

Functions and scope of the counterfactual prefix *nī-* in Zapotec:

nī- is not a counterfactual after all

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Introduction

- Structures most commonly considered in relation to counterfactuality are hypothetical conditionals

(1) Teotitlán Zapotec (TZ)

bæll *nī-â'* *liz* *Bæd* *zi-nnæz* *gudxi na.*
COND:SUB **CTF**-go:1SG house.of Pedro FUT-catch late 1SG

'If I had gone to Pedro's house, I would have been late (on my schedule).'

- nī-* has been considered and labeled as a counterfactual prefix because it necessarily appears in this kind of construction (Pafnuncio 2015; Gutierrez Lorenzo 2021; Beam de Azcona 2023)

- Three established **meaning components of counterfactuality**: tense (past/present), irrealis, polarity reversal
- There is a discussion about **sources of counterfactuality**, i.e., where the mentioned meaning components come from: past tense, irrealis, modality, conditionality are discussed sources

Proposal:

- In Teotitlán Zapotec, the source of the counterfactual interpretation is conditional in combination with the prefix *nī-*.
- The meaning of *nī-* does not include irrealis or polarity reversal and therefore, this prefix does not encode counterfactuality.
- The meaning contribution of *nī-* is to indicate that from a set of possible events (p and $\neg p$), the non-biased event occurred.
- Conditionality and past are crucial for the counterfactual interpretation of propositions.

1. Background information about Teotitlán Zapotec
2. The use of *nī-*
3. The meaning of *nī-*
4. Discussion

Teotitlan Zapotec: background information

About the language

- Teotitlán Zapotec is spoken in Teotitlán del Valle, Oaxaca, Mexico;
- It belongs to the Otomanguean Family;
- It has VSO-word order;
- It is a head-marking language;
- Verbs in this language require a TAM-marker.

TAM-morphology overview

Seven TAM-prefixes in Teotitlán Zapotec:

TAM prefix	Example	Translation
HABITUAL	ri-tyuug	(s/he) cuts
COMPLETIVE	gu-tyuug	(s/he) cut
POTENTIAL	∅-tyûug	(s/he) will cut
FUTURE	zi-tyuug	(s/he) will cut
PROGRESSIVE	ká-tyuug	(s/he) is cutting
COUNTERFACTUAL	nī-tyuug	(s/he) would have cut
STATIVE	n-aga'	(s/he) is laying down

Gutierrez Lorenzo (2021); Munro (2006)

The use of the prefix *nī-*

Context in which this prefix appears

1. Simple negated clauses
(*She **didn't** drink water*)
2. Final adverbial clauses and other sentences related to the expression of purpose
(*She watered the plants **so they grow** (but they didn't)*)
3. Complement clauses
(*She forgot to **water the plants***)
4. 'Instead of'-adverbial clauses, which express alternative events
(*She went for a walk instead of **doing her homework***)
5. Counterfactual conditionals

Context in which this prefix appears

Assumption:

There is a unified meaning of the prefix *nī-*.

In what follows:

We'll determine the meaning of the prefix *nī-* by deriving it from its occurrences in simple clauses and review how this meaning contributes to other contexts in which *nī-* occurs.

Simple negated clauses: truth conditions

nī- appears in simple clauses with negation where it doesn't induce counterfactual interpretation:

- | | | | |
|-----|-----------------------------------|-------------|---------------------|
| (2) | <i>ked=nī-æ'=di=an</i> | <i>nis.</i> | ✓ Past |
| | NEG= nī -drink-NEG-3SG.INF | water | ✗ Irrealis |
| | 'S/he didn't drink water.' | | ✗ Polarity reversal |
| (3) | <i>ked=gu-æ'=di=an</i> | <i>nis.</i> | ✓ Past |
| | NEG=COMPL-drink-NEG-3SG.INF | water | ✗ Irrealis |
| | 'S/he didn't drink water.' | | ✗ Polarity reversal |

- Sentences (2) and (3) have same truth conditions
- We need to consider contexts in which they can(not) be uttered felicitously

Simple negated clauses: epistemic bias

Proposal:

nī- expresses that the event that occurred was not expected by the speaker, i.e., speaker had a bias towards another alternative event which did not occur.

As in the example from English below:

*She didn't drink water **after all**.* → **Epistemic bias:** she would drink water

What is meant:

- There are several possibilities of how the future might develop or how the past might have had developed
- Having their beliefs, speakers are not always neutral towards the probability of particular events to occur; they may commit to some propositions more than to the other (epistemic bias vs. epistemic neutrality) (cf. Giannakidou and Mari 2018a,b, 2021; Liu et al. 2021)
- *nī-* expresses that among a set of alternative propositions (p and $\neg p$), not biased one played out (but it doesn't tell us which one)

Simple negated clauses: epistemic bias - an example

Context A: epistemic bias

Ana's daughter, Laura, had fever and was thirsty. Ana put a glass of water on Laura's night stand but Laura didn't drink it.

- Ana expected Laura to drink water.

Epistemic bias: Laura will drink water.

Occurred non-biased event: Laura didn't drink water.

(4) Later Ana reports the situation to Laura's father:

ked=nī-/#gu-æ'=di=an nis.

NEG=**nī**/COMPL-drink-NEG-3SG.INF water

'S/he didn't drink water.'

Simple negated clauses: no epistemic bias - an example

Context B: epistemic neutrality

Ana's daughter, Laura, was thirsty and had water and tea on her night stand, the two things she usually drinks when she's thirsty. Ana is aware of Laura's habits. Laura had tea.

- Ana is neutral towards whether Laura will drink water or not.

Epistemic neutrality (no bias): Laura will drink water.

Epistemic neutrality (no bias): Laura won't drink water.

(5) Later Ana reports the situation to Laura's father:

ked=#nī-/gu-æ'=di=an nis.

NEG=#nī-/COMPL-drink-NEG-3SG.INF water

'S/he didn't drink water.'

Simple negated clauses: negation

- **Interim conclusion:**
nī- expresses that the event occurred in the past was non-biased
- **A further observation:**
nī- cannot appear in a simple indicative clause without negation
- **Next question:**
Why negation?

Simple negated clauses: negation

Our proposal:

nī- requires a set of alternative events

- epistemic bias and epistemic neutrality requires alternative events
- alternative events can come from a variety of sources, one of which is **negation**
- other contexts in which *nī-* occurs also introduce alternative events (final clauses, 'instead of' clauses, conditionals, etc.)
- simple affirmative clauses do not introduce alternative events

Sources of alternative events: simple negated clause

Negation in a simple clause

- (6) *ked=nī-æ'=di=an nis.*
NEG=**nī**-drink-NEG-3SG.INF water
'S/he didn't drink water.'

Alternative events:

$p = \llbracket \text{she drank water} \rrbracket$ $\neg p = \llbracket \text{she didn't drink water} \rrbracket$

- **nī**–: from two alternative events, p and $\neg p$, the non-biased one played out.
- But it doesn't tell us which one. For that we need to know which of the two events is biased.

We need to distinguish:

Sources of alternative events in the sentence → contexts in which $n\bar{i}$ - appears

and

Sources of epistemic bias → clues that allow us to recover information about bias, so we know which of alternative events occurred

The modal *-kaaz-* 'want'

(7) *ri-kaaz=an* *nī-æ=(a)n* *stúblád.*
HAB-want=3SG.INF *nī-go=3SG.INF* US
'S/he **wanted** to go to the US (**but s/he didn't go**).'

(8) *ked=ri-kaaz=di=an* *nī-æ=(a)n* *stúblád.*
NEG=HAB-want=NEG=3SG.INF *nī-go=3SG.INF* US
'S/he **didn't want** to go to the US (**but s/he went**).'

Alternatives: (7) = (8)

$p = \llbracket \text{She went to the US} \rrbracket$ $\neg p = \llbracket \text{She didn't go to the US} \rrbracket$

Source of alternatives (7) = (8): intention

The modal *-kaaz-* 'want'

(7) *ri-kaaz=an* *nī-æ=(a)n* *stúblád.*
HAB-want=3SG.INF *nī-go=3SG.INF* US
'S/he **wanted** to go to the US (but s/he didn't go).'

(8) *ked=ri-kaaz=di=an* *nī-æ=(a)n* *stúblád.*
NEG=HAB-want=NEG=3SG.INF *nī-go=3SG.INF* US
'S/he **didn't want** to go to the US (but s/he went).'

Bias: (7) \neq (8)

in (7): desire to go to US \Rightarrow biased event is $p \Rightarrow \neg p$ played out

in (8): lack of desire to go to the US \Rightarrow biased event is $\neg p \Rightarrow p$ played out

- From a set of alternative events, the non-biased one played out.
- Which event played out depends on the bias supplied by the context.

Similarly in further contexts in which **nī-** occurs:

Final clauses

- (9) *kwa'=(a)n* *nis té= nī-æ'* *Laura*.
COMPL:get=3SG.INF nis SUB= **nī**-drink Laura
'S/he bought water for Laura to drink (but she didn't drink it).'

Source of alternatives: intention; there was an alternative event

Biased event: Laura drank water

Event played out: Laura didn't drink water

'Instead of'-adverbial clauses

- (10) *x-læt* *nī-usææd=(a)n*, *gu-zut=an*.
POSS-place **nī**-study=3SG.INF COMPL-play=3SG.INF
'Instead of studying, s/he played.'

Source of alternatives: 'instead of'; one event happened where other event might have had happened

Biased event: she studied

Event played out: she didn't study

Discussion

Counterfactuals: *nī-* in counterfactuals

(11) *bæll nī-â' liz Bæd zi-nnæz gudxi na.*
COND:SUB *nī-go:1SG* house.of Pedro FUT-catch late 1SG
'If I had gone to Pedro's house, I would have been late (on my schedule).'

- *nī-* doesn't tell us whether the event expressed in the clause took place or not → clauses with *nī-* do not have truth conditions
- *nī-* cannot possibly express counterfactuality
- *nī-* contributes to the counterfactual interpretation of the sentence past tense: whichever event alternative played out, it was in the past (along the lines of Dahl 1997)

Counterfactuals: sources of counterfactual interpretation

- Given this meaning contribution of $n\bar{i}$ -, there must be yet another element in the sentence that contributes to the counterfactuality
- We propose that this **other source is the conditional quality of the protasis**: the event described in the sentence must be assumed to be true for the conditional relationship between protasis and apodosis to hold (along the lines of Karttunen and Peters 1977).
- **Irrealis inference**: factual events cannot be assumed because they are true \Rightarrow if we assume something in the past, we can infer that it is not true.
- **Polarity reversal inference**: if p is not true, than $\neg p$ is true.

Summary

1. We have argued that the prefix ***nī-*** does not bear counterfactual meaning
2. Proposed meaning: ***nī-*** expresses that among a set of alternative events (p and $\neg p$), non-biased one played out (but it doesn't tell us which one).
3. Which event played out can be recovered based on the information about bias
4. Two sources that contribute to the counterfactual interpretation of hypothetical conditionals: conditional relationship between protasis and apodosis and past tense supplied by ***nī-***

Thank you!

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