

Negative features in San Martín Peras Mixtec*

Ben Eischens

University of California, Santa Cruz

1. Introduction

There are a wide variety of lexical items that contribute some sort of negative flavor to an utterance, but the strength of negation varies from item to item. For example, the word ‘not’ in (1) contributes sentential negation, while the word ‘anybody’ does not.

(1) I did **not** see **anybody**.

This asymmetry raises a question: What lexical items in natural language contribute sentence negation, and is this set constrained in any way? This paper investigates this question’s implications for frameworks of negation that rely on syntactic features (i.e., Zeijlstra, 2004). I argue that, without augmentation, such systems predict no restriction on what lexical items may contribute sentence negation. Though this may seem desirable, I show that NEG features appear to be restricted to certain lexical items. The empirical demonstration of this idea relies on positionally-restricted negative quantifiers in San Martín Peras Mixtec (SMPM), a VSO, Otomanguan language of Oaxaca, Mexico. These negative quantifiers (NQs) obligatorily occur in the pre-verbal position usually occupied by sentence negation:

- (2) a. **kõ:=ñà** **yíbi** káni Pedro
 NEG=3.SG.N person hit.CONT Pedro
 ‘Pedro isn’t hitting anybody.’
- b. *káni Pedro **kõ:=ñà** **yíbi**
 hit.CONT Pedro NEG=3.SG.N person
 Intended: ‘Pedro isn’t hitting anybody.’

*I would like to thank Eraclio Gracida Cruz, Irma López Basurto, Juan Gracida Ortiz, one anonymous consultant, and most especially Natalia Gracida Cruz for their patience and enthusiasm in sharing their language with me. I am grateful to Maziar Toosarvandani, Ivy Sichel, and Ryan Bennett for their help in bringing this project to life. Throughout, NEG=negative, COMPL=Completive, CONT=Continuative, POT=Potential, SG=singular, PL=plural, N=neutral, EMPH=emphatic.

I conclude that, despite appearances to the contrary, the set of lexical items in SMPM that may contribute sentential negation is restricted to the marker of sentence negation itself. I argue that this data support the conjecture that the only lexical items that bear interpretable negation in natural language are markers of sentence negation or negative operators, not NQs.

2. Background

2.1 Language info

SMPM is an Otomanguean language spoken by about 10,000 people in and around the municipality of San Martín Peras in western Oaxaca, Mexico (Instituto Nacional de Estadística y Geografía 2010). Additionally, there are an estimated 100,000-150,000 indigenous Oaxacans living in California (Kresge 2007), many of whom speak one of the multitude of indigenous Oaxacan languages. Speakers of SMPM specifically are concentrated principally in the towns of Watsonville, Oxnard, and Santa María (Natalia Gracida Cruz, p.c.). The language has default VSO word order, though arguments regularly front to a pre-verbal position through various processes related to information structure (Hedding 2020). It has five phonemic tones: three level tones (\acute{v} = High, v = Mid, \grave{v} = Low) and two contour tones (\check{v} = Low-to-High rise, \hat{v} = High-to-Low fall). The tone-bearing-unit is the mora, and a single mora may host any of the five phonemic tones (Peters 2018).

2.2 Methods

Unless otherwise noted, all data in this paper come from my own fieldwork, which was conducted in Spanish and was primarily with one speaker of SMPM in Watsonville, California, with additional data and validation of prior results coming from elicitation sessions with four speakers of SMPM in Ahuejutla, a small town in the municipality of San Martín Peras. Tasks included translation from Spanish to SMPM and vice versa as well as eliciting well-formedness judgments for target sentences. Grammaticality judgments depended on native-speaker intuition of whether or not a particular utterance was possible, and in all cases possible a supporting context was provided. Semantic felicity of an utterance was determined via speaker intuition of the naturalness of an otherwise grammatical utterance in a particular context. Scope relations were determined by eliciting the truth value of an otherwise grammatical sentence in a context that required a particular scope configuration. The tonal specification of items was gathered using tone frames, analyzing pitch tracks in Praat, and checking for the application of tone sandhi processes that target particular tonal specifications. Any errors are my own.

2.3 Negative concord as syntactic agree

Some theories of negative dependencies use syntactic NEG features to explain the distinction between negative concord (NC) and double negation (DN) systems. In DN systems, each negative element in a sentence contributes its own semantic negation. Standard En-

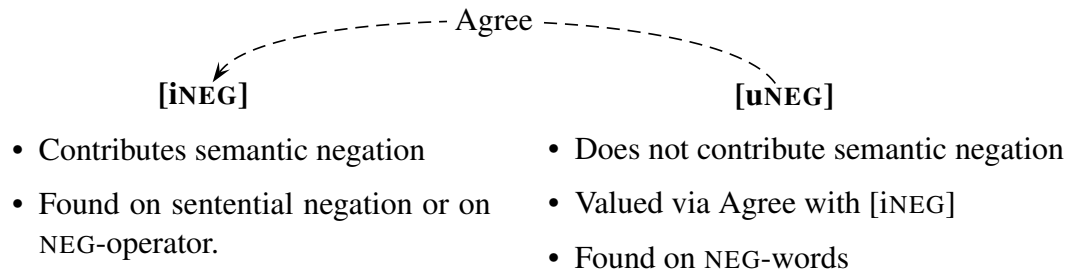
glish is usually referred to as a DN language, where the co-occurrence of a NQ and the negative marker results in two semantic negations. For example, the sentence ‘nobody didn’t call’ means something like ‘there is not anyone that didn’t call.’

Negative Concord (NC) systems, on the other hand, are systems in which multiple negative elements co-occur, but they result in only one semantic negation. SMPM is an example of a NC system, since there is a class of NEG-words in the language. These elements obligatorily co-occur with the negative marker but result in just one negation.

- (3) **kò=káni** Pedro **ní-’ín-nà**
 NEG=hit.CONT Pedro not-one-3PL.N
 ‘Pedro isn’t hitting anybody.’

In Zeijlstra’s (2004) system, the distinction between NC and DN languages boils down to the distribution of NEG features. NEG features are syntactic features that are either *interpretable* [iNEG], in which case they contribute semantic negation, or are *uninterpretable* [uNEG], in which case they must be valued through an upward Agree relation with an [iNEG] feature. [iNEG] is found on markers of sentence negation, like *kò-* in (3), or on abstract negative operators. [uNEG] is found on NEG-words, like *ní-’ín-nà* in (3).

- (4) Visualization of NEG features



Using NEG-features helps to explain why two negative items may co-occur and result in just one semantic negation: If an [iNEG] item co-occurs with a [uNEG] item, as in (3), the fact that there is only one [iNEG] means that there is only one semantic negation.

However, this system implicitly assumes a restricted distribution of NEG features. In NC languages, sentence negation or a negative operator may bear [iNEG], and NEG-words uniformly bear [uNEG], not [iNEG]. What is more, Zeijlstra (2008:30) claims that there are no syntactic NEG features in DN systems because learners do not see negative dependencies. Because they have no reason to posit the existence of NEG features, they do not—instead, there is a one-to-one mapping of negative items to instances of semantic negation.

The result of these stipulations is that, in NC and DN languages, there are no NQs that bear [iNEG]. However, NEG features are lexical features, and they should be able to distribute freely throughout the lexicon—there should be no restriction on what lexical items may host them. This fact, combined with the distribution of NEG features proposed in Zeijlstra (2008), raises the question of whether or not there are languages with [iNEG]-

marked NQs.¹ Under this system, such a language must exhibit NC, otherwise it would have no NEG features (Zeijlstra 2008:30). And in addition to NEG-words, it must have a separate class of NQs that independently contribute interpretable negation. Table 1 shows this predicted system, though it omits some other logical combinations of NEG features.

(5) Typology of NEG-features

	Negative concord	Double negation	Predicted system
Sentence negation	[iNEG] or [uNEG]	No NEG features	[iNEG]
Negative quantifiers	[uNEG]	No NEG features	[uNEG] or [iNEG]

In the coming section, I show that, even though SMPM appears to meet the criteria to fill in the missing cell in (5), the marker of sentence negation is the only [iNEG]-marked lexical item in the language.

3. NQs in SMPM

3.1 NEG-words

SMPM has a class of NQs that participate in NC. These NQs must co-occur with the preverbal marker of sentence negation.

- (6) **ní-ñá'ǎn *(kò)=kísha ní'ín-nà**
 not-thing NEG=do.CONT not-one-3PL.N
 “Nobody is doing anything.”

These NQs are like to be NEG-words and not negative polarity items (NPIs), as they are illicit in general downward-entailing environments and allowed only in anti-morphic contexts (Zwarts 1998). Additionally, they may be used as fragment answers, a hallmark of NEG-words (Laka 1990).

- | | |
|---------------------|-------------------|
| (7) Question | (8) Answer |
| yó: kàni Pedro? | ní-'ín-nà |
| who hit.COMPL Pedro | not-one-3PL.N |
| “Who hit Pedro?” | “No one.” |

These NEG-words can be analyzed as having their [uNEG] feature checked by the [iNEG] feature on the marker of sentence negation. In Zeijlstra’s (2004) system, the fact

¹If DN languages do, in fact, have NEG features and consequently have [iNEG] NQs, the question becomes whether or not there is a language with *both* [iNEG] and [uNEG] NQs.

that SMPM exhibits NC suggests that it makes use of NEG features. That is, learners of SMPM see negative dependencies and thus have reason to posit formal [i/uNEG] features.

3.2 Negative indefinites

SMPM also has a class of NQs that cannot co-occur with sentence negation. I will refer to these as negative indefinites (NIs). These NIs obligatorily occur pre-verbally:

- (9) **kǒ:=ñà** **yíbi** (***kò**)=káni Pedro _
NEG=3.SG.N person hit.CONT Pedro _
“Pedro isn’t hitting anybody.”

NIs in SMPM contribute sentence negation. In SMPM, the particles equivalent to English ‘too’ and ‘neither’ track the polarity of the preceding utterance, much like in English (Klima 1964). The equivalent of ‘me, too’ is felicitous in response to a positive polarity sentence, but not one with negative polarity. Conversely, the response meaning ‘me, neither’ is felicitous in a response to a sentence with negative polarity but not positive polarity. In the case of NIs, the ‘me, neither’ response is felicitous, while the ‘me, too’ response is not. This fact suggests that NIs contribute sentence negation to their utterance.

- | | |
|---|---|
| (10) Statement | (11) Response |
| kǒ:=nà ní-shashi ntsìkǎ
NEG=3.PL.N COMPL-eat banana
“Nobody ate a banana” | a. ✓ ní yù’ù
not 1SG
“Me, neither.” |
| | b. #sá ti-’i
so also-1SG
“Me, too.” |

Because these NIs contribute sentence negation, they host an [iNEG] feature. When this observation is combined with the fact that SMPM also has [uNEG]-marked NEG-words, the language appears to be just the type predicted by the the typological extrapolation of Zeijlstra’s (2004) NEG-features: A NC language with two types of NQs, those that bear [uNEG] and those that bear [iNEG].

However, I will show in the coming section that, though NIs in SMPM do bear [iNEG], they only do so by virtue of containing the usual marker of sentence negation. The resulting picture of SMPM is, then, another language in which only the marker of sentence negation or a negative operator may bear [iNEG]. This point is non-trivial because the typological slice of languages that (1) exhibit NC, and (2) have an independent class of semantically-negative NQs is quite small. SMPM is one of the few languages displaying this property, and its NIs are not independently negative.

4. NIs contain sentence negation

Here, I argue that NIs in SMPM are made up of the marker of sentence negation as well as a moved indefinite, usually a pronoun used in generic constructions. The reasons for this analysis are as follows: (1) NIs are transparently decomposable into a spell-out of sentence negation and an indefinite, (2) NIs show the same licensing properties as sentence negation, and (3) NIs are only licit in the syntactic position of sentence negation. I will walk through each of these points in turn.²

4.1 NIs contain sentence negation

The form that negation takes in SMPM varies depending on verbal aspect, a characteristic common in Mixtec languages (Hollenbach 2015). For Continuative verbs, negation is marked solely by an L-marked proclitic *kò=*. Completive verbs are negated in one of two ways: Either with an obligatory LH-marked Completive morpheme *nĩ-*, or by both the LH-marked Completive morpheme and the proclitic *kò=*, which is optional in this case.³ Potential verbs are negated solely by a LH rise on the first vowel of the verb.

(12) Negative Marking

Verb	CONT	COMPL	POT
“to paint”	kò=náka’yì	kò=nĩ-naka’yì nĩ-naka’yì	náka’yì
“to rot”	kò=tsyá’yĩ	kò=nĩ-tsyá’yĩ nĩ-tsyá’yĩ	tsyá’yĩ

As seen in (12), negation in SMPM is expressed in three ways: a prefix (Continuative), (2) an LH rising tone (Completive and Potential), or (3) a combination of the two (Completive). This distribution strongly suggests that negation in SMPM is an instance of multiple exponence (Matthews 1974), where one meaning is expressed in multiple forms. Though

²It should be noted that this construction is, in fact, a NQ and not a negative existential verb with a pivot and coda. While wh-words cannot be extracted out of the coda of a positive existential verb, they can be extracted from the equivalent position in a clause with an NI. If NIs were in fact negative existential verbs, the same extraction restrictions that are placed on positive existentials should hold of them.

- (i) a. *yó: íyo-nà kàni
 who there.is-3PL.N hit.COMPL
 *‘‘Who is there someone that hit?’’
- b. ✓yó: kǒ:=nà káni?
 who NEG=3PL.N hit.CONT
 ‘‘Who is nobody hitting?’’
 Reading under NEG-ex. analysis: *‘‘Who is there no one that is hitting?’’

³I do not yet know what, if any, difference its inclusion makes.

a thorough morphological analysis is not given here,⁴ it is clear that negation is expressed via a combination of *kò-* and an LH rising tone. Under this view, it is no surprise that NIs in SMPM contain both *kò-* and a rising tone:

- (13) a. **kǒ:=nà**
NEG=3PL.N
“Nobody.”
- b. **kò=ñǎ’an**
NEG=thing
“Nothing.”

Additionally, the second part of NIs is transparently a moved indefinite. NIs co-vary with constructions in which negation is spelled out pre-verbally and the indefinite is spelled out in situ. In these constructions, negation still obligatorily outscopes the indefinite, which is the scopal construction involved in NIs.

- (14) a. **kǒ:=ñà yíbi ní-shini Pedro**
NEG=3SG.N person COMPL-see Pedro
“Pedro didn’t see anyone”
- b. **kò=nǐ-shini Pedro ñà yíbi**
NEG=NEG.COMPL-see Pedro 3SG.N person
“Pedro didn’t see anyone” ($\neg > \exists$)
*“Pedro didn’t see someone” ($\exists > \neg$)

The fact that NIs can be transparently decomposed into a spell-out of sentence negation and an indefinite suggests that NIs do, in fact, contain sentence negation.

4.2 Licensing similarities

If NIs contain the marker of sentence negation, they should license all of the same polarity-sensitive items. As shown in (11), NIs license negative polarity particles. In addition, NIs pattern with sentence negation in the licensing of two more items.

SMPM has a polarity-sensitive degree word *timi:(-ba)*, which may only occur immediately following items that host the marker of sentence negation. It is illicit in positive polarity contexts.

- (15) a. **kò=nǐ-shahkù (✓timi:-ba) Pedro (*timi:-ba)**
NEG=COMPL-laugh (at.all-EMPH) Pedro (at.all-EMPH)
“Pedro isn’t laughing (at all).”
- b. **nì-shàhkù (*timi:-ba) Pedro**
COMPL-laugh at.all-EMPH Pedro
“Pedro laughed (*at all)”

As expected under this analysis, the polarity-sensitive degree word is licensed by NIs.

⁴See Eischens (2019) for a morphological analysis that addresses the variable behavior of negative grammatical tone and the vowel length of *kò=*.

- (16) **kò=ñǎ'an (tími:-ba)** kísha Pedro
 NEG=thing (at.all-EMPH) do.CONT Pedro
 “Pedro doesn’t do anything (at all).”

NEG-words are another class of syntactic items that are only licensed when they co-occur with sentence negation. They, too, are licit when they co-occur with an NI:

- (17) **kò=ñǎ'an** kísha **ní'in-nà**
 NEG=thing do.CONT not-one-3.PL.N
 “Nobody is doing anything.”

It is clear, then, that NIs contribute sentential negation and license all polarity-sensitive material that is licensed only by sentence negation. These facts fall cleanly out of an analysis of NIs as containing the marker of sentence negation.

4.3 Distributional similarities

If NIs are made up of the marker of sentence negation and a moved indefinite, then they should show they same distributional restrictions placed on the marker of sentence negation. This prediction is also borne out: NIs occur only in the position usually occupied by sentence negation.

Every syntactic item that appears to the left of sentence negation in SMPM also appears to the left of these NIs. For example, *wh*-words appear to the left of sentence negation and to the left of NIs (18). Additionally, NEG-words are able to optionally front to a position that precedes negation. In the same way, they can optionally front above NIs (19).

- (18) a. **yó: kò=káni** ñà yíbi?
 who NEG=hit.CONT 3SG.N person
 “Who isn’t hitting anyone?”
 b. **yó: kǒ:=nà** káni?
 who NEG=3PL.N hit.CONT
 “Who is hitting no one?”
- (19) a. **ní-'ín-nà** **kò=káni** Pedro
 not-one-3PL.N NEG=hit.CONT Pedro
 “Pedro isn’t hitting anybody.”
 b. **ní'in-nà** **kò=ñǎ'an** kísha
 not-one-3.PL.N NEG=thing do.CONT
 “Nobody is doing anything.”

Finally, sentence negation may only be expressed once per sentence. This is made clear by the fact that negated adverbs, which also contribute sentential negation (Eischens 2019), may not co-occur with verbal negation.

- (20) **nĩ'i** (***kò**)=shínu Pedro
 NEG.strong run.CONT Pedro
 “Pedro doesn’t run fast.”

In the same way, NIs may not co-occur with any other form of sentence negation, including other NIs (21). The fact that NIs exhibit the same distributional restrictions placed on the marker of sentence negation suggests once more that they contain it.

- (21) a. ***kǒ:-nà** **kò=káni** Pedro
 NEG=3PL.N NEG=hit.CONT Pedro
 Intended: “Pedro isn’t hitting anybody.”
- b. ***kǒ:-nà** **nĩ'i** ní-shinu
 NEG=3PL.N NEG.fast COMPL-run
 Intended: “Nobody runs fast.”
- c. ***kǒ:-nà** **kò=ñǎ’an** kísha
 NEG=3PL.N NEG=thing do.CONT
 Intended: “Nobody is doing anything.”

4.4 Review

The emerging picture here is one in which the semantically negative NQs in SMPM do not have an [iNEG] feature of their own. Instead, they bear that [iNEG] feature solely by virtue of containing the marker of sentence negation. As a result, the missing cell of the paradigm in (5) is still missing.

Once again, if NEG features are lexical features, they should be able to distribute freely throughout the lexicon, suggesting that such a system should occur. Such a language should exhibit NC as well as NQs that are demonstrably independent from sentence negation. This typological slice is small, and the SMPM facts highlight that languages which initially appear to fit into this cell may in fact not. Similar facts can be found in other languages with both NEG-words and semantically negative NQs.

For example, Alqassas (2015:104) shows that in Jordanian Arabic, another VSO language with both NEG-words and semantically negative NQs, the semantically negative NQs may only surface in the pre-verbal position of negation, inside a transparent spell out of the circumfixal marker of sentence negation. Additionally, West Flemish has NQs that may act as NEG-words or semantically negative NQs, depending on syntactic position (Haegeman and Zanuttini 1991). However, even in cases in which the NQs are negative, they contain a spell-out of the marker of sentence negation, suggesting that the nominals themselves are not independently negative.

5. Conclusion

Hypotheses of negation and negative dependencies that make use of formal syntactic features associated with lexical items raise a question: Is the set of lexical items that can bear

sentence negation restricted in any way? I have investigated this question in the context of [iNEG] and [uNEG] features, reviewing evidence from SMPM that shows that what appear to be independently negative NIs bear [iNEG] only as a result of containing the [iNEG]-bearing marker of sentence negation. This data concurs with other investigations of Jordanian Arabic and West Flemish, as well as the claim by Penka (2011) that there are no truly negative NQs. This restricted distribution of [iNEG], if shown to be cross-linguistically robust, necessitates a stipulation on the part of theories of negation that make use of lexical features, suggesting that a significant generalization may be being overlooked.

References

- Alqassas, Ahmad. 2015. Negation, tense and NPIs in Jordanian Arabic. *Lingua* 156:101–128.
- Eischens, Ben. 2019. Decomposing negative indefinites in San Martín Peras Mixtec. Ms., University of California, Santa Cruz.
- Haegeman, Liliane, and Raffaella Zanuttini. 1991. Negative heads and the Neg Criterion. *The Linguistic Review* 8:233–252.
- Hedding, Andrew. 2020. On the Relationship between WH and Focus: New Evidence from Mixtec. Ms., University of California, Santa Cruz.
- Hollenbach, Barbara E. 2015. Notes on tense, mood, and negation in Mixtec languages. Ms., Summer Institute of Linguistics.
- Instituto Nacional de Estadística y Geografía. 2010. Censo de población y vivienda. <https://www.inegi.org.mx/programas/ccpv/2010/>.
- Klima, Edward. 1964. Negation in English. In *The Structure of Language*, ed. by J.A. Fodor and J.J. Katz.
- Kresge, Lisa. 2007. Indigenous Oaxacan communities in California: An overview. *California Institute for Rural Studies* 1107.
- Laka, Itziar. 1990. Negation in syntax—on the nature of functional categories and projections. Doctoral dissertation, MIT, Cambridge.
- Matthews, Peter. 1974. *Morphology: An introduction to the theory of word-structure*. Cambridge, UK: Cambridge University Press.
- Penka, Doris. 2011. *Negative indefinites*. 32. Oxford, UK: Oxford University Press.
- Peters, Simon L. 2018. The inventory and distribution of tone in Tù'un Ndá'vi, the Mixtec of Piedra Azul, Oaxaca. Ms., University of California, Santa Barbara.
- Zeijlstra, Hedde. 2004. *Sentential negation and negative concord*. Netherlands Graduate School of Linguistics.
- Zeijlstra, Hedde. 2008. Negative concord is syntactic agreement. Ms., University of Amsterdam.
- Zwarts, Frans. 1998. Three types of polarity. In *Plurality and quantification*, 177–238. Dordrecht, Netherlands: Springer.