

# From biased questions to epistemic modality – a curious case of Forest Nenets<sup>1</sup>

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One of the means of expressing epistemic modality in Forest Nenets is a periphrastic construction, which originally denotes negation, used in reverse order. I propose that this reverse negation is originally a biased negative question and show how it acquires an epistemic meaning using inquisitive semantics.

Forest Nenets sentential negation is formed by combining a negative verb *ni-*, which bears agreement, and a lexical verb in a connegative form: *ni*-AGR V-CNG.

- (1) man' n'i-ta-s' ηamol  
I NEG-2SG-PST eat.CNG  
'I haven't eaten' (Potseluyev 2023)

However, if the lexical verb appears before the negative form, the construction is not interpreted as proper negation, but rather as a modal conveying epistemic necessity, see (2). We will label this construction **epistemic negation**.

- (2) {I hear voices in the next room}  
n'em'a-m n'es'a-m monu?-s n'i-x'ij  
mother-POSS.1SG father-POSS.1SG talk-CNG NEG-3DU  
'It must be mom and dad talking' (Glavatskih 2023)

The semantic connection between negation and epistemic modality is far from oblivious here and it is not clear how the resulting epistemic meaning could be derived. I propose that epistemic negation is originally a biased negative question. This assumption will allow us to clearly show how an epistemic component emerged using inquisitive semantics (Ciardelli et al. 2013), in a way (AnderBois 2019) implements it for questions containing negation.

Such an assumption is supported by independent data. Forest Nenets implements two past tense morphemes– regular past *-s'* and interrogative past *-s'a/-sa*, glossed as INTRG. While regular past is attached at the right edge of the predicate, interrogative past is attached closer to the stem before the agreement marking, as shown in (3).

- (3) STEM-INTRG-AGR  
STEM-AGR-PST

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<sup>1</sup> В данной научной работе использованы результаты проекта «Межмодульное взаимодействие в грамматической теории: моделирование грамматических категорий на материале языков России», выполненного в рамках Программы фундаментальных исследований НИУ ВШЭ в 2023 году.

As evident from the name, interrogative past is used primarily in questions, where regular past is prohibited, see (4).

- (4) pi<sup>ht</sup> s'axaλ'ij ti-ŋ kanunta-m manæ-sa-n / \*mani?-ŋa-na-s'  
 you once deer-GEN killer-ACC look-INTR-2SG / look-GFS-2SG-PST  
 'Have you ever seen a wolf?'

Interrogative past also appears in unconditional contexts like (5) and in sentential arguments under *dexelas* 'to not know' (6).

- (5) k'im'a to-sa / \*to-s' ču<sup>h</sup>p'ej n'umku-maj-?  
 who come-INTR / \*come-PST all fight-MÆ-3PL  
 'Whoever came, all of them fought'

- (6) man' d'ex'ela-ŋa-t s'anjok puŋ d'il'i-? n'i-s'a  
 I not.know-GFS-1SG how.much long live-CNG NEG-INTRG  
 'I don't know for how long did he live'

And, what is important here, interrogative past is used with epistemic negation, see (8), and not negation *proper*, as shown in (8-9).

- (7) was'ap'et'a-m n'i-s' p'entλ'i-?  
 Vasya Petya-ACC NEG-PST hit-CONNNEG  
 'Vasya didn't hit Petya' (Belov, p.c.)

- (8) katλ'u? xatλaλ'-n'i-s'a  
 probably break-NEG-INTRG  
 'The knife must've broken' (Glavatskih 2023)

- (9) p'ix'in'a xal'u ŋ'i-n'i-s'a / -\*s'  
 outside rain be-NEG-INTRG / -PST  
 'It must've been raining outside' [Go check]

I suggest that an interrogative is a past tense operator which can exclusively be applied to a set of alternatives, and not a single proposition. (Rawlins 2013) analyses unconditionals as conditionals restricted by a set of propositions, using Hamblin-style pointwise functional application. This approach brings together unconditionals and questions, since both of them involve an exhaustive set of alternative propositions, allowing us to give uniform semantics for all uses of the interrogative. Now, if epistemic negation contains an interrogative and is originally a negated question, as we have supposed earlier, then how does the epistemic reading come about? (AnderBois 2019) uses a system containing two projected sets of alternatives to predict how questions with high negation give rise to positive speaker bias. I claim that the alternative sets in high negation questions result in a  $\Box p \wedge ?p$  reading and thus such questions are semantically equivalent to epistemic necessity embedded in a question.

## Sources

- ▲ AnderBois, S. (2019). Chapter 3 Negation, Alternatives, and Negative Polar Questions in American English (pp. 118–171). Leiden, The Netherlands: Brill. [https://doi.org/10.1163/9789004378308\\_004](https://doi.org/10.1163/9789004378308_004)
- ▲ Ciardelli, I., Groenendijk, J., & Roelofsen, F. (2013). Inquisitive Semantics: A New Notion of Meaning. *Language and Linguistics Compass*, 7(9), 459–476. <https://doi.org/10.1111/lnc3.12037>
- ▲ Rawlins, K. (2013). (Un)conditionals. *Natural Language Semantics*, 21(2), 111–178. <https://doi.org/10.1007/s11050-012-9087-0>