Is a 2nd-to-last Clitic Possible? The case of "-mi" shifting and the Uzbek question particle

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Abstract

This paper introduces and analyzes data of a new phenomenon in Uzbek, which we term "-mi" shifting. We investigate the distribution of the question particle ("-mi"), a morpheme that appears in yes/no questions and can shift its surface position in the verbal complex based on whether the clause is verbal or non-verbal. The distribution of this particle appears to exhibit optional 2nd-to-last position effects when in the presence of non-verbal predicates. Uzbek has verbal and non-verbal predication (Straughn 2011, Gribanova 2014), similar to Turkish (Kornfilt 1996), and the position of the question particle differs with respect to each type of predicate. The question particle can shift surface positions (optionally) with the agreement morpheme with non-verbal predicates, but not with verbal predicates. We propose that the data is ambiguous between a lowering and raising analysis between the moved elements. Cross-linguistically, 2nd-to-last position particles are unattested. The fact that they are unattested, despite the prevalence of clause final particles (Bailey (2013)), suggests that whatever factors motivate 2nd-position effects are unavailable for possible 2nd-to-last position effects. Thus, the most natural analysis of this particle is a flexible attachment site for T/AGR, rather than a true 2nd-to-last position clitic.

1 Introduction

This paper is an investigation of the question particle "-mi" in Uzbek, an understudied Turkic language spoken mainly in Uzbekistan. All novel data presented in this paper is from Tashkent Uzbek, the dialect from which all our data was collected[1]. Monolingual Uzbek speakers are very rare, most speak Russian or Tajik, in addition to several other regional languages. Every piece of data is from a native Uzbek speaker who is also fluent in Russian and English.

The question particle in Uzbek is a bound suffixal morpheme that typically appears clause finally, attached to the rightward edge of the verb.[2]. The contrast between declaratives and interrogatives can be seen below in (1), where (6a) has the question particle, but (8a) does not.

[1] All data from non-Tashkent dialects is from a dataset publicly provided by Vera Gribanova of Stanford University, accessed on the web. If not explicitly stated otherwise, Uzbek data will be from the Tashkent dialect.

[2] We will use the following abbreviations: ACC: Accusative Case, COMP: Complementizer, CONF: Confidence marker, COP: Copula, DAT: Dative Case, EVID: Evidential, GEN: Genitive Case, INTEN: Intention marker, LOC: Locative Case, NMLZ: Nominalizer, NOM: Nominative Case, NONPST: Non-past tense, PRF: Perfect, PROG: Present Progressive PRSM: Presumptive Future, PST: Past tense, PSTPRG: Past Progressive, Q: Question Particle, REC: Reciprocal, VCONJ: Verbal Conjunction

(1) a. Men bil-a-man
1SG.NOM know-NONPST-1SG
'I know.'

b. Men bil- a- man- **mi**
1SG.NOM know- NONPST- 1SG- Q
'Do I know?'

A similar particle, with similar phonological form, is in use in related languages. The morphosyntactic function seems to be consistent across all these languages. This particle has previously been described as simply the "question/interrogative particle" in studies of Turkic languages (Johanson and Csató (1998), Kamali (2011a) for Turkish, Straughn (2011) for Kazakh, Uzbek),

(2) mushuk ye-y-san-**mi**? (Uzbek)
CAT EAT-NONPST-2SG-Q
'Do you eat cat?'

(3) Ali dün yemek yap-ti **mi**? (Turkish; (Kamali 2011)
ALI YESTERDAY DINNER COOK-PST Q
'Did Ali cook dinner yesterday?'

(4) Bar-dï **ma** eken? (Kazakh; Straughn 2011)
GO-PST Q EVID
'Did s/he go?'

This paper will provide three contributions. The first contribution will be to describe the distribution of this particle in Uzbek, as this is currently undescribed in the literature. This will entail both the yes/no question usage and the negative conjunction usage. The second contribution is to analyze this distribution and place Uzbek in the typology of Turkic languages and question particles more generally. The third is to explain homophony between question particles and disjunctive lexical items as the result of a diachronic process of TP ellipsis and reanalysis.

2 Uzbek Background Information

Uzbek is an SOV language with relatively flexible word order, spoken primarily in Uzbekistan, in Central Asia. Uzbek is generally understudied, there are several grammars written on the language (Sjoberg 1963, Bodrogligeti 2003). Very little work has been done on Uzbek within the generative tradition, with notable exceptions being Christopher Straughn's dissertation on evidentiality in Uzbek and Kazakh (Straughn 2011) and the work of Vera Gribanova (Gribanova 2013, 2014, 2016).

2.1 Agreement

Uzbek has a rich agreement paradigm, with four agreement classes that are determined by morphosyntactic environment. These classes are *possessive, pronominal, converbial, and finite* (Straughn 2011, Gribanova 2013).

Table 1: Possessive Agreement Paradigm

1SG	2SG	3SG	1PL	2PL	3PL
-m/-im	*-ng/-ing*	*-i/-si*	*-miz/-imiz*	*–ngiz/-ingiz*	*-lari*

Table 2: Pronominal Agreement Paradigm

1SG	2SG	3SG	1PL	2PL	3PL
-man	*-san*	*∅*	*-miz*	*-siz(lar)*	*∅, -lar*

Possessive agreement can appear on both nominal elements for cases of possession and also nominalized embedded clauses. Possessive is double-marked in Uzbek, marking the dependent with genitive case (-ning) on the possessor, and the head with possessive agreement appearing on the possessed.

(5) a. (u- ning) kitob- i qiziq
3SG GEN book 3SG.POSS interesting
'This book is interesting.'

b. ket- ish- ing- ni xohlay- man
leave NMLZ 2SG.POSS ACC want 1SG.AGR
'I want you to leave (lit. 'I want your leaving.')'

Pronominal agreement appears on non-verbal predicates (Section 2.2). This includes nouns, pronouns, adjectives, existentials, deontics (Straughn 2011). The pronominal agreement paradigm is so named for its similarity to the pronouns in Uzbek (men, sen, u, biz, siz, ular).
This type of agreement can be seen on any non-verbal predicate, marked by its co-occurrence with the copula (null in present tense).

(6) a. juda novcha- san
very tall 2SG.AGR
'You are very tall!'

b. ajoyib o'qituvchi- man
wonderful teacher 1SG.AGR
'I am a wonderful teacher.'

Converbial agreement co-occurs with finite verbs forms, and nearly identical to pronominal agreement. The only difference is the paradigm appears in 3rd person agreement marking, which is null for pronominal agreement, but (-di) for 3rd person.

Converbial agreement co-occurs with tensed verbs in non-past[3] tense only. Past tense verbs take agreement endings from the finite verb paradigm.

[3]Present and future are merged into non-past tense.

Table 3: Converbial Agreement Paradigm

1SG	2SG	3SG	1PL	2PL	3PL
-man	*-san*	*-di*	*-miz*	*-siz(lar)*	*∅, -dilar*

(7) a. Zulfizar har ku- ni yugur- a- di
Zulfizar every day ACC run NPST 3SG.AGR
'Zulfizar runs every day.'

b. rasm- lar- ni chiz- yap- miz
picture PL ACC draw PRSPRG 1PL.AGR
'We are drawing pictures.'

Finite agreement co-occurs with tensed verbs in the past tense and conditional environments. This can only occur with purely verbal predicates. Finite agreement and possessive agreement are similar; the difference between finite agreement and possessive agreement again manifests itself in the third person.

Table 4: Finite Agreement Paradigm

1SG	2SG	3SG	1PL	2PL	3PL
-m	*-ng*	*∅*	*-k*	*-ngiz*	*∅, -lar*

(8) a. Sen ruh- ni ko'r- di- ng
You ghost ACC see PST 2SG.AGR
'You saw a ghost.'

b. ovqat- siz o'l- ar- di- k
food without die COND PST 1PL.AGR
'Without food, we would die.'

2.2 Verbal vs. Non-Verbal Predicates

Tests for verbal and non-verbal predication.

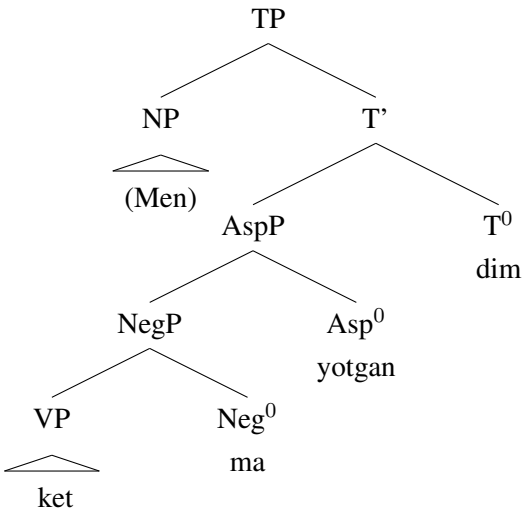
2.3 Morpheme Order within the Uzbek VP

2.4 Uzbek clause structure

Uzbek is a strongly head-final language with complex verbal morphology, with heads corresponding to aspect, tense and negation attaching to the right edge of the verb stem. Although sentence word order is relatively free in Uzbek and multiple word orders are possible, morpheme order is relatively rigid on the verb stem. We suggest that the surface morpheme order reflects the scopal properties expected for a head-final language (Baker 1985), as there is no evidence for movement of any heads in the extended verbal

projection. The word order for morphemes in the Uzbek clause is always V-NEG-ASP-T, although each element can be null in the right circumstances (present tense copula). This clause structure in (9) below shows that a T head selects AspP, the Asp head selects the NegP, and the NegP selects the VP.[4] [5]

(9)



This tree reflects the linear order of the constituents, while assuming that the TP is very strictly head-final. We assume strict head-finality within the TP of Uzbek because of the strong tendency of complementizers to follow clauses, for postpositions to follow their complements and direct objects to precede the verbs that select them. Additionally, this tree allows tense to take scope over aspect, and aspect to scope over negation, with negation scoping over the verb. This hierarchy respects what Baker (1985) would predict about morpheme order attaching to a verb stem in terms of scope.

We view the Tense head as a complex head combining both Tense and Agreement features into a single node. The conceptual reasons for this decision involve the dual agreement system present in Uzbek. There are two separate systems of Agreement in Uzbek that are determined based on the value of the T head. The verbal agreement paradigm[6] can be seen below in Table 1.

Table 5: Uzbek Verbal Agreement System

	1SG	2SG	3SG	1PL	2PL	3PL
NON-PAST	*-man*	*-san*	*-di*	*-miz*	*-siz*	*-lar*
PAST[7]	*-m*	*-ng*	∅	*-k*	*-ngiz*	*-lar*

[4] For sub-VP syntax, see Palaz and Stromdahl (forthcoming)

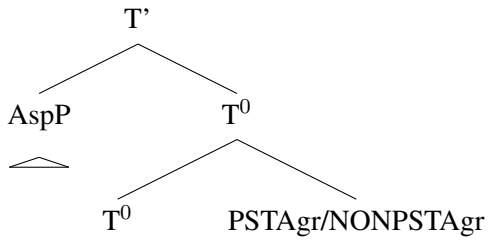
[5] Subjects in Spec-TP are placed in parentheses to indicate that Uzbek is pro-drop. Additionally, we use NP due to conceptual arguments against DP (Bruening 2009) and Bošković and Sener's (2014) analysis that Turkish has NPs and not DPs. For this analysis, nothing important hinges on the choice.

[6] Agreement is also possible on nouns. For a more complete agreement paradigm, see Gribanova (2013).

[7] This agreement paradigm shows up on everything that isn't present or future, such as past tense, conditional tense, and possessive marking.

These sets of endings are always in complementary distribution for any given T. This leads us to believe that there is a selection relationship between T heads and Agr, because the form of Agreement is dependent on the value of T. We propose that T is a complex head with both Tense and Agreement features fusing into one node, as seen below in (10)[8]. Different T heads will select for either a PastAgr or a NONPSTAgr depending on their value.

(10)



In addition, progressive Aspect nodes are also selected by the value present in T. Present progressive ("yap") and past progressive ("ayotgan") are each marked with different morphology. Each marker cannot co-occur with the wrong tense value. This structure predicts these selectional relationships by allowing both Agr and Asp to be arguments of the T head. In (11) below, this incompatibility between progressive marker and Tense can be seen.

(11) a. Lutfulla kelyapti.
Lutfulla kel- yap- ti
Lutfulla COME PRSPRG 3SGPRS
'Lutfulla is coming.'

b. *Lutfulla kelayotganti.
Lutfulla kel- ayotgan- ti
Lutfulla COME PSTPRG 3SGPRS
'Lutfulla is coming.'

c. *Lutfulla kelyapdi.
Lutfulla kel- yap- di
Lutfulla COME PRSPRG 3SGPST
'Lutfulla was coming.'

d. Lutfulla kelayotgandi.
Lutfulla kel- yap- ti
Lutfulla COME PSTPRG 3SGPRS
'Lutfulla was coming.'

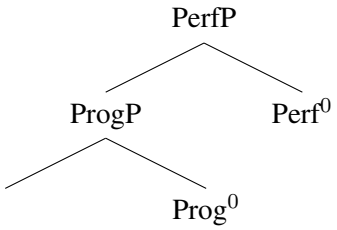
Note that there is an incompatibility between an overt tense morpheme and present progressive aspect, but not past progressive aspect. It remains an open question as to why the (past) feature is realized overtly on the T head when it selects "ayotgan," but the (pres) feature is not realized overtly when it selects "yap." One possibility of explaining this distribution is that the T^0's (pres) feature attracts "yap," which blocks the overt realization of present morphology, but (past) does not similarly attract "ayotgan." However, the

[8]This could also be accomplished through an agreement relation, though it is not obvious what would distinguish between the two in this instance.

only evidence for this movement is the lack of overt realization of tense morphology. Another possibility is simply contextual allomorphy of the tense morpheme which is conditioned to be expressed overtly in the presence of past progressive but not present progressive. It is pervasive throughout Uzbek that present morphology can be dropped in certain situations but past must always appear with the ending. Regardless of analysis, it is imperative that the T head fuses with Agr to derive the requisite 2nd position effects of "-mi" which will be discussed in Section 4.

The possibility we will pursue in this paper is that there are separate functional heads for Progressive and Perfect, and that different tenses are spelled out as a combination of these heads. Following Cinque (1999), we propose that the perfect head is higher in the structure than the progressive head, and that there are asymmetries between tenses in terms of which heads they occupy.

(12)



Thus, the difference between "yap" and "ayotgan" is actually structural, and "yap" occupies only the Prog head while leaving Perf null, whereas "ayotgan" is actually bimoprhemic and occupies both the Prog and Perf heads. The structure above in (12) will be important for explaining the distribution of the polarity particle in Section 4. The crucial notion that will be entertained is that PerfPs can participate in coordination while ProgPs cannot, and this ability to coordinate will determine whether or not it is a viable attachment site for "-mi".

3 Yes-No Questions

3.1 Forming Questions: -mi is not a C head

The polarity particle attaches to the right edge of clauses to form polar (yes/no) questions. The most straightforward analysis of a clause-final particle that takes wide scope would therefore be that it is base-generated in a rightward C head that scopes over the entire TP. Indeed, crosslinguistically, the position of question particle-like objects is often considered to be on the head of the CP (Roussou 2000, Bailey 2013, among others). However, there is clear data from Uzbek showing complementizers and "-mi" can co-occur within the same clause, and we will therefore posit that they occupy different positions. The best explanation for this is an intermediate projection between TP and CP. We will show that, while the polarity particle must scope over the entire TP, it cannot be located in the head of CP. In (13) below, we can see the co-occurrence of a C element and the polarity particle.

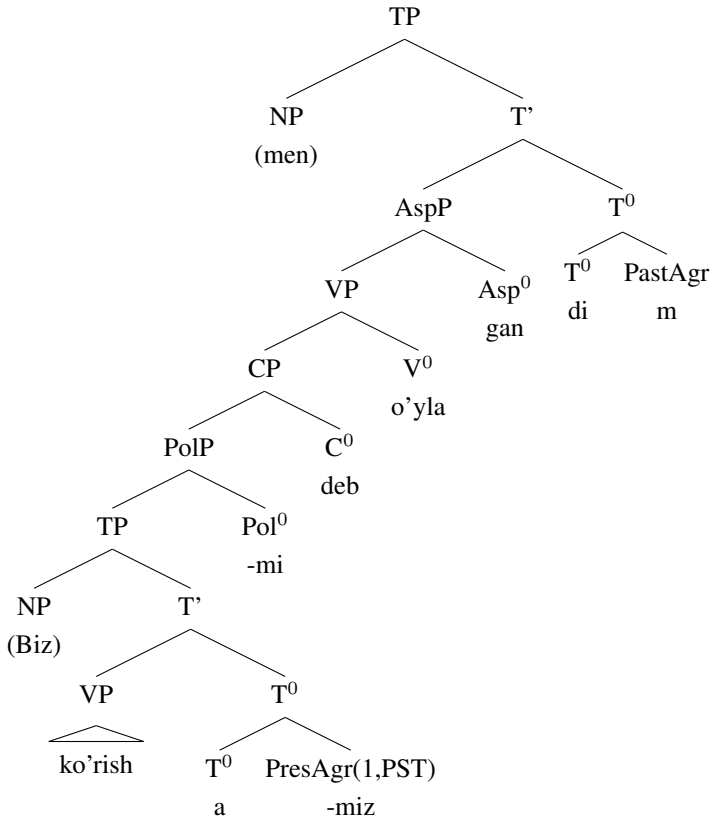
(13) [Ko'rishamizmi deb] o'ylagandim.

Ko'r-	ish-	a-	miz-	mi	deb	o'yla-	gan-	di-	m
see	REC	PRS	1PL	POL	that	think	PRF	PST	1SG

'I thought that we'd meet.' Lit. 'I thought that [we meet each other?].'

In example (13) above, the verb "o'ylamoq" (to think) takes a clausal complement. In this example, the polar particle takes scope over the embedded clause, which is a question, but does not scope over matrix clause. Thus, we propose an intermediate projection (PolP) for the Polarity particle. PolP has previously been posited to exist in Romance (Cain and O'Brien 1997, Kato 2013, among others). In this instance the polarity particle co-occurs with the complementizer "deb," which must occur when "o'ylamoq" takes a clausal complement. The following tree[9] in (14) shows the relationship between the polarity particle and scope over the embedded clause.

(14)



The embedded PolP takes scope over the embedded TP but not over the entire clause, and co-occurs with an overt C element. This structure is possible because the V can select for a full CP complement. The verb "o'ylamoq" takes statement complements, but there are verbs in Uzbek such as "so'ramoq' (to ask) that can take question complements. With verbs like this that take question complements, it is possible for -mi to occur in both the matrix and embedded clauses. The examples below in (15) show that "so'ramoq" can take question complements, and can itself be questioned in the main clause.

(15) a. [Zebo kel- ayap- ti- mi yo'q- mi] so'ra- di- ng.
Zebo come PRSPRG 3S POL no POL ask PST 2S POL

[9]There has been a significant amount of work done on Turkic languages (Julien 2001) in which the Linear Correspondence Axiom (Kanye 1994) is assumed. This paper will not adopt this schema. See Takita (2009) for arguments against universal Spec-Head-Complement branching.

'You asked if Zibo is coming (or not).'

b. [Zebo kel- ayap- ti- mi yo'q- mi] so'ra- di- ng- mi?
Zebo come PRSPRG 3S POL no POL ask PST 2S POL
'Did you ask if Zibo is coming (or not)?'

There is an interesting feature to the complement clauses features in (15), in that they overtly feature the word for 'no' with disjunctive polarity morphology suffixed onto it. In addition, both examples are perfectly grammatical, with no change in meaning, if the word for disjunction is overtly realized, as seen below in (16).

(16) a. [Zebo kel- ayap- ti- mi **yoki** yo'q- mi] so'ra- di- ng.
Zebo come PRSPRG 3S POL or no POL ask PST 2S
'You asked if Zibo is coming or not.'

b. [Zebo kel- ayap- ti- mi **yoki** yo'q- mi] so'ra- di- ng- mi?
Zebo come PRSPRG 3S POL or no POL ask PST 2S POL
'Did you ask if Zebo is coming or not?'

A natural way to account for this morphological pattern is to assume a symmetry between embedded clauses and matrix clauses in terms of their polarity strategy, but to assume an asymmetry between matrix clauses and embedded clauses in terms of ellipsis possibilites. In other words, "or not" is present even in monoclausal polar questions at some level of the derivation for both complement clauses and matrix clauses. However, this is typically deleted in matrix clauses while remaining in embedded clauses. Indeed, although it typically deleted, matrix clauses can grammatically appear with these elements overtly realized.

(17) kel- yap- san- mi yoki yo'q- mi?
come PRSPRG 2SG POL or no POL
'Are you coming or not?'

Thus, the difference between matrix clauses and embedded clauses is actually a matter of ellipsis in Uzbek, rather than a different strategy for disjunction. Bailey (2013) proposes that clause-final question particles can be accounted for by a process of CP ellipsis, seen above in (**??**) (reprinted as (18)) below.

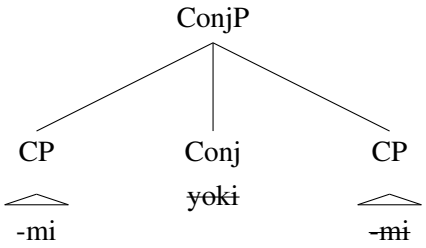
(18) ConjP CP [Conj ~~CP~~]

Bailey (2013) accounts for the likelihood of homophony between disjunction words and question particles by assuming the above schema in (18) for polar question formation. However, she does not account for the presence disjunctive morphology within the disjunctive phrase. Uzbek marks the elements inside the disjunction overtly with disjunctive morphology. In addition,we propose that Bailey (2013)'s scheme is equally applicable in theory to OV languages as it is to VO languages. We propose that, because the ellipsis is simply a matter of discourse relevance and recoverability, that the ellipsis is equally available to apply to the Conj in cases where disjunctive morphology exists on the disjuncts. Thus, we propose the modified schema below in (19) can equally account for the disjunction ellipsis account proposed by Bailey (2013) if there is evidence of disjunction present after the ellipsis.

(19) ConjP CP [~~Conj CP~~]

Thus, the underlying structure of polar questions for Uzbek involves disjunction, but differing crucially from Bailey's (2013) proposal, the disjunctive word itself is capable of being elided if the disjunctive phrase is recoverable based on morphology. The following tree in (20) is our assumption about Uzbek polar question formation, based on the data we have presented thusfar.

(20)



Thus, the surprising yet inevitable conclusion of this schema is that every polar question in Uzbek is in fact an instance of CP[10] conjunction with 'or'.

3.2 -mi cannot attach freely

In this section, we will show that there are much more severe restrictions on the location of -mi within the clause compared to Turkish. Previously, it has been claimed for Turkish that -mi occupies a FocusP and attracts elements that are +FOCUS to it (Kornfilt 1997, Julien 2001). The following data shows some possibilities with -mi in Turkish.

(21) a. Ali dün yemek yap-ti. (Turkish; Kamali 2011: 1)
Ali yesterday dinner cook-PST
'Ali cooked dinner yesterday.'

b. Ali dün yemek **mi** yap-ti?
Ali yesterday dinner Q cook-PST
'Did Ali cook dinner yesterday?'

c. Ali dün yemek yap-ti **mi**?
Ali yesterday dinner cook-PST Q
'Did Ali cook dinner yesterday?'

In (21) above, the different location of "mi" in Turkish provides different focus effects based on what it attaches to (Kamali 2011). While this may be a plausible analysis of Turkish questioning, this cannot possibly be the correct analysis for Uzbek. In Uzbek, any variant where the question particle attaches to anything other than the verb is ungrammatical, regardless of focus.

(22) a. mushuk yey- san
cat eat 2SG
'You eat cats.'

[10]It is not clear whether the appropriate phrase to conjoin is CP or PolP for our purposes.

b. mushuk yey- san- **mi**?
cat eat 2SG POL
'Do you eat cats?'

c. *mushuk- **mi** yey- san?
cat POL eat 2SG
'Do you eat *cats*?'

Instead, the pre-verbal position remains the location for focus interpretation, regardless of being a question or statement. Uzbek is a pro-drop language, but the subject can be overtly expressed and scrambled to pre-verbal position in situations of focus. Despite this, it is never a valid position for "-mi".

(23) a. mushuk **sen** yey- san
cat you eat 2SG
'*You* eat cats.'

b. mushuk **sen** yey- san- mi?
cat you eat 2SG POL
'Do *you* eat cats?'

c. *mushuk- sen- **mi** yey- san?
cat you POL eat 2SG
'Do *you* eat cats?'

Additionally, it's possible to focus elements by dislocating them rightward. However, these dislocated focused elements also can never take "-mi".

(24) a. yey- san mushuk.
eat 2SG cat
'You eat *cats*.'

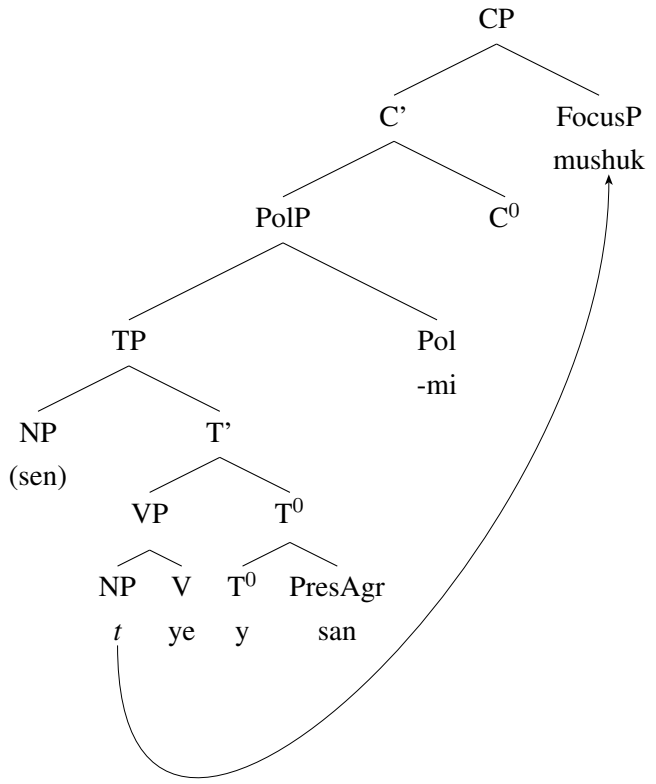
b. yey- san- mi mushuk?
eat 2SG POL cat
'Do you eat *cats*?'

c. *yey- san mushuk- mi?
eat 2SG cat POL
'Do you eat *cats*?'

Interestingly, unlike Turkish, "-mi" does not participate in focus marking in the Uzbek clause whatsoever. The elements that determine focus in statements are identical to focus elements in questions.

One interesting question is why (24c) is ungrammatical. We propose this is because the element is dislocating outside of the domain of PolP.

(25)



In the tree above in (25) we can see that "mushuk" has raised outside PolP, explaining why "-mi" does not suffix onto whatever comes at the end of the clause automatically. This example shows that "-mi" can only lower, rather than raise.

We will see in Section 4 that -mi can shift places with Agreement, but always ends up in second-to-last position within the clause. So the examples in (24) might appear problematic for our second-to-last account, if additional elements can appear right of the question marking, but the diagram in (25) shows why right dislocated focus elements are not problematic for our theory.

4 Other Disjunctive Environments

4.1 Statements

In Section 2, we demonstrated that all polar questions are an example of clausal disjunction with ellipsis of the disjunctive word and the second conjunct. This account both explains Uzbek's question marking and places Uzbek in the typological profile of languages with homophony between question particles and some element of disjunction. However, the particle "-mi" is possible in non-question environments as well. This particle is also used in non-question versions of disjunction that involve uncertainty on behalf of the speaker. In the examples below in (26), notice that the elements that are being disjoined are marked with polar morphology and not the entire clause.

(26) a. Sen- ga kitob- ni- mi yoki to'p- ni- mi ber- di- m.
2SG DAT book ACC POL or ball ACC POL give PST 1SG

'I gave you a book or a ball (uncertain).'

b. Men un -ga mushuk- ni- mi yoki kuchuk- ni- mi sol- ib qo'y- gan- man
I there LOC cat ACC POL or dog ACC POL put VCONJ put PRF 1SG
'I put a cat or a dog in there (uncertain).'

Each of the examples above (26) signify some level of uncertainty on behalf of the speaker, in a way that is not easily translatable into the English gloss. This placement of disjunctive morphology onto the disjuncts in a statement seems to be optional from a purely syntactic point of view. These conjunctions from (26) are equally grammatical with or without polarity marking on the disjuncts, albeit with different pragmatic effect. The absence of disjunctive morphology signifies certainty on behalf of the speaker, and there is therefore a pragmatic effect rather than a syntactic one.

(27) a. Sen- ga kitob- ni yoki to'p- ni ber- di- m.
2SG DAT book ACC or ball ACC give PST 1SG
'I gave you a book or a ball (certain).'

b. Men un -ga mushuk- ni yoki kuchuk- ni sol- ib qo'y- gan- man
I there LOC cat ACC or dog ACC put IB put PRF 1SG
'I put either a cat or a dog in there (certain).'

The difference between the examples from (26) and (27) is that overt disjunctive marking signifies uncertainty on the part of the speaker. Statements involving disjunction where there is no uncertainty on the part of the speaker are infelicitous if marked with "-mi".

(28) a. Yer -dagi har bir odam yo erkak yo ayol.
earth LOC every one person or man or woman.
'Everyone on earth is either a man or a woman.'

b. #Yer- -dagi har bir odam yo erkakmi yo ayolmi.
earth LOC every one person or man or woman.
'Everyone on earth is either a man or a woman.'

c. Har bir son yoki juft yoki toq son- dir
every one number or even or odd number CONF
'Every number is either even or odd.'

d. #Har bir son yoki juft -mi yoki toq -mi son- dir
every one number or even POL or odd POL number CONF
'Every number is either even or odd.'

The lack of morphology in this case does not demonstrate ambiguity, but is rather a clear sign of certainty. This makes sense if the lack of morphology generates a scalar implicature of certainty, based on not using the uncertainty signaling morphology. In other words, the lack of uncertainty morphology makes it clear that the speaker is certain, rather than the value being unspecified.

Interestingly, it does not appear possible to embed a PolP inside another PolP within the same clause. In other words, it appears to be ungrammatical to have multiple types of disjunction within the same clause with disjunctive marking. Multiple disjunctions without disjunctive marking are grammatical.

(29) a. u yer- ga mushuk- ni sol- ib qo'y- gan- man- mi yoki kuchuk- ni- mi
3SG place DAT cat ACC put VCONJ put PRF 1SG POL or dog ACC POL
'Did he put a cat or a dog in there?'

b. *u yer- ga mushuk- ni- mi yoki kuchuk- ni sol- ib qo'y- gan- man- mi?
3SG there LOC cat ACC POL or dog ACC put VCONJ put PRF 1SG POL
'Did he put a cat or a dog in there?'

c. *u yer- ga mushuk- ni yoki kuchuk- ni sol- ib qo'y- gan- man- mi?
3SG there LOC cat ACC or dog ACC put VCONJ put PRF 1SG POL
'Did he put a cat or a dog in there?'

Both (29b) and (29c) are ungrammatical because they are attempts to embed a PolP inside another PolP. The grammaticality of (29a) is an interesting case for us, because on the surface this appears to be a conjunction of a clause and a noun. This type of coordination is generally considered marked (Ross 1967). However, we propose that this is not the type of disjunction it appears to be on the surface. However, because clausal disjunction cannot co-occur with embedded disjunction, a TP ellipsis strategy with clausal disjunction is necessary to derive the surface string from (29a), seen below in (30).

(30) u yerga mushukni solib qo'yganmanmi yoki kuchukni ~~solib qo'yganman~~ -mi
there place cat put put-I or dog put put-I mi
'Did I put a cat or a dog in there?'

Because of the ungrammaticality of (29b) and (29c), and the necessary circumlocution strategy for sentences of this type, we posit the following constraint.

(31) *The Polarity Phrase Embedding Constraint*
One PolP cannot be directly embedded under another PolP without an intervening CP.

The Polarity Phrase Embedding Constraint (PPEC) explains the morphological marking within phrases that involve both uncertain disjunction and a polar question. Disjunction is not possible without PolP, ruling out (29b) and (29c). (29a) is grammatical because it actually involves only one instance of disjunction.

It's important to note that only disjunction is disallowed under this constraint. Conjunction is still possible under polar environments, suggesting that disjunction might be an interaction between PolP and ConjP. The following example in (32) demonstrates that conjunction is still possible.

(32) [Stol va stul]- ni sot- ib ol- di- ng- mi?
table and chair ACC buy VCONJ take PST 2SG POL
'Did you buy the table and the chair?'

Note that neither of the conjuncts in (32) receive polarity marking, which is not surprising considering they are not members of a disjunctive phrase, but rather a conjoining phrase.

4.2 Alternative Questions

Finally, it is possible to ask fragment, alternative questions involving disjunction. These sentences all follow sentences in natural discourse where the context would be obvious between the choices. In this

situation, there are multiple possible markings that are grammatical with no shift in meaning, seen in (33a) and (33b).

(33) a. Ben- mi yoki Satoshi- mi?
Ben POL or Satoshi POL
'Ben or Satoshi?'

b. Ben- mi yoki Satoshi?
Ben POL or Satoshi
'Ben or Satoshi?'

c. *Ben yoki Satoshi- mi
Ben or Satoshi POL
'Ben or Satoshi?'

In fragment questions, the first member of the disjunct must receive disjunctive marking, and the second member of the disjunct may optionally receive that marking as well. (33a) and (33b) are underlyingly identical, but the second -mi in (33b) has been elided, making it consistent with the ellipsis account provided above in Section 2 and this section (but different patterns of ellipsis provide the different accounts for marking).

5 Mi-Shifting

5.1 The Variation

We showed in section 2.3 that "-mi" is very restricted in terms of what it attaches to in the clause. It can only attach to the verbal complex and is impossible with other consitutents, even for focus marking (as might be expected based on Turkish per Kamali (2011)). Generally, "-mi" attaches to the very end of the verbal complex, in clause-final position. With certain types of agreement, however, "-mi" does not appear clause-finally, but appears to switch position with Agr. Specifically, the shift seems to depend on both the tense and the person of the Agr.

(34) a. ket- gan- man- mi
leave PERF 1SG POL
'Have I (ever) left?'

b. *ket- gan- mi- man
leave PERF POL 1SG
'Have I (ever) left?'

c. ket- gan- san- mi
leave PERF 2SG POL
'Have you (ever) left?'

d. ket- gan- mi- san
leave PERF POL 2SG
'Have you (ever) left?'

The important generalization from the dataset above in (34) is that "-mi" can grammatically switch its position with Agr in (34c) with the second person, but not in (34b) with the first person. In the case of clause-final "-mi" (34a) and (34c), having the polarity particle in the clause-final position always produces a grammatical result.[11]

[11] For (34c), our informant reports that she finds it somewhat unnatural, and she reports that (34a) is much more common.

The clause-final position is always grammatical for a variety of tense inflections and following any person or number agreement. In certain cases, however, "-mi" can be re-ordered with respect to the Agr suffix, "shifting" to a second-to-last position in the verbal complex (34d). A valid shifting environment is with the perfective aspect, as seen in (34c). We can see that "-mi" attaches to the end of the verbal complex. In (34d), we see that the polarity particle has now been reordered with the Agr suffix and now directly follows the Aspect marker. There is no clear semantic or pragmatic difference between these two orderings at all. This reordering also occurs with other Agr suffixes for both singular and plural, as can be seen in (35d, 35e, 35f, 35g). The remainder of the person paradigm for perfect aspect is listed below in (35).

(35) a. ket- gan- ∅ mi- ∅
leave PERF 3SG POL 3SG
'Has he/she/it (ever) left?'

b. ket- gan- miz- mi
leave PERF 1PL POL
'Have we (ever) left?'

c. *ket- gan- mi- miz
leave PERF POL 1PL
'Have we (ever) left?'

d. ket- gan- siz- mi
leave PERF 2PL POL
'Have you (pl.) (ever) left?'

e. ket- gan- mi- siz
leave PERF POL 2PL
'Have you (pl.) (ever) left?'

f. ket- gan- mi- lar
leave PERF POL 3PL
'Have they (ever) left?'

g. ket- gan- lar- mi
leave PERF 3PL POL
'Has he/she/it (ever) left?'

In this agreement paradigm, third singular agreement is not phonologically realized, but based on analogy to the third plural, we can assume reordering is also possible in this case (35a). At the very least, it is clear that third person singular, with null agreement, can be explained by our generalization.

The problematic case in this phenomenon is verbal complexes that take first person agreement. In (34a, 35b), the question particle is allowed in final position. However, reordering is not possible and leads to ungrammaticality as seen in (34b, 35c). The distribution of the polarity particle, therefore, is affected by Agreement inflection on the verb. Reordering is possible with second (-san, -siz) and third person (∅, -lar), but is impossible with first person inflection (-man, -miz).

This is not true, however, of the entire tense paradigm. This effect of person on the location of -mi attachment is restricted to the Non-past Agreement paradigm. For the past perfect, shifting is possible across all person/number combinations.

(36) a. ket- gan- di- m- mi
leave PERF PST 1SG POL
'Had I (ever) left?'

b. ket- gan- mi- di- m
leave PERF PST POL 1SG
'Had I (ever) left?'

c. ket- gan- di- ng- mi
leave PERF PST 2SG POL
'Had you (ever) left?'

d. ket- gan- mi- di- ng
leave PERF POL PST 2SG
'Had you (ever) left?'

e. ket- gan- di- ∅- mi
leave PERF PST 3SG POL
'Had he/she/it (ever) left?'

f. ket- gan- mi- di- ∅
leave PERF POL PST 3SG
'Had he/she/it (ever) left?'

g. ket- gan- di- k- mi
leave PERF PST 1PL POL
'Had we (ever) left?'

h. ket- gan- mi- di- k
leave PERF POL PST 1PL
'Had we (ever) left?'

i. ket- gan- di- ngiz- mi
leave PERF PST 2PL POL
'Had you (pl.) (ever) left?'

j. ket- gan- mi- di- ngiz
leave PERF POL PST 2PL
'Had you (pl.) (ever) left?'

k. ket- gan- di- lar- mi
leave PERF PST 3PL POL
'Had they (ever) left'

l. ket- gan- mi- di- lar
leave PERF POL PST 3PL
'Had they (ever) left'

When Past Agreement is present, reordering is possible with any Person or Number inflection as seen above in the examples from (36). This reveals another aspect of -"mi" ordering: "-mi" can precede both the past Tense morpheme and Agreement. In the perfective Aspect examples above in (35), Tense is not spelled out, and therefore, the polarity particle's position in regards to Tense is ambiguous. In the past perfect examples in (36), we can see clearly that "-mi" precedes both Tense and Agreement. As mentioned above in Section 2.2, we assume T^0 is a complex head consisting of T^0 and AGR^0. Given this, the generalization can be made that when -mi is shifted, it always appears in second-to-last position. For a verb with perfect Aspect, this means preceding the Agreement morpheme. In the past perfective, this means preceding the Tense and Agreement morphemes, which only constitute one position since they form a complex head.

As has been shown, "-mi" reordering is possible when it follows the perfective -gan morpheme. Explicit aspectual morphemes are generally able to allow "-mi" shifting to follow them; these morphemes include "-ayotgan", "-moqchi", and "-ar" (37, 38, 39). The same first person restriction that held for perfective holds for all these aspectual markers as well. [12]

(37) a. ich- moqchi- san- mi
drink INTEN 2SG POL
'Do you intend to drink?'

[12]The presumptive past examples given in (39) include the aspectual morpheme "-ar" as well as the overt tense morpheme "-di" and Past agreement. It is possible for the presumptive morpheme "-ar" to co-occur with Non-past agreement (1), in which case there is no explicit Tense.

(1) yugur- ar- san
run PRSM 2SG
'You might run'

However, this construction does not provide us with information on "-mi" shifting, because this presumptive cannot be converted to a YNQ in Uzbek. Attaching "-mi" to the presumptive is infelicitous (2).

(2) #yugur- ar- san- mi
run PRSM 2SG POL
int: 'Might you run?'

b. ich- moqchi- mi- san
drink INTEN POL 2SG
'Do you intend to drink?'

c. ich- moqchi- man- mi
drink INTEN 1SG POL
'Do I intend to drink?'

d. *ich- moqchi- mi- man
drink INTEN POL 1SG
'Do I intend to drink?'

(38) a. kul- ayotgan- di- m- mi
laugh PSTPGR PST 1SG POL
'Was I laughing?'

b. kul- ayotgan- mi- di- m
laugh PSTPGR POL PST 1SG
'Was I laughing?'

c. kul- ayotgan- di- ng- mi
laugh PSTPGR PST 2SG POL
'Were you laughing?'

d. kul- ayotgan- mi- di- ng
laugh PSTPGR POL PST 2SG
'Were you laughing'

(39) a. yugur- ar- di- m- mi
run PRSM PST 1SG POL
'Would I run (if I could)? '

b. yugur- ar- mi- di- m
runPRSM POL PST 1SG
'Would I run (if I could)? '

c. yugur- ar- di- ng- mi
run PRSM PST 2SG POL
'Would you run (if you could)?'

d. yugur- ar- mi- di- ng
run PRSM POL PST 2SG
'Would you run (if you could)?'

Surprisingly, there is an aspect morpheme that does not host any type of mi-shifting. The present progressive morphemes, "yap, vot[13]," do not ever take place in "mi"-shifting. We will show in section 4.2 that this impossibility follows from prosodic considerations.

[13]The usage of -vot is restricted to Tashkent Uzbek, according to our informant.

(40) *kel- yap- mi- san
come PRS.PRG POL 2SG
'Are you coming?'

(41) *kel- vot- mi- san
come PRS.PRG POL 2SG
'Are you coming?'

As will be demonstrated below, these Aspect morphemes can be described as viable attachment sites for the placement of the polarity particle. This is a distinct property of the Aspect suffixes. The verb root itself can never directly precede the polarity particle (42).

(42) *ko'r- mi- di- ng
see POL PST 2SG
'Did you see it?'

Uzbek allows for the insertion of an explicit copula (in the past tense, "e-") that can carry Tense suffixes and coincide with a verb carrying its own verbal suffixes. The previous example of a verb carrying past perfect inflection (36a) can also be expressed with an explicit copula which carries the past tense suffix (43) below. As can be seen, "-mi" is perfectly acceptable attaching to the copula in final position. Although we have seen before that "-gan" is a viable attachment site for "-mi", it is not possible in the case of the explicit copula construction (44). Nor is -mi able to attach directly following the copula (45). This falls out naturally if "-mi" shifting is a fundamentally second-to-last process. "-gan" might be an available attachement site, but this would require shifting over both "-dim" and "e-". This antipenultimate position is too far form the right edge of the verbal complex, and therefore is not availavle for "-mi" to shift to.

(43) ket- gan e- di- m- mi
leave PERF COP PST 1SG POL
'Had I (ever) left?'

(44) *ket- gan- mi e- di- m
leave PERF POL COP PST 1SG
'Had I (ever) left?'

(45) *ket- gan e- mi- di- m
leave PERF COP POL PST 1SG
'Had I (ever) left?'

Besides aspect morphemes, "-mi" can also attach to nonverbal predicates. Nominal and adjectival predicates are possible environments for "-mi" shifting (46, 47). Interestingly enough, in Uzbek, some adverbs can also serve as predicates and allow "-mi" shifting (48). In the following section, we will show that nonverbal predicates and aspect suffixes share common properties with regards to prosody and phonological wordhood.

(46) a. hayvon- san- mi
animal 2SG POL
'Are you an animal?'

b. hayvon- mi- san
animal POL 2SG
'Are you an animal'

(47) a. chiroyli- siz- mi
beautiful 2PL POL
'Are you (pl.) beautiful?'

b. chiroyli- mi- siz
beautiful POL 2PL
'Are you (pl.) beautiful'

(48) a. tez- dilar- mi
quickly 3PL POL
'Are they quick?'

b. tez- mi- dilar
quickly POL 3PL
'Are they quick?'

We suggest that the distribution in "mi"-shifting is a combination of two competing factors. The first is a personhood blocking constraint. We can consider first person to be a "fortress" blocking re-ordering (Halpern 1995). The second factor is that "-mi" must attach on the right of a valid coordinated constituent. In the next section we will propose some tests to determine coordinatibility.

5.2 Coordinatibility

It is clear that there is a blocking constraint on "mi"-shifting based on first person in a specific agreement paradigm. It is less clear based on the data presented in Section 4.1 how to account for some of the environments where "mi"-shifting is not allowed. In this section we will coordinate constituents to determine where "-mi" can occur.

5.2.1 Coordinability predicts "-mi" position

The basic crux of this proposal is that if a constituent can be coordinated, then its edge will make a suitable site for "-mi" to attach to. This is easily illustrated in the case of nouns, adjective and adverbs, which do show up in coordination (49).

(49) a. [Stol va stul]- ni sot- ib ol- di- ng- mi?
table and chair ACC buy VCONJ take PST 2SG POL
'Did you buy the table and the chair?'

b. men- ing kuchug- im [qora va yaxshi]
I GEN dog 1SG.POSS black and good
'My dog is black and good.'

c. [tez va ko'p] yugur- a- di
fast and often run NPST 3SG
'He/she/it runs fast and often'

Verbal constituents can also be coordinated. This creates the construction that is commonly known as suspended affixation in Turkish (Good and Yu 2005). In these constructions, agreement and/or tense affixes are suspended until the end of the coordination and take scope over all coordinated constituents (50).

(50) men [kul- gan va yig'la- gan] man
I laugh- PRF and cry- PRF 1SG
'I have laughed and cried.'

The ability to participate in suspended affixation will perfectly predict the ability of "-mi" to shift. In other words, segments that are capable of participating in suspended affixation will also be capable of hosting "-mi" on their right edge, and segments that are not capable of suspended affixation cannot do so, precisely because it involves coordination. We have seen that "-gan" can be coordinated. Note below that all the other environments that allow "mi"-shifting allow suspended affixation as well.

(51) men [ich- moqchi va chek- moqchi-] man
I drink INTEN and smoke INTEN 1SG
'I intend to drink and smoke.'

(52) sen [kul- ayotgan- va o'yn- ayotgan] di- ng.
you laugh PSTPGR and PLAY PSTPGR PST 2SG
'You were laughing and playing.'

(53) u [yugur- ar va suzar-] di- mi?
he/she run PRSM and swim PST POL
'Would he run and swim (if he could)?'

All of the environments above in (51), (52) and (53) are possible in suspended affixation because of the viability of each of their component stems to be constituents of coordination. This type of coordination is not possible with "yap," as seen below in (54).

(54) *men [hayda- yap va gaplash- yap] man
I drive PRS.PRG and speak PRS.PRG 1SG
'I am driving and speaking.'

As mentioned above in Section 2.1, we propose that "yap" occupies a ProgP that is lower in the structure than PerfP, which is the projection for "gan" and the other aspect/mood suffixes. Because of this assymetry in height between the two projections, we predict that PerfP will be able to participate in coordination and ProgP will not, for whatever reason. Because of this, "-mi" cannot attach to their right edge. Simple verb stems cannot participate in suspended affixation either, because they are also lower than PerfP

(55) *Shakhlo [o'qit va tingla] di
Shakhlo teach and listen 3SG
'Shakhlo teaches and listens.'

The distribution of "mi" will follow from the properties of these functional heads, as we will demonstrate below.

5.2.2 Forming Questions with Ellipsis

In Section 2.2, we discussed our modified adoption of Bailey's (2013) schema for polar question formation, reproduced below in (56). We are therefore assuming that all polar questions are coordinated PolP's with the conjunction and second conjunct elided. The variable position of "mi," then, is not a product of movement, but falls out of which constituents that are coordinated. The possibility of suspended affixation of tense and/or agreement creates the conditions for the polar particle to appear in a penultimate position. We will demonstrate the derivations of polar questions below.

(56) ConjP XP [~~Conj XP~~]

The polar question formed from a predicate nominal (46a) is simple enough to obtain. This involves coordination where the first conjunct is TP (57). The conjunction and second conjunct are then elided, leaving us with the simple polar question.

(57) hayvon-san-mi [~~yoki yo'q-mi~~]

When we observe "mi" in the penultimate position, this is because an NP is the first conjunct, and (null) Tense and agreement have been suspended until after the coordination.

(58) [[hayvon-mi [~~yoki yo'q-mi~~]] san]

After elision, "mi" directly precedes agreement; it is no longer in final position.

Similarly, we know that"gan" can be coordinated, and if it is "mi" will follow directly after it, and (null) Tense and agreement are suspended

(59) [[ket-gan-mi [~~yoki yo'q-mi~~]] san]

Again, "mi" is left in a penultimate position after elision.

We also know "ar," is able to be coordinated, and now explicit Tense and agreement are suspended, illustrating why "mi" appears before both.

(60) [[yugur-ar-mi [~~yoki yo'q-mi~~]] ding]

We have seen that "yap" is not a possible conjunct in a coordinated phrase, and therefore, will never occur in these types of constructions where "mi" appears in penultimate position. A more perplexing constraint on "mi" placement is that it never appears preceding Non-past first person agreement.

6 Conclusions + Future Questions

The main contribution of this paper has been to describe the surface variation possible for the question particle "-mi," which we show is in fact a marker of polarity and can be used is disjunction generally throughout the language. This description can help augment our understanding of typology of question particles, typology of disjunction, and the relationship between those elements. In particular, the presence of specific disjunctive morphology is of great interest.

Another contribution is to describe the phenomenon of mi-shifting, which is a peculiar phenomenon that is subject to person blocking constraints in one tense paradigm and phonological word constraints simultaneously.

An important question for future research is the nature of person-specific blocking constraints. It is known that there can be bizarre person effects in certain paradigms, such as English in (6) below.

(61) *Amn't / Aren't I clever?

Understanding these person constraints and fitting them into a broader typological profile is a useful goal for future research. In addition, it's crucial to understand the connection between suspended affixation and "-mi" attachment. Although there seems to be some notion of phonological word at play, it's not clear based on obvious phonological facts why certain representations should be viable landing sites for "-mi" attachment and others should not. Verb stems, for example, can survive on their own in commands.

(62) kuyla!
sing-IMP
'Sing!'

Unfortunately, is it not possible within the scope of this work to tackle some of these issues, but we hope that future work illuminates them.

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