

On two varieties of negative polar interrogatives in Japanese

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1. Introduction

- It has been observed in the literature (Ladd 1981, Büring and Gunlogson 2000, Huddleston and Pullum 2002, Romero and Han 2004, Asher and Reese 2007, among others) that negative polar interrogatives often convey an epistemic bias toward a specific answer, and that the bias could be either toward a positive or negative answer.
- (1) (negative interrogative with a positive epistemic bias)
 A: John is such a linguist.
 B: Yeah, doesn't he even speak Japanese?
 - (2) (negative interrogative with a negative epistemic bias)
 A: There is nothing John can help with here.
 B: Doesn't he even know how to keep accounts?
- This work demonstrates that that Japanese has *two varieties of the negative polar interrogative*, which are differentiated *information-structurally* and, as a consequence, *tonally* as well.

2. Three interpretations of negative polar interrogatives

- Ladd (1981) distinguishes two varieties of negative polar interrogatives, which are epistemically biased toward the opposite directions.
 - **the “outside NEG” question:** conveys a positive bias; “the speaker believes a proposition **P** and wants confirmation”
 - **the “inside NEG” question:** conveys a negative bias; “the speaker has just inferred a proposition **¬P**”
 - The “outside NEG” question is compatible with a positive polarity item such as *too*, but not a negative polarity item such as *either*; the “inside NEG” shows the opposite pattern.
- (3) A: Ok, now that Stephen has come, we are all here. Let's go!
 S: Isn't Jane coming too? (“outside NEG”; R&H 2004)
 - (4) **Situation:** Pat and Jane are two phonologists who are supposed to be speaking in our workshop on optimality and acquisition.
 A: Pat is not coming. So we don't have any phonologists in the program.
 S: Isn't Jane coming either? (“inside NEG”; R&H 2004)
- Romero & Han (2004) points out that interrogatives with non-preposed negation (e.g., *Will he not come?*) do not necessarily convey a bias.
 - “Unbiased” negative polar interrogatives appear to be appropriate only when the meaning of the negated predicate (e.g., in the case of (5), ‘not drink’) is contextually prominent.

- (5) **Situation:** The speaker is organizing a party and she is in charge of supplying all the non-alcoholic beverages for teetotalers. The speaker is going through a list of people that are invited. She has no previous belief or expectation about their drinking habits.
A: Jane and Mary do not drink.
S: OK. What about John? Does he not drink (either)?
S': #OK. What about John? Doesn't he drink (either)? (R&H 1997)

Table 1: Three interpretations of negative polar interrogatives

kinds of epistemic bias	positive bias	negative bias	no bias
Ladd's label	outside NEG	inside NEG	(inside NEG)
NPI licensing	no	yes	yes
PPI licensing	yes	no	no
preposed negation	OK	OK	*
non-preposed negation	OK	OK	OK

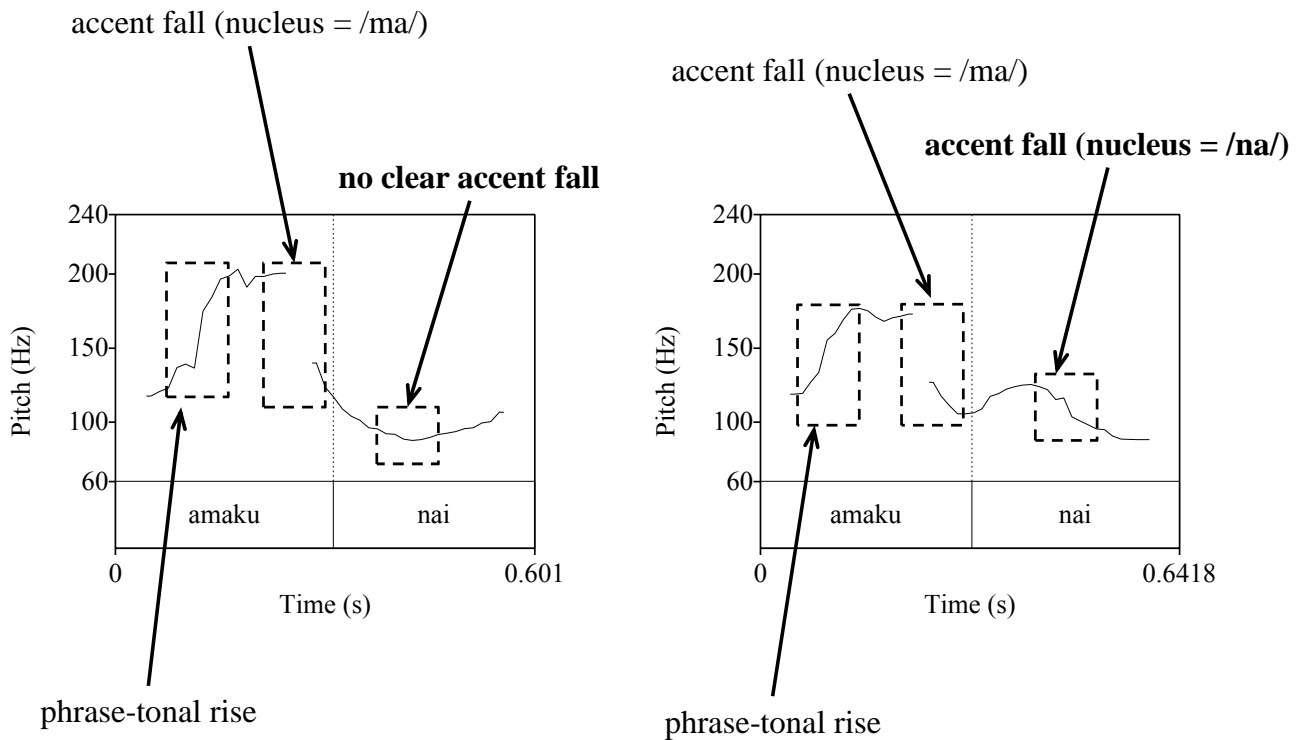
- Definitions of the two kinds of epistemic biases:
 - positive epistemic bias:** Speaker considers **P** to be likely, where **P** is the proposition denoted by the radical of the negative polar interrogative *minus the negation*. (**P** = the core proposition)
 - negative epistemic bias:** Speaker considers **P** to be likely, where **P** is the proposition denoted by the radical of the negative polar interrogative. (**P** = the proposition denoted by the radical)

3. Two varieties of Japanese negative polar interrogatives

- The central claim of the current work is that Japanese has *two tonally differentiated varieties* of the negative polar interrogative, and this tonal contrast has *an information-structural basis*.

- (6) Amaku nai?
sweet.Inf NegAux.Prs
'Isn't it sweet?'
- (7) (positive-bias context) A is eating an orange. B has heard that oranges this year are exceptionally sweet (although he has not eaten one so far). B utters (6).
- (8) (negative-bias context) A eats a piece of orange and makes a grimace. B utters (6).
- (9) (no-bias context)
(Situation: A and B are sorting out beverage cans into the "sweet" and "not sweet" groups.)
A: Kore-to kore-wa amaku nai.
this-and this-Top sweet.Inf Neg.Prs
'This one and this one are not sweet.'
B: Kore-wa? Amaku nai?
this-Top sweet.Inf Neg.Prs
'How about this one? Is it not sweet?'

Figure 1: ‘Amaku nai?’ uttered in situations (7) (left) and (8)/(9) (right)¹

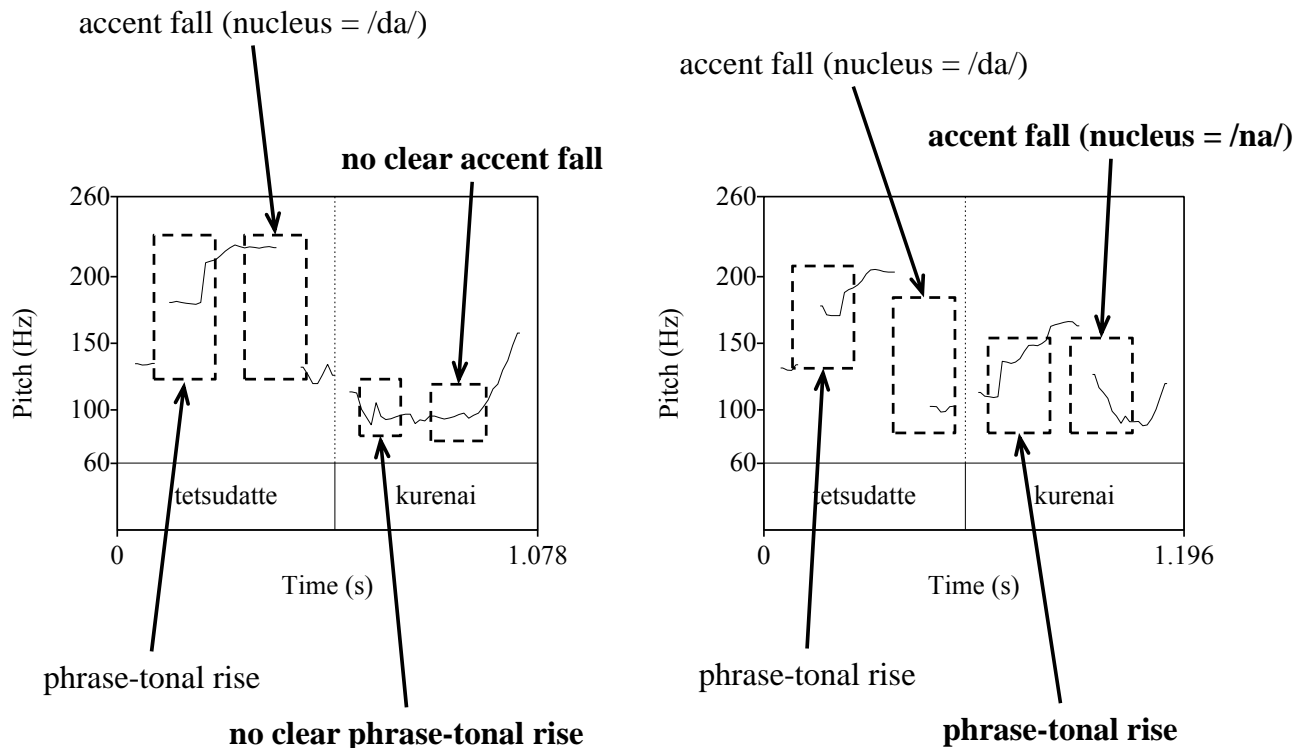


- **the P(ositive)-type:**
 - involves *tonal compression* of the phrase containing the negation;
 - roughly corresponds to the “outside NEG” question, and may contain a PPI;
 - often (but not always) conveys a positive epistemic bias.
- **the N(egative)/N(eutral)-type:**
 - does not involve tonal compression;
 - roughly corresponds to the “inside NEG” question, and may contain a NPI;
 - often conveys a negative epistemic bias, but is compatible with the “neutral” interpretation (when the meaning of the negated predicate is contextually prominent).
- “Tonal compression” here refers to *weakening or total suppression of pitch movements due to lexical accents and/or phrase tones* (but not due to intonations such as question rises).
 - It is plausible that tonal compression is accompanied by *dephrasing*.

- (10) Ano hito, warito testudatte kurenai? (warito is a near-PPI)
 that person quite help.Ger BenAux.Neg.Prs
 ‘Isn’t he pretty helpful?’
- (11) Ano hito, amari tetsudatte kurenai? (amari is a NPI)
 that person particularly help.Ger BenAux.Neg.Prs
 ‘Is he not so helpful?’

¹ The word *amaku* has multiple accepted accent patterns; the tokens illustrated here happen to be accented on /ma/.

Figure 2: the string ‘tetsudatte kurenai’ in (10) (left) and (11) (right)



- The tonal difference between the P- and NN-types can be taken to be a consequence of *the information-structural difference* between them.

4. Tonal compression and focus/ground configuration

- **post-focus reduction** (Pierrehumbert & Beckman 1988, Kori 1997, Sugahara 2003): Pitch movements (that are due to phrase tones/lexical accents) within the phrases following the information-structural focus are *obligatorily compressed*.²
 - phrase = a syntactic word potentially followed by one or more particle;
 - notational conventions: square brackets = phrase boundaries, apostrophe = lexical accent, boldface = focus, italic = obligatory tonal compression

(12) Kyonen-wa haru rooma-ni ikimashita.
last.year-Top spring Rome-Dat go.Pst.Pl
'Last year, I went to Rome in the spring.'

(Kori 1997)

² Post-focus reduction may, at least sometimes, be accompanied by *dephrasing* (merging of multiple syntactic phrases into a single accent phrase; Sugahara 2003, Vance 2008:180-185). For example, *rooma-ni* and *ikimashita* in (13a) may form a single AP. This issue is put aside here.

- (13) a. Q: “Where did you go in the spring last year?”
 A: [kyo’nen-wa] [ha’ru] [**ro’oma-ni**] [ikima’shita]
 b. Q: “When did you go to Rome last year?”
 A: [kyo’nen-wa] [**ha’ru**] [ro’oma-ni] [ikima’shita]
- In the P-type, the phrase containing the negation is *part of ground*, so that it is tonally compressed; in the NN-type, the phrase containing the negation is part of the focus, so that it is not tonally compressed.
 - additional notational convention: [kurena^(‘)i] is a shorthand for {[kurenai]/[kurena’i]}.
- (14) The P-type
 (6) in context (7): {[**amaku**]/[ama’ku]/[a’maku]} [na’i]
 (10): ... [**tetsuda’tte**] [kurena^(‘)i]
- (15) The NN-type
 (6) in contexts (8)/(9): {[**amaku**]/[ama’ku]/[a’maku]} [na’i]
 (11): ... [**tetsuda’tte**] [kurena^(‘)i]
- In declaratives, an auxiliary containing negation tends to part of the focus (and not to be tonally compressed), while a positive auxiliary tends to be part of ground (and to be tonally compressed).
 - The NN-type conforms to the pattern of negative declaratives, while the P-type does not.
- (16) (In reply to: “Why don’t you ask John for help?”:)
 Ano hito-wa kitto tetsudatte kurenai-yo.
 that person-Top probably help.Ger BenAux.Neg.Prs-DP
 ‘He probably won’t give me a hand.’
 ... [**tetsuda’tte**] [**kurena^(‘)iyo**]
- (17) (In reply to: “Were you able to finish your work by yourself?”:)
 Iya, Hiroshi-ga tetsudatte kureta-yo.
 no H.-Nom help.Ger BenAux.Prs-DP
 ‘No, Hiroshi gave me a hand.’
 ... [**tetsuda’tte**] [**kureta^(‘)yo**]
- Like typical negation in the declarative environment, negation in the NN-type (i) has the ability to license an NPI and (ii) is part of the focus.
 - It is a *genuine* negation.
 - Negation in the P-type lack both properties.
 - It is a *fake* negation.
- ## 5. Tonal neutralization
- The examples of the P- and NN-type interrogatives that we have seen so far all have a complex predicate; *amaku* (main predicate, infinitive form) + *nai* (auxiliary), *tetsudatte* (main predicate, gerund form) + *kurenai* (auxiliary).

- The tonal contrast can be *neutralized* when the predicate is a simple verb, such as *tabenakatta* ‘did not eat’.³
 - verb tonally compressed \Rightarrow P-interpretation only
 - verb not tonally compressed \Rightarrow both P- and NN-interpretations possible
- (18) (**Situation:** Mrs. Abe says that her cat had mackerel yesterday. Mr. Abe thinks she is mistaken and asks:)
 Iwashi-o tabenakatta?
 sardine eat.Neg.Pst
 ‘Didn’t she eat sardine?’
 [iwashi-o] [tabe’nakatta] (tonal compression, positive bias)
- (19) (**Situation:** Mrs. Abe gave sardine to their cat. 15 minutes later, Mr. Abe notices that the sardine is still in her food bowl. He asks her:)
 Iwashi tabenakatta?
 sardine eat.Neg.Pst
 ‘Didn’t she eat the sardine?’
 [iwashi] [tabe’nakatta] (no tonal compression, negative bias)
- (20) (**Situation:** In the morning, Mrs. Abe tells her husband that she will give sardine to their new cat, who has been fussy about her food. Later in the day, Mr. Abe came across the previous owner of the cat and learns that the cat loves sardine and never refuses to eat it. He comes home in the evening and asks his wife:)
 Iwashi tabenakatta?
 sardine eat.Neg.Pst
 ‘Didn’t she eat the sardine?’
 [iwashi] [tabe’nakatta] (no tonal compression *despite positive bias*)
- Tonal compression happens only when all semantic components of the phrase are ground.
 - In (20), tonal compression is blocked because the meaning of the verb stem is not ground (Table 2).

Table 2: Possible focus/ground configurations within simple verbs in their negative forms

	verb stem	negation	tonal compression	examples
(i)	in focus	in focus (\Rightarrow NN-interpretation)	no	(20)
(ii)	in focus	in ground (\Rightarrow P-interpretation)	no	(19)
(iii)	in ground	in ground (\Rightarrow P-interpretation)	yes	(18)

³ Different morphological analyses have been proposed for forms like *tabenakkata*, but in contemporary literature it is agreed that the negation morpheme *na* (or *nakat*) here is a suffix, rather than (part of) an auxiliary.

6. Other differences between the P- and NN-types

6.1 The choice of “yes” and “no”

- For the P-type, “yes” means that “the core proposition (without negation) holds” (like for English negative polar interrogatives); for the NN-type, “yes” means “the proposition denoted by the (negated) radical holds” (Kuno 1973:280).

(21) [ama'ku] [na'i]? 'Isn't it sweet?' (positive bias)

- a. Hai. 'Yes.' ⇒ (Indeed,) it is sweet.
- b. Iie. 'No.' ⇒ It is not sweet.

(22) [ama'ku] [na'i]? 'Isn't it sweet?' (negative bias)

- a. Hai. 'Yes.' ⇒ (Indeed,) it is not sweet.
- b. Iie. 'No.' ⇒ It is sweet.

6.2 Attachment of *no/noda*

- Negative polar interrogatives, like many other clause types, may be accompanied by the discourse particle *no* or the auxiliary *noda*, which have largely overlapping functions.
 - The semantic effect of addition of *no/noda* is a complicated matter and will not be discussed here.
- The NN-type and P-type exhibit interesting differences in the ways in which they are combined with *no* and *n(o)da* (cf. Kuno 1973:278).
- When *no/noda* follows a negated predicate, the NN-interpretation is singled out.

(23) Amaku nai-n(o)desu-ka?
sweet.Inf NegAux.Prs-*noda*.Prs.Plt-Q
'Isn't it sweet?' (the NN-interpretation only)

- When *noda* is negated, the P-interpretation is strongly preferred.

(24) Amai-{nodewa/nja} nai-desu-ka?
sweet.Prs-*noda*.Inf NegAux.Prs-PltAux.Prs-Q
'Isn't it sweet?' (the P-interpretation preferred)

- When *noda* is negated and further followed by *no* or *noda*, both the NN- and P-interpretations are possible (although prosody determines the interpretation).

(25) Amai-{nodewa/nja} nai-n(o)desu-ka?
sweet.Prs-*noda*.Inf NegAux.Prs-*noda*.Prs.Plt-Q
... [na'in(o)desuka] ⇒ the NN interpretation
... [na'in(o)desuka] ⇒ the P interpretation

7. More on the meaning of the NN-type interrogative

- It has been claimed that the English inside-NEG interrogative (with a negative epistemic bias) is felicitous only if the negative bias is formed in the discourse situation (the “inference on the spot” condition).

- The licensing conditions for the NN-type interrogative (with a negative epistemic bias) are slightly different:
 - The NN-type (with a negative epistemic bias) is felicitous iff (i) the “inference on the spot” condition is met or (ii) the “desirability” condition (to be explained below) is met.

7.1 *The NN-type and inference in the discourse situation*

- The following examples illustrate the relevance of the “inference on the spot” condition.

- (26) Hottodoggu-ya-san, kite (i)nakatta?
 hotdog-seller-Suffix come.Ger IpfvAux.Neg.Pst
 ‘Wasn’t the hotdog vendor there?’ (lit. ‘Hadn’t the hotdog vendor come?’)
 (felicitous in situation (27); infelicitous in situation (28))
- (27) (the “inference on the spot” condition met) In most days, a hotdog wagon comes to the park near the office where A and B work. One afternoon, A says to B: “Let’s have lunch. I’ll go get us hotdogs.” A few minutes later, A comes back with boxes of Chinese food, instead of hotdogs, in his hand. B utters (26).
- (28) (the “inference on the spot” condition not met) A and B work in the same office. In most days, in the lunch break A goes to a hotdog wagon in the nearby park and eats a hotdog on a park bench for his lunch. B has heard the rumor that the hotdog vendor has been ill. When A comes back to the office after the lunch break, B utters (26).

7.2 *The NN-type and desirability*

- Unlike the English inside-NEG interrogative, the NN-type can be used when (the “inference on the spot” condition is not met but) the speaker considers the proposition denoted by the radical *both likely and desirable*.
- (29) (**Situation:** A and B have been working all day in a room without a window. They hope that it is not raining. They believe that it is unlikely to be raining on the basis of what they heard in the morning weather forecast, but still are worried that it might. Around 2 p.m., A goes out to check the weather and comes back. B asks A:)
 Doo? Futte nakatta?
 how fall.Ger Ipfv.Neg.Pst
 ‘How was it? Was it raining?’ (lit. Wasn’t it raining?)’
 ... [fu’tte] [na’katta]
- (30) (**Situation:** A gives his colleague B a box of cookies as a gift from his trip to Europe. B is allergic to peanut, and assumes that A is not aware of this fact. B believes that generally it is rare for cookies to contain peanut. B thanks A, and then asks:)
 Kore, piinatsu haitte nai?
 This peanut enter.Ger IpfvAux.Prs
 ‘Does this contain peanut?’ (lit. Doesn’t this contain peanut?)’
 ... [ha’itte] [na’i]

- The desirability alone is not a sufficient condition of the felicitous use of the NN-type.
 - In the context of (29), speaker A would not use the NN-type if he had estimated the chance of rain to be 80%.

8. More on the meaning of the P-type interrogative

- The P-type may occur in certain environments where the English “outside NEG” interrogative may not.

8.1 *The P-type and information gaps*

- The P-type has a distinct use where it does not convey an epistemic bias but indicates that Speaker considers the core proposition (without negation) possible based on some information that may not be available to Hearer.
 - Note that in (31), the chance of the core proposition’s holding is a mere 10%.

- (31) (**Situation:** The speaker is looking for her friend Yamada. She has been informed that Yamada is visiting one of the 10 residents on the second floor of the dormitory, but does not know in which room he actually is. She decides to check the rooms one by one. She first goes to room #201, and asks the resident.)

Nee, Yamada-kun kite (i)nai?
 hey Y.-Suffix come.Ger IpfvAux.Neg.Prs
 ‘Hey, is Yamada here?’ (lit. hasn’t Yamada come?)
 ... [ki'te] [(i)na^(s)i]

8.2 *The P-type as a means of making a request or suggestion*

- The P-type is interrogative is commonly used to make a suggestion or polite request.
 - In English it is much less common to use negative polar interrogatives for the purpose of making a request/suggestion (cf. “Won’t you come visit me?”).

- (32) a. Kafe, yotte ikanai?
 café stop.by.Ger go.Neg.Prs
 ‘How about stopping by the café?’
 ... [yotte] [ikana^(s)i]
- b. Ato-de tetsudatte kurenai?
 later help.Ger BenAux.Neg.Prs
 ‘Would you give me a hand later?’
 ... [tetsudat'te] [kurena^(s)i]

8.3 *The P-type as a means of expressing one’s belief*

- The P-type appears to have a use whereby the speaker expresses his belief, opinion, or judgment.
 - **point:** (33a,b) are not questions.
 - (33a-c) are denotationally roughly equivalent. If (33a,b) are simply “questions with a positive bias”, they would be replaceable with (33c).
 - Note that the “positive bias” of (33a,b) and the “negative bias” of (33c) are equivalent.

- (33) (**Situation:** A and B are eating cookies that their colleague brought to their office. A finds the cookies distasteful, and says:)
- a. Kore, mazuku nai?
 this distasteful.Inf NegAux.Prs
 ‘Doesn’t this taste bad?’
 ... {[mazuku]/[mazu’ku]/[ma’zuku]} [na’i]
 - b. Kore, oishiku naku nai?
 this tasty.Inf NegAux.Inf NegAux.Prs
 ‘Doesn’t this not taste good?’
 ... [oishi^(’)ku] [na^(’)ku] [na’i]
 - c. #Kore, oishiku nai?
 this tasteful.Inf NegAux.Prs
 (Doesn’t this taste good?)
 ... [oishi^(’)ku] [na’i]

9. Summary

- Japanese has two varieties of negative polar interrogatives: the P-type and the NN-type

9.1 The P-type

- In the P-type, the negation is part of ground; this information-structural property is often reflected by tonal compression of the word containing the negation morpheme.
- The P-type is similar to the English outside-NEG interrogative, in that it often conveys a positive epistemic bias, and is compatible with a positive polarity item.
- However, its distribution and functions are not exactly the same as those of the outside-NEG interrogative; it can, for example, be used to make a polite request.

9.2 The NN-type

- In the NN-type, the negation is part of the focus, so that the tonal movements within the word containing the negation morpheme are always retained.
- The NN-type is similar to the English inside-NEG interrogative, in that it often conveys a negative epistemic bias, and may contain a negative polarity item.
- Like the English negative polar interrogative with non-preposed negation, the NN-type allows the neutral interpretation when the meaning of the negated predicate is contextually prominent.
- On the negative-bias interpretation, it indicates either that the bias has been formed in the discourse situation, or that the speaker considers the proposition denoted by the radical desirable.

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