Decomposing negative quantifiers in San Martín Peras Mixtec
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1 Introduction

San Martín Peras Mixtec (SMPM) is a VSO language, with sentence negation usually occurring immediately pre-verbally.

(1) ko-shínu Pébro
    NEG-run.CONT Pedro
    ‘Pedro is not running.’

There is a class of negative quantifiers in SMPM that must occur in the linear position where sentence negation is usually expressed.

(2) a. kô:-na kôn-i
    NEG-3.PL.NEUT like.CONT-ISG
    “I like no one.”

b. *kôn-i kô:-na
    like.CONT-ISG NEG-3PL.NEUT
    Intended: “I like no one.”

Negative quantifiers that are only licit in the linear position of negation are typologically rare. They are only analyzed in-depth in a handful of Germanic languages, primarily Scandinavian.

For example, Icelandic negative indefinites cannot surface in-situ. They must occur in the mid-field, where negation is usually expressed.

(3) Icelandic
    a. *Jón hefur getað leisið ekkert
       John has could read nothing
       Intended: “John hasn’t been able to read anything.”
    b. Jón hefur ekkert getað leisið
       John has nothing could read
       “John hasn’t been able to read anything.” (Rögnvaldsson, 1987: p. 7)

These and similar data have been foundational for theories of negative licensing, such as the NEG-criterion (Haegeman and Zanuttini, 1991) or feature-based Agree between sentence negation and NQs (Zeijlstra, 2004; Haegeman and Lohndal, 2010; Penka, 2011).

However, these constructions are only analyzed in-depth in Germanic languages, specifically Scandinavian languages (Christensen, 1986; Rögnvaldsson, 1987; Sells, 2000) and West Flemish (Haegeman and Zanuttini, 1991; Haegeman and Lohndal, 2010).

Positionally-restricted negative quantifiers abound in Mixtec languages, but they have received disparate analyses.

In this presentation, I describe positionally-restricted NQs in SMPM and argue that they are made up of sentence negation and a moved noun.¹

(4) kô:-nà
    NEG-3PL.NEUT
    “Nobody.”

¹Symbols for tone are H = high, M = mid, L = low, R = rising contour
I discuss similar constructions in other Mixtec languages and whether or not they are amenable to my analysis of SMPM.

I show that many other Mixtec languages contain positionally-restricted NQs, drastically expanding the empirical domain of this construction and, consequently, of movement tied to negation.

The talk is structured as follows:

- §2 walks through similar constructions in various Mixtec languages, summarizing their analyses.
- §3 argues that several analyses proposed for other Mixtec languages do not account for the facts in SMPM.
- §4-6 walk through the analysis.
- §7 considers the extension of my analysis to other Mixtec languages.
- §8 concludes.

## 2 Similar constructions across Mixtec

NQs that may only occur pre-verbally, in the position of negation, are found in SMPM.

(5) a. kó:-nà yíbi káni Pebro _
NEG-3.SG.NEUT person hit.CONT Pedro _
"Pedro is hitting nobody."

b. *káni Pebro kó:-nà yíbi
hit.CONT Pedro NEG-3PL.NEUT person
Intended: Pedro is hitting nobody."

Similarly, NQs that are restricted to the pre-verbal field are very common across Mixtec languages.

These constructions are usually only treated briefly, and they have received various analyses.

Table 1 outlines analyses given for constructions that look like positionally-restricted NQs in 11 other Mixtec varieties.

Most of the analyses fall into one of these three groups:

1. Such constructions are negative existential verbs + a subject.
2. They are negative nominals in focus position.
3. They consist of the marker of sentence negation plus a noun.

(6) **Table 1:** Positionally-restricted NQs across Mixtec

<table>
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<th>Mixtec Variety</th>
<th>Analysis</th>
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<td>Alacatlatzala</td>
<td>Negative noun phrase in focus position. (Zylstra, 1991; p.78)</td>
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<tr>
<td>Atatláhuca</td>
<td>NEG + noun                      (Alexander, 1980; pp. 29-31)</td>
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<tr>
<td>Ayutla</td>
<td>NEG + verb meaning ‘exist’      (Hills, 1990; p. 234)</td>
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<td>Chalcatongo</td>
<td>Pre-verbal noun phrase with special focus negation (Macaulay, 2005; p. 16)</td>
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<tr>
<td>Coatzospan</td>
<td>NEG + noun in focus position    (Small, 1990; p. 360)</td>
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<tr>
<td>Diuxi Tilantongo</td>
<td>NEG + verb meaning ‘exist’      (Kuiper &amp; Oram, 1991; pp. 283-284)</td>
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<td>Jamiltepec</td>
<td>Negative noun phrase in focus position (Johnson, 1988; p. 76)</td>
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<td>Magdalena Peñasco</td>
<td>NEG + noun                      (Hollenbach, 2013; pp. 116-122)</td>
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<td>Ocotepec</td>
<td>Negative noun phrase in focus position (Alexander, 1988; p. 226)</td>
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<td>Silacayoapan</td>
<td>NQ headed by negative nominal marker (Shields, 1998; p. 369)</td>
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<tr>
<td>Yosondúa</td>
<td>NEG + noun in focus position    (Farris, 1992; p.91)</td>
</tr>
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</table>
3 Potential analyses

3.1 Negative existentials

One potential analysis of positionally-restricted NQs in SMPM is that they are negative existential verbs with a subject and a relative clause (cf. Hills, 1990; Kuiper & Oram, 1991).

(7) kó:-ñà yíbi káni Pebro 
NEG-3.SG.NEUT person hit.CONT Pedro
“Pedro is hitting nobody.”

However, there are two pieces of evidence that ko-DPs in SMPM are not negative existential verbs.

First, they differ tonally from the Potential form of the verb meaning to exist. Its affirmative form has a level mid tone, and its negative form has a low-to-high rise on the first mora, with a mid tone on the second mora.

(8) koo-nà kó:- na káni Pebro 
exist.POT?-3PL.NEUT see.POT Pedro
“Pedro is going to see someone.”

(9) kóo-nà kó:- na káni Pebro 
NEG-3PL.NEUT see.POT Pedro
“There will not be anyone that Pedro sees.”

The second piece of evidence comes from wh-extraction. Wh-words can be extracted over a ko-DP.

(10) kóo-na kó:- na káni Pebro 
NEG-3PL.NEUT see.POT Pedro
“Pedro won’t see anyone.”

Because ko-DPs permit extraction and positive existentials do not, ko-DPs are highly unlikely to be negative forms of an existential verb.

3.2 Focused Negative Nominals

Elements similar to ko-DPs have been analyzed as negative noun phrases in focus position (Zylstra, 1991; Macaulay, 2005; Small, 1990; Johnson, 1988; Alexander, 1988; Shields, 1988; Farris, 1992).

Some ko-DPs are restricted to corrective contexts. These have semantically contentful nouns and no pre-nominal pronoun:

(11) yo: kó:- na káni _?
who NEG-3PL.NEUT hit.CONT 
“Who hit nobody”

Reading under NEG-EX analysis: “Who is there no one that hit __?”

Wh-words cannot be extracted from the coda of a positive existential.

(12) *yo: fyo-na káni _?
who there.is-3PL.NEUT hit.COMPL 
Intended: *“Who is there someone that hit __?”

Because ko-DPs permit extraction and positive existentials do not, ko-DPs are highly unlikely to be negative forms of an existential verb.
(14) a. **kō:-nà** káni Pedro
    NEG-3.PL.NEUT hit.CONT Pedro
    “Pedro is hitting nobody” or “Nobody is hitting Pedro.”
b. **kō:-ñˇa’an** kísha Pedro
    NEG-thing do.CONT Pedro
    ‘Pedro is doing nothing.’

While there are almost certainly information-structural factors that I do not currently understand at play in the use of generic *ko-DPs*, it is unlikely that they are special focus constructions.

4 Proposal

I propose that *ko-DPs* in SMPM are best analyzed as being made up of sentence negation and a moved noun (cf. Alexander, 1980; Hollenback, 2013), which sentence negation cliticizes onto.

(15) **kō:-nà**
    NEG-3.PL.NEUT
    “Nobody.”

There are two ingredients to this proposal:

1. *ko-DPs* are composed of sentence negation and a non-negative indefinite.
2. Negation and the noun come together via optional movement.
3. *ko-DPs* are formed by the same morphological process by which negation maps onto other items, such as verbs or adverbs.

I will walk through the first two portions of the analysis in turn, only touching briefly on the third.

5 *ko-DPs* contain negation

There are several pieces of evidence that *ko-DPs* contain sentence negation:

1. They contain a spell-out of the negative morpheme.
2. They have the same distributional restrictions as sentence negation.
3. They license all items that sentential negation licenses.

5.1 Negative Morphology

When it occurs in the verbal complex, negation in SMPM varies based on the aspect of the verb.

- **Continuative**: Negated by *ko-*.  
- **Complettive**: Negated by optional *ko-* and tonally modified Complettive marker *nˇı-.*  
- **Potential**: Negated by rising tone on first vowel.

<table>
<thead>
<tr>
<th>Verb</th>
<th>CONT</th>
<th>COMPL</th>
<th>POT</th>
</tr>
</thead>
<tbody>
<tr>
<td>“to paint”</td>
<td>ko-náka’yí</td>
<td>ko-ní-naka’yí</td>
<td>náká’yí</td>
</tr>
<tr>
<td>“to rot”</td>
<td>ko-zya’yí</td>
<td>ko-ní-zya’yí</td>
<td>zya’yí</td>
</tr>
</tbody>
</table>

Negation appears to be an instance of multiple exponence (Matthews, 1974). Verbs are negated by *ko-* (CONT), a rising tone (POT), or a combination of the two (COMPL).
I analyze negation in SMPM as a single NEG-head which consists of ko- and a floating, rising tone.

It is no coincidence that all ko-DPs contain ko-, with either a short or long vowel, as well as a rising tone (17).

(17) a. kõ:-nà 
   NEG-3PL.NEUT
   “Nobody.”

b. ko-ñá’a
   NEG-thing
   “Nothing.”

The difference in vowel length and the place of rising tone between (17a) and (17b) comes from whether or not negative tone can overwrite the tone of the following vowel.

(18) a. kõ:-nà
   NEG-3PL.NEUT
   “Nobody.”

b. ko-ñá’a
   NEG-thing
   “Nothing.”

<table>
<thead>
<tr>
<th>Blocked mapping → Reassignment</th>
<th>Successful mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEG</td>
<td>NEG</td>
</tr>
<tr>
<td>M</td>
<td>LH</td>
</tr>
<tr>
<td>ko-</td>
<td>na</td>
</tr>
</tbody>
</table>

In some cases, negative tone cannot overwrite the first vowel of the following word. In this case, it is hosted by the morpheme sponsoring it, and the vowel lengthens.

- Grammatical tone mapping onto its sponsor as a last resort is not untested cross-linguistically: McPherson & Heath (2016; p. 623) describe a similar process in Tommo So.

ko-DPs all contain a spell-out of sentence negation, and the behavior of negative tone is consistent between ko-DPs and other instances of negation.2

5.2 Distributional restrictions

Another point of evidence that ko-DPs contain sentence negation is that they appear only in the syntactic position of negation.

Material that moves to the left of negation, such as wh-words and fronted quantifiers, also moves to the left of ko-DPs:

**Wh-words**

(19) yo: ko-káni ñà yíbi?
    who NEG-hit.CONT 3SG person
    “Who isn’t hitting anyone?”

(20) yo: kõ:-nà káni?
    who NEG-3PL hit.CONT
    “Who is hitting no one?”

**Fronted quantifiers**

(21) ní-’ín-na ko-káni Pebro
    not-one-3PL NEG-hit.CONT Pedro
    “Nobody is hitting Pedro.”

(22) ní-’ín-na ko-ñá’a kísha
    not-one-3PL NEG-thing do.CONT
    “Nobody is doing anything.”

Additionally, materials that must occur immediately after an item that hosts sentence negation also occur immediately following ko-DPs.

**Negative degree marker**

(23) ko-ní-shahku (√timi-ba) Pebro (*timi-ba)
    NEG-NEG.COMPL-laugh (at.all-PART) Pedro (at.all-PART)
    “Pedro isn’t laughing (at all).”

(24) nzyč: (√timi:) sháhku (*timi:) Pebro
    NEG.strong (at.all) laugh.CONT Pedro
    “Pedro isn’t laughing hard (at all).”

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2See Eischens (to appear) for a more thorough morphological analysis.
5.3 Licensing

The third piece of evidence that ko-DPs contain sentence negation is that they license elements that are licensed only by sentence negation.

For example, NEG-words are licit only when they co-occur with sentence negation (26). They are licensed by ko-DPs (27).

(26) a. ko-káni Pedro ní-ˈín-na
   NEG-hit.CONT Pedro not-one-3PL.NEUT
   “Pedro isn’t hitting anybody.”
   b. *káni Pedro ní-ˈín-na
   hit.CONT Pedro not-one-3PL.NEUT
   Intended: “Pedro isn’t hitting anybody.

(27) ko-ńˇa’ã kísha ní-ˈín-na
NEG-thing do.CONT not-one-3PL.NEUT
‘Nobody is doing anything.’

Similarly, polarity-sensitive responses (c.f. Klima, 1964) track the polarity of the preceding sentence in SMPM. This diagnostic shows us that ko-DPs contribute sentential negation.

(28) Statement
kˇo:-na ní-shashi
NEG-3.PL COMPL-eat
ndzihká
banana
“Nobody ate a banana”

(29) Response
a. ✓ ní yu’u
not 1SG
“Me, neither.”
   b. # sá tį’į
so also-1SG
“Me, too.”

Because ko-DPs 1. contain a spell-out of sentence negation, 2. occur in the position of negation, and 3. contribute sentential negation, we can conclude that they contain sentence negation.

6 ko-DPs contain a moved noun

Nouns in SMPM can move to a position right-adjacent to negation.

Interestingly, the noun may move, or it may stay in situ. In both cases, negation outscopes the indefinite.

(30) a. kˇo:–ńá yíbi ní-shini Pedro
   NEG-3SG.NEUT person COMPL-see Pedro
   “Pedro didn’t see anyone”
   b. ko-ní-shini Pedro ŋá yíbi
   NEG-NEG.COMPL-see Pedro 3SG.NEUT person
   “Pedro didn’t see anyone” (≠ > Ξ)
   *“Pedro didn’t see someone” (Ξ > ¬)

The fact that the noun is actually moving can be seen by its sensitivity to syntactic islands (Ross, 1967).

The movement that forms ko-DPs can cross clause boundaries.

(31) kˇo:–ńá táshĩ Juan CP[ kˇa-ńá Pedro shi’ĩ] tashĩ
NEG-3PL.NEUT allow.COMPL Juan speak.POT Pedro with
“Juan does not allow Pedro to speak with anyone.”

Wh-islands block extraction in SMPM (Ostrove, 2018; p. 209), and a noun may not cross a wh-island boundary to form a ko- DP in the matrix clause.

(32) a. shĩn-i yo:-na kˇo:–ńá yíbi
   NEG.know.COMPL who-3PL.NEUT NEG-3SG.NEUT person
   ní-kani
   COMPL-hit
   “I don’t know who hit nobody.”
   b. *kˇo:–ńá yíbi shĩn-i yo:-na
   NEG-3SG.NEUT person know-1SG who-3SG.NEUT
   ní-kani
   NEG.COMPL-hit
   Intended: “I don’t know who hit nobody”

That fact that islands block this cross-clausal movement suggests that movement is indeed occurring.
7 NQs across Mixtec

My analysis of ko-DPs being made up of the marker of sentence negation and a moved noun extends to several other Mixtec languages, but not all.

7.1 Similar Constructions

There are several Mixtec languages in which the positionally-restricted NQs appear to be made up of sentence negation and a moved noun.

In two, the marker of sentence negation is identical between positionally-restricted NQs and verbal negation:

**Diuxi Tilantongo:** The negative morpheme used with Continuative and Completive verbs is ñatū (Kuiper & Oram, 1991; p. 239).

(33) ñatū xandísha (da tnúhû-ñ
NEG CONT.believe 1RESP word-your.RESP
‘(I) don’t believe (what you say).’)

This same marker occurs with positionally-restricted NQs:

(34) ñatū livru té (néhe té / vashī á?)
NEG book his (CONT.hold he / CONT.come INT)
‘(Did he) not (bring) his books(?)’

(35) a. ñatuu ndóó de
NEG CONT.stay he
‘He is not staying.’

**Magdalena Peñasco:** The negative marker used with Continuative and Completive verbs is ñatuu (Hollenbach, 2013; p. 127).

(36) [Ñatuu de] ni kii
NEG 3M PAST come
‘He didn’t come.’

(37) [Ñatuu na ñayii] ka iyo
[NEG what people] PRES.PL be
‘There isn’t anybody.’

In these two varieties, the constructions may be relatively straightforwardly analyzed as consisting of the marker of sentence negation and a moved noun.

In two other Mixtec languages, the same analysis may be appropriate but would likely require a couple stipulations.

**Atatláhuca:** Alexander (1980; pp. 29-31) notes that the regular NEG-verb-subject order can turn into NEG-subject-verb (38) in emphatic contexts for Potential and Completive verbs.

(38) Tú ní quíji sēhe de
NEG COMPL come son his
‘His son did not come.’

(39) Tú sēhe de ní quíji.
NEG son his COMPL come
‘His son did not come.’

However, the negative morpheme ma used with Potential verbs follows the noun instead of preceding it in similar emphatic contexts.

(40) sēhe de ma quíji
son his NEG come.POT
‘His son will not come.’

**Coatzospan:** Small (1990; p. 319) writes that the morpheme ñá is used as a verbal negator:

(41) ñá kakídi (na)
NEG CONT.sleep (he)
‘He is not sleeping.’

Negative noun phrases, which are analyzed as occurring in focus position, contain this marker of negation. However, they also all contain a morpheme glossed as ‘if.’
7.2 Distinct Constructions

Several other Mixtec languages do not lend themselves easily to my analysis. However, they still have positionally-restricted NQs.

For some of these positionally-restricted NQs, a special negative nominal marker is used:

**Alacatlatzala**: Zylstra (1991; p. 78) writes of emphatic noun phrases headed by a special negative nominal marker, which all occur in the pre-verbal focus position (43).

(43) síví ndūchi toōn (kóñî i)
    NEG bean black (want.CONT I)
    ‘(It’s) NOT BLACK BEANS (I want).’

The NEG marker heading these NQs is different from the morphemes used in verbal negation, which are on, tahān, or vásā.

(44) a. on kûnd=âtî (nā)
    NEG POT.wait (they)
    ‘They won’t wait.’

  b. tahān kohon (rā)
    not.yet kohon (rā)
    ‘(He) hasn’t gone yet.’

**Chalcatongo**: Macaulay (2003; p. 16) describes a special focus negator that occurs pre-verbally with nouns.

(45) niásů čùn lii ká-ku či ká-ku kónî lúlf
    NEG.FOC chicken chick PL-COP but PL-COP turkey.hen small
    ‘They’re not chicken chicks, they’re turkey chicks.’

Negation is usually done with pre-verbal clitic tu=.

**Jamiltepec**: Johnson (1988; p. 76) writes of negative noun phrases that occur in focus position that are headed by the negative marker ŋîma.

(47) ŋîma vēhē ra shûvá (chahan ndī)
    NEG house he John (COMPL.go we.EXCL)
    ‘(It was) NOT JOHN’S HOUSE (we went to).’

Verbs are negated with mā (Potential) or ŋa (Continuative and Completive).

(48) a. mā sātā (nā shita)
    NEG skpot.buy (she tortilla)
    ‘(She) will not buy (tortillas).’

  b. ŋa sātā (nā shita)
    NEG CONT.buy (she tortilla)
    ‘(She) is not buying (tortillas).’

**Ocotepec**: Alexander (1988; p. 226) writes of negative noun phrases that occur mainly in focus position. These are headed by the negative noun marker nsuú.

(49) nsuú suchí váhā (n-sahá yáhá)
    NEG child good (COMPL-do this
    ‘(It was) NOT A GOOD CHILD (who did this).’

The negative marker ndūú occurs with Completive and Continuative verbs:

(50) ndūú kúnî (sán ndikā)
    NEG CONT.want (I.RESP banana)
    ‘(I) do not want (a banana).’

**Silacayoapan**: Shields (1998; p. 369) describes a variety of negative quantifiers that occur mainly sentence-initially.

(51) a xuú xáhmna (kúú a na shēên ŋā
    NEG ?? cloth (CON.be it.UN COM COM.buy she)
    ‘(It’s) NOT CLOTHING (she bought).’

(52) tsí ŋa te ŋāha ni kuvi
    because NEG if person CF COM.become 
    ‘Because it wasn’t A PERSON.’

(Small, 1990; p. 449)
The negative morphemes that show up in the verbal domain are \textit{a} and \textit{kó}.

\begin{enumerate}
\item \textbf{a} xíkó (da ſahá) \hspace{1cm} \texttt{NEG POT.sell (he thing)}
\text{‘(He) won’t sell (things).’}
\item \textbf{ko} xíkó (řá ſahá) \hspace{1cm} \texttt{NEG CONT.sell (she thing)}
\text{‘(She) won’t sell (things).’}
\end{enumerate}

\textbf{Yosondúa:} Farris (1992; p. 91) shows that negative noun phrases are made of the negative marker and a noun phrase. These constructions always occur in focus position, which is pre-verbal.

\begin{enumerate}
\item \textbf{ansu} šahmá (ni kihin ſá) \hspace{1cm} \texttt{NEG cloth (COM COM.take she)}
\text{‘([It was]) NOT CLOTH (she bought).’}
\end{enumerate}

Negation is usually accomplished with \textit{tu}, which can occur with any aspect.

\begin{enumerate}
\item \textbf{tu} ká ndíhí (dá) \hspace{1cm} \texttt{NEG PL CONT.finish (he)}
\text{‘(they) are not finishing (it).’}
\end{enumerate}

\textbf{Ayutla:} Verbal negation is accomplished via tonal overwriting: a mid-low-mid pattern overwrites the tones of the following word.

\begin{enumerate}
\item kwáashí (ra yahvi) \hspace{1cm} \texttt{NEG.CONT.come (he market)}
\text{‘He isn’t coming to the market.’}
\end{enumerate}

There is no description of positionally-restricted NQs in Ayutla Mixtec. However, Hills (1990; p. 234) briefly mentions a construction that consists of a negative form of the verb ‘to exist’ follows by a positive form of the verb.

\begin{enumerate}
\item k̕oo̕h sihe ah ſá \hspace{1cm} \texttt{NEG.CONT.exist child her CONT.exist}
\text{‘She is not able to have children.’}
\end{enumerate}

The analysis of SMPM might extend somewhat straightforwardly to similar constructions in several other Mixtec languages.

Several other Mixtec languages that my analysis does not straightforwardly extend to still have positionally-restricted NQs.

\section{Conclusion}

Positionally-restricted NQs have only been analyzed in-depth in a handful of Germanic languages. Even so, they have had an influence on theories of negative licensing.

In almost all Mixtec languages surveyed here, there is some description of positionally-restricted NQs.

\textit{ko-DPs} in SMPM are best analyzed as a combination of sentence negation and a moved noun.

\begin{itemize}
\item \textit{ko-DPs} contain a spell-out of sentence negation, appear in the position of negation, and contribute sentential negation.
\item They contain an optionally-moved noun.
\end{itemize}

This analysis extends to several, but by no means all, other Mixtec varieties. Even for those varieties that are not straightforwardly covered by my analysis, positionally-restricted NQs are present.

Mixtec languages greatly expand the empirical domain of positionally-restricted NQs.

This extension may shed light on foundational questions of negative licensing and the extent to which negation is involved in syntactic processes like agreement (Zeijlstra, 2004) and movement (Kayne, 1998; Haegeman and Lohndal, 2010; Penka, 2011).
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