > 1PL.INCL 1PL > 1PL.EXCL 1PL > 1DUAL

3.3 Independent vs. Dependent Shifts in Mayan First Person Shifts

Based on the discussion in Law (2014:84-91), it is possible to independently assign dependent or independent status to the three outcomes of the Mayan First Person Shift. We will treat these as testable claims.

- Dependent
    - 1PL > 1PL.INCL: DEPENDENT on innovation of explicit 1PL.EXCL
    - 1PL > 1PL.EXCL: Dependent on innovation of explicit 1PL.INCL
    - 1PL > 1DUAL: Dependent on innovation of explicit 1PL.EXCL & 1PL.INCL
    - 1 > 1SG: Dependent on innovation of marked 1PL

- Independent
    - 1PL > 1: No necessary concomitant changes but followed by innovation of new 1PL

Since we are dealing with changes that occurred without a written record so care must be taken to provide evidence that the changes happened in the cause-and-effect sequence that we propose. When performing historical analysis where the final result of a change is Marked vs. Unmarked form, there are two options for the cause and effect relationship.

1. First, meaning change occurs in the unmarked
   Secondly, marked form is innovated based on the new meaning of the unmarked
2. First, marked form is innovated based on original meaning of unmarked
   Secondly, this pushes meaning change in unmarked to differentiate.

Evidence in each case consists of testing if the marked form is best morphologically broken down into some new element plus the original meaning of the unmarked form or some new element plus the new meaning. This analysis depends on the assumption that morphology is compositional so that if each morpheme in a new composite morpheme is transparent, as is the case with the morphemes used in these Mayan languages, the resulting meaning should be a combination of the root reference and the meaning of the affix. If the meaning shift occurred with the bare unmarked form before the new morpheme was added to create the marked form, then the marked form should be able to be broken down into the unmarked forms meaning

plus the additional meaning of the affix. If the meaning shift happened after the innovation of the marked form, then the marked form should be based on the original meaning of the root, not its new meaning. This would be the case if the meaning shift in the unmarked form happened due to paradigmatic pressure from the innovation of the marked form, as has been claimed for the Mayan clusivity shifts.

Table 5. *Independent vs. Dependent MFPS*

Unmarked		New Marked	Marked Morpheme breakdown	Source + affix?	Goal + affix?
Source	Goal				
1PL	1SG/GEN	1PL	Unmarked+PL	*	✓
1PL	1PL.INCL	1PL.EXCL	Unmarked+PL	?	*
1PL	1PL.EXCL	1PL.INCL	Unmarked+2PL	✓	*
1PL	1DUAL	1PL.EXCL & 1PL.INCL	Unmarked+?? Unmarked+2PL	✓	*

The only outcome of the Mayan First Person Shift where it makes sense to build the marked form morphologically from the new meaning of the unmarked form is the shift from 1PL to 1SG/GEN. Adding a plural morpheme to the source plural before the shift makes less sense for the innovation of a new plural than adding it after the shift to a general first-person marker. Only this shift will be considered independent. Why should this shift be different than the others?

4 Independent and Dependent Reference

4.1 Independent and Dependent Reference

One interesting consequence of a division between independent and dependent shifts in person marking reference is the possibility of a division between independent, or structurally encoded, meanings and dependent ones. That is to say, changes to the paradigm in which a person marker occurs can cause a shift in its reference precisely due to the fact that some meanings can exist solely due to contrast with others. For instance, evidence has been shown that the shift from 1 to 1SG in Ch'ol, Chontal, Tzeltal, Tzotzil, and Tojol-ab'al happened as a reaction to the innovation of a new plural in those languages. Is it possible that the singular feature was never encoded in the narrow syntax but was always empty and only interpreted as singular in contrast to a new plural?

Intriguingly, there are models of DP structure where some features are explicitly marked while others exist only at the interfaces with other modules.[2] For instance, in terms of NUMBER, a significant semantics literature exists claiming that "competition between singular and plural forms drives their interpretation in a process that intertwines semantics and pragmatics" (Farkas & de Swart 2010:66). Some authors claim that singular is semantically denoted while plural is semantically null (see Sauerland 2003, 2008; Sauerland, Anderssen & Yatsushiro 2005). In other words, a singular DP has a projection that marks it as such but a plural does not (instead being "general") and receives it plural reading pragmatically due only to the fact that the speech act participants assume that if a singular entity was meant, the singular form would have been used. The opposite claim, that plural is semantically denoted while singular can be semantically null, has been more recently proposed and defended (see Borer 2005; Farkas and de Swart 2010; Mathieu 2014).

---

[2] This study takes for granted that the interpretation of a pronoun relies solely on the index and that φ-features exist as pieces of the internal DP structure serving to trigger presuppositions about the possible denotation. (Cooper 1983) (Heim & Kratzer 1998)

According to this last model, some features (e.g. singular number) may instead arise from the fact that a pronoun lacks the opposite privative feature (e.g. [PL]). This ability for contrast-dependent meanings is driven by Maximize Presupposition from Heim (1991) and Sauerland (2003, 2008), which says "[p]resuppose as much as possible in your contribution to the conversation" (Sauerland 2008:11). For our purposes, this maxim means that speakers should use the person marking form that denotes the most presuppositions (φ-features) that is compatible with context. For example, take two forms, A & B, and two sets of presuppositional features, [1] and [1,2], where [1,2] is a subset of [1]. If A = [1,2] and B = [1], then the form B is more general and could be used when [1] *or* [1,2] is meant. However Maximize Presupposition demands that when either can be used, A (the more specific) should be, since it maximizes the number of presuppositions that fit the context. This in turn means that the use of B implies for hearers that A could not be used and B is implicationally "forced" into meaning not just the feature [1] but also '¬[1,2]'.

4.2 Plural-Singular Contrast

If we assume such a model for the singular/plural contrast where there is no singular feature for pronouns, underlyingly number-general pronouns may gain singular meaning implicationally when the speaker uses them instead of a plural form. However, this interpretation process only happens when there is a plural form in the paradigm to contrast with.

This predicts the difference between the dependent 1 > 1SG stage and the independent 1PL > 1 stage of the cross-linguistic 1PL > 1SG cycle. The 1 > 1SG shift is dependent on the innovation of a plural form because the singular meaning is only implicational. The 1PL > 1 shift is independent in that neither the original meaning or the final meaning are dependent upon a contrast in the paradigm. That stage involves an actual change to the structure of the underlying pronoun itself; the loss of the [PL] feature. Further research is needed to extend this analysis satisfactorily to the other dependent changes seen in the Mayan First Person Shift.

4.3 The 1PL shift to 1 as Cease Presupposition Accommodation

The last question to answer is why a first plural would ever shift to a general meaning if it requires an actual reanalysis of the underlying structure? Remember that in our structure, there is no way to pragmatically 'force' a pronoun with a plural feature to have a singular reading. Because of this, it appears that the only option available to get a singular reading for such a pronoun is to simply drop the plural presupposition from the structure.

Interestingly, this kind of semantic reanalysis is exactly the kind of structural reanalysis that Eckardt (2011, 2012) predicts for most shifts where a phonological form remaps from one reading to another. That author states the following for why such changes occur.

> "Assume that *u* [the utterance] in the old sense φold requires unbacked presuppositions. The speaker makes his utterance under the assumption that the interpreter will accommodate them. The interpreter may see this possibility but finds the required accommodations implausible. As an interpretive alternative, H [the hearer] hypothesizes a new message φnew, leading to reanalysis." (Eckardt 2012:2688)

In other words, hearers cease accommodating unbacked presuppositions (Schwenter & Waltereit 2010). Under what circumstances then would the plural presupposition accompanying the use of a plural person marker become so unbacked that speakers would reanalyze their interpretation and drop it from the structure? To begin with, there are many cases when a speaker may felicitously use plural first person reference when the hearers are unable to verify the plurality of the reference. For example, if the topic time of the utterance is in the past, the other event participants making up the group that includes the speaker

may not be present at the utterance time. This would require the hearers to accommodate the presupposition of plurality in order to arrive at a truth value for the utterance. This is just one possible circumstance of many where this accommodation is necessary.

What has been found in the typological literature is that speakers, aware of the fact that hearers will most likely accommodate a plural presupposition, at times use this fact strategically for social reasons. For example, some languages use the plural to denote social positioning dynamic of higher versus lower vertical social distance, a process referred to as Plurification (Song & Heine 2016).

However, the sociolinguistic uses of plurification can be very different. Plural person marking can be used to either put the speaker in a separate group from the hearer (1st plural exclusive) or in the same group (1st plural inclusive), as an honorific or a pejorative (see further discussion in Siewierska 2004:214-245). The exclusive use is often associated with self-identification as an elite, as with the English 'Royal We'. Crucially, each one of these still involves the strategic manipulation of the plural presupposition, which could lead to hearers ceasing presupposition accomodation. But with such diverse sociolinguistic uses, is it possible to tell the social context for the Mayan change? Does it suggest the presence of a Post-Classic prestige language in the Lowland area? More evidence, perhaps in regional variation in the Mayan written record, could help answer this question.

5 Conclusion

This study began by comparing the details of the Lowland Mayan First Person Shift to other person marker referent reanalyses cross-linguistically. It was found that changes involving the plural of the first person shifting in number and clusivity are in fact common. Shifts from plural to singular number are likely to involve two stages, an independent shift to a general meaning and then a shift from general to singular meaning dependent on the renewal of number contrast by the innovation of a new plural. The other shift results (inclusive, exclusive and dual) were found to come from dependent shifts that occur in response to the innovation of markers of opposing contrast. The plural to dual shift was the only one that was not found in other languages of the survey but made sense in context as a pragmatic constraining of the original plural meaning when both an explicit inclusive and an exclusive are innovated, forcing the plural out of the normal plural space to the lowest possible plural reading (i.e. dual). It was then claimed that the dependent nature of these shifts may arise from a dependent nature of the meanings themselves, rooted in an account of featural meaning that is an interplay between what is structurally real and what is pragmatically inferred due to maxims of conversation. The differences between the stages of the first plural to first singular shift were claimed to be based in this interplay. In this model, the 1PL to 1 stage involves an actual structurally reanalysis (and thus can occur independently) while the 1 to 1SG stage involves no reanalysis but is just a pragmatic interpretation of the structural general as singular in contrast with a newly innovated plural. Finally, the possible sociological causes behind the presupposition dropping involved in the 1PL to 1 general reanalysis were examined. This remains an exciting avenue for future exploration.

References
Bates, Jonah. 2018. *A typology of person marking referent reanalysis in six language families*. MA project. University of Kansas.
Bohnemeyer, Jürgen, Butler, Lindsay K., & Jaeger, T. Florian. 2015. Head-Marking and Agreement: Evidence from Yucatec Maya. In Fleischhauer, J., Latrouite, A., & Rainer Osswald (eds.) *Exploring the Syntax-Semantics-Pragmatics Interface*. Düsseldorf: dup.
Borer, Hagit. 2005. *In name only*: *Structuring sense*. Oxford: Oxford University Press.
Cooper, Robin. 1983. *Quantification and Syntactic Theory*, Dordrecht, Holland: Reidel.
Eckardt, Regine. 2011. Semantic reanalysis and language change. *Language and Linguistics Compass* 5: 33–46.

Eckardt, Regine. 2012. Grammaticalization and semantic reanalysis. In Maienborn, C. von Heusinger, K., & P. Portner (eds.), *Semantics: An international handbook of natural language meaning*, vol. 3, 2675 2702. Berlin: Mouton de Gruyter.

England, Nora. 2013. *Los usos y funciones de los marcadores "ergativos" (Juego A) en Mam (Mayan)*. University of Texas at Austin.

Farkas, Donka F., & de Swart, Henriëtte E. 2010. *The semantics and pragmatics of plurals*. Semantics and Pragmatics Vol. 3. pp. 1-54.

Heim, Irene. 1991. Artikel und Definitheit. In A. von Stechow and D. Wunderlich (eds.) *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*. pp. 487-535. Berlin: de Gruyter.

Heim, Irene & Kratzer, Angelika. 1998. *Semantics in Generative Grammar*. Oxford: Blackwells.

Heine, Bernd. & Song, Kyung-An. 2011. On the grammaticalization of personal pronouns. In *Journal of Linguistics* 47 pp. 587-630. Cambridge University Press.

Kaufman, Terrence & Norman, William M. 1984. An Outline of Proto-Cholan Phonology, Morphology and Vocabulary. In Justeson, J. & Campbell, L. (eds.) *Phoneticism in Mayan Hieroglyphic Writing*, pp. 77–166. (=Institute for Mesoamerican Studies 9.) Albany: State University of New York, Albany.

Krishnamurti, Bhadriraju. 2003. *The Dravidian languages.* Cambridge: Cambridge University Press.

Law, Danny. 2009. Pronominal borrowing among the Maya. In *Diachronica* 26:2. pp. 214–252.

Law, Danny. 2014. *Language contact, inherited similarity, and social difference: The story of linguistic interaction in the Maya Lowlands*. Philadelphia, PA: John Benjamins Publishing Co.

Mathieu, Eric. 2014. Many a plural. In A. Aguilar-Guevara, B. Le Bruyn & J. Zwarts (eds.) *Weak referentiality*. Amsterdam: John Benjamins.

McKenna Brown, R., Maxwell, Judith M. & Little, Walter E. 2006. *¿La uïz awäch? Introduction to Kaqchikel Maya Language*. Austin, TX: University of Texas Press.

Polian, Gilles. 2013. *Gramática del tseltal de Oxchuc*. México: Centro de Investigaciones y Estudios Superiores en Antropología Social.

Robertson, John S. 1992. *The history of tense/aspect/mood/voice in the Mayan verbal complex*. Austin, TX: University of Texas Press.

Sauerland, Uli. 2003. A new semantics for number. In R. Young & Y. Zhou (eds.) *Proceedings of semantics and linguistic theory SALT 13*. pp. 258-275. Cornell, Ithaca: CLC publications.

Sauerland, Uli. 2008. On the semantic markedness of phi-features. In D. Harbour, D. Adger & S. Béjar (eds.), *Phi Theory: Phi-Features across Modules and Interfaces*, pp. 57– 82. Oxford: Oxford University Press.

Sauerland, Uli., Andersen, Jan, & Yatsushiro, Kazuko. (2005). The plural is semantically unmarked. In S. Kepser and M. Reis (eds.) *Linguistic evidence*. pp. 413-434. Berlin: Mouton de Gruyter.

Schwenter, Scott. & Waltereit, Richard. 2010. Presupposition accommodation and language change. In Davidse, K., Vandenalotte, L., & Cuyckens, H. (eds.), *Subjectification intersubjectification and grammaticalization.* Mouton de Gruyter.

Siewierska, Anna. 2004. *Person*. New York: Cambridge University Press.

Vázquez Álvarez, Juan Jesús. 2011. *A grammar of Chol, a Mayan language*. PhD dissertation. The University of Texas at Austin.

Zavala, Roberto. 1992. *El Kanjobal de San Miguel Acatán*. México: Universidad Nacional Autónoma de México (UNAM).