Expletive-free, concord-free semantics for Russian *ni*-words

Daniel Tiskin

Saint Petersburg State University
daniel.tiskin@gmail.com

Abstract

The paper presents a puzzle about the licensing of the NPI bisyndetic coordinator *ni... ni* in Russian: being in many respects similar to other Russian NPIs with *ni-* as prefix, it does not require negation to be present when it conjoins VPs. Starting with the hypothesis that the semantics of *ni-* remains constant across different uses, I adapt the mechanism of NPI licensing proposed by Chierchia [2] to the needs of the puzzle. The central idea of the proposal is that a token of *ni* splits the composition process into two processes running in parallel until the null operator licensing NPIs unites them back. Negation, whenever present, affects only one of those processes, whose result is then checked by the null operator.

1 Introduction

Lexical items "dependent" [4] on the presence of negation come in various sorts. Some of them, like English *any*, cannot themselves convey the negative meaning. Others, e.g. Russian *nikto* 'nobody' or *nikogda* 'never', can—at least on the surface—be the only manifestation of negativity in an (elliptical) sentence; normally, however, they too are licensed in environments where an overt token of negation is present. Therefore, an interpretation suggests itself where all those items are treated as semantically non-negative.

On the other hand, it turns out that at least one Russian *ni*-item, namely the bisyndetic coordinator *ni... ni*, has uses where it need not, and in fact cannot, be licensed by negation. Such cases suggest that *ni... ni* itself has negative force, but this is hard to reconcile with the strong intuition that the regular negation *ne* should not be denied its own negative force where *ni... ni* and *ne* co-occur. In such cases one has to show how the double negation effect, which is not observed, is avoided. Another question is how *ni... ni* is licensed in the absence of *ne*.

The present paper offers an account that addresses both issues and does not need to postulate expletive negation or purely NC items, giving both *ne* and *ni* non-trivial and constant denotations (although *ni*-words still do not express negation themselves). The structure of the paper is the following: Section 2 presents the Russian data that will be relevant in the discussion that is to follow. Section 3 briefly outlines the view on the positions of raised elements assumed throughout the paper. Section 4 first presents the mechanism of parallel interpretation in two dimensions, which is induced by the presence of *ni*-items, and subsequently explains the semantic contribution of the negation and of the null operator O_D that is assumed to be the licensor of *ni*-words. The relation between *ni*-items and negation will be indirect and explicated in semantic rather than syntactic terms. The section ends with the examination of cases where the negation is absent, contrasting one ungrammatical and one grammatical example. Finally, Section 5 presents a further puzzle regarding the range of contexts where negation has to co-occur with *ni... ni*.

2 N-words in Russian

The morpheme *ni* has at least two major uses in Russian. First, it is a prefix creating "N-words", or negative concord (NC) items that meet the requirements for strong NPIs [4]. This means that they are licensed in the contexts of sentential negation, where their presence does not result in the semantics of double negation (1), and that they can be used in isolation as a negative response to a question (2).

(1) Večerom ja ničego ne el.
evening.ADV I NI.thing.GEN NEG ate
'I ate nothing in the evening.'

(2) A: — Komu ty podaril cvety?
whom you gave flowers
'To whom did you give (the) flowers?'

B: — Nikomu.
nobody.DAT
'(I gave them to) nobody.'

Second, *ni... ni* is a paired coordinator used in NC contexts (3). The distribution of *ni*-words and of DPs conjoined by *ni... ni* is the same in most cases (compare (1) and (3)).

(3) Večerom ja ne el ni supa, ni kartoški.
evening.ADV I NEG ate NI soup.GEN NI potatoes.GEN.
'In the evening, I ate neither soup nor potatoes.'

However—and this observation is, to the best of my knowledge, new—licensing by negation is not required for *ni... ni* when it conjoins VPs (4).[1]

(4) Čto že kasaetsja Pilata, rešenie èto ego ni ogorčilo, ni obradovalo.
what PRT regards P. decision this he.ACC NI disappointed NI pleased
'As for Pilate, this decision neither disappointed nor pleased him.' (RNC)

This observation may be taken as counterexample to Giannakidou's [3] claim that "...Slavic n-words are ungrammatical without negation. This implies that they are unable to contribute negation on their own, as West Germanic n-words do, despite the fact that their morphological make-up seems to have a negative component" (p. 366).[2]

Importantly, the mere fact that a sentence has a VP conjunction with *ni... ni* does not safely license *ni*-items in other parts of the structure.[3]

[1] To avoid confusion, it should be noted that negating each conjunct by means of the regular negation *ne* is also possible in cases like (4):

(i) Rešenie èto ego ne ogorčilo i ne obradovalo.
decision this he.ACC NEG disappointed and NEG pleased.

[2] Note, however, that cases like (4) have been decreasing in frequency over the last centuries. E.g. a query for the Russian National Corpus (RNC) reveals that single-word VPs conjoined by *ni... ni* have the frequency of about 2.8 ipm in 18th century texts, but only 0.8 ipm in 19th, less than 0.3 ipm in 20th and about 0.1 ipm in 21st century texts.

[3] Again, in the 18th century this seems to have been otherwise:

(i) Nikto ni obvinën, ni opravlen; dvor dan orderom.
NI.person NI accused NI acquitted; household given by.order
'No one has been accused or acquitted; the household was given by order' (RNC, 1755–1757)

(5) ??Nikto ni p'ët, ni est.
NI.person NI drinks NI eats.
Intended: 'No one either drinks or eats.'

If it is the negative particle itself, and not a phonologically null head (as suggested by Zeijlstra [9]) that contributes the semantics of negation in the NC-free sentences such as (6), then we may try to extend this analysis to (1) and (3)—or even to (2), assuming some kind of ellipsis.[4] This would require that we do not treat *ni*-words as genuinely negative. This in turn creates a problem for the analysis of (4).

(6) Vasja ne prisël.
V. NEG came.
'Vasya did not come.'

My motivation in what follows will therefore be to develop an account that would associate some sort of genuine negativity both with *ne* and with *ni*-words and take care of the possibility of their co-occurrence, which should not lead to double negation readings. The proposed account will, of course, also have to do justice to the fact that unlicensed *ni... ni* is licit only in a limited selection of environments.

One more proviso before we move on. In the view of (4), it may be suggested that in case *ni* and *ne* occur adjacent to each other, some sort of quasi-haplological merger or deletion applies after syntax to avoid something like **ne ni*. The combination *ne ni* (as opposed to *ni ne*, which can appear in such contexts as *ni ljubit, ni ne ljubit* 'neither loves nor fails to love') is indeed hard to find. However, at least in metalinguistic contexts such as *ne ni odnogo, a 34* 'not "not a single" but as many as 34' or *ne ni s čem, a s pozorom* 'not with nothing but with shame' they are occasionally found.[5]

3 Raising of *ne* and *ni*

According to Abels [1], *ni*-words are not NPIs but rather PPIs, "licensed in the specifier position of a particular projection ⟨...⟩ if that projection hosts negation" (p. 12). As the relative order of a *ni*-word and negation is therefore reversed compared to the traditional view, *ni*-words are taken to have universal quantificational force. However, Abels noted (fn. 13) that "[t]his choice is largely aesthetic". In what follows, I will assume that *ni*-items remain within the scope of the raised negation, not outside it, and have the quantificational force of existentials (or, for *ni... ni*, disjunctive semantics).

As for negation, I assume that it raises at LF from its surface position at the main verb to the position above all *ni*-phrases.

4 Double contribution semantics for *ni*

The key point of the analysis is that certain lexical items can introduce an additional dimension to the interpretational process, that there are other items that operate on both dimensions, and

[4]For a discussion of the problems with the ellipsis account of "fragment answers", especially the fact that ellipsis in a negative clause is somehow licensed by a preceding clause without negation, see [7]. Zeijlstra's [9] null negative operator occupies the position above both the NPI and the ellipsis site, thus avoiding the non-identity problem.

[5]Thanks to Manuel Križ for suggesting this type of argument.

that yet others can only operate on one. The first group includes Russian *ni*-words. The second group is represented by the silent operator O_D that licenses *ni*-items, to be introduced later. Its role will be to bring the two dimensions back together, yielding the truth conditions of the familiar sort. If a certain type of mismatch between the two dimensions obtains at that stage, the interpretation crashes. Finally, negation falls into the third group.

4.1 Interpretation in two dimensions

The two dimensions will be represented using ordered pairs; I call the left member of a pair C_1 and the right member C_2. I use p as a variable over such pairs: $p = \langle C_1(p); C_2(p)\rangle$, where $C_1(p)$ and $C_2(p)$ are the two projections of p.

Simplifying somewhat (see e.g. [6] for a recent account of paired coordinators), I will treat *ni... ni* as a single lexical entry. As many coordinators, *ni... ni* is rather unselective in terms of the semantic type of its arguments, therefore its semantics is given for arguments $A, B \in D_{\langle\sigma,\tau\rangle}$ for arbitrary σ, τ.

(7) $[\![\text{ni } A, \text{ ni } B]\!] = \lambda\alpha_\sigma\Big\langle [\![A]\!](\alpha) \vee [\![B]\!](\alpha);\quad [\![A]\!](\alpha) \vee [\![B]\!](\alpha)\Big\rangle$

Analogously, the prefix *ni-* introduces quantification in two dimensions:

(8) $[\![\text{ničego}]\!] = \lambda P\Big\langle \exists x.x \text{ thing}.P(x);\quad \exists x.x \text{ thing}.P(x)\Big\rangle$

Thus, *ni... ni* and *ni-* are treated on a par. Whenever a λ-abstractor binds into the angle brackets, Functional Application [5] applies to both dimensions. However, in some cases my analysis predicts that a pair should interact with a pair, as a sentence may contain more than one *ni*-item:

(9) Ni Vasja, ni Petja ničego ne skazali.
NI V. NI P. NI.thing.GEN NEG said
'Neither Vasya nor Petya said anything.'

Given this, we need a composition rule analogous to FA but suited for the case where one of the two merged constituents is a pair.

(10) a. *FA (unpaired × unpaired)*
If $A \in D_{\langle\sigma,\tau\rangle}$ and $B \in D_\sigma$, then $A(B) \in D_\tau$
b. *FA (paired × unpaired)*
If $p = \langle C_1(p); C_2(p)\rangle$, $C_i(p) \in D_{\langle\sigma,\tau\rangle}$ and $B \in D_\sigma$,
then $p(B) = \langle C_1(p)(B); C_2(p)(B)\rangle$ and $C_i(p)(B) \in D_\tau$
c. *FA (unpaired × paired)*
If $A \in D_{\langle\sigma,\tau\rangle}$ and $p = \langle C_1(p); C_2(p)\rangle$, $C_i(p) \in D_\sigma$,
then $A(p) = \langle A(C_1(p)); A(C_2(p))\rangle$ and $A(C_i(p)) \in D_\tau$

Given the definition of FA and the fact that the negation has raised over the position(s) occupied by DPs after QR, the interpretation of (9) starts as in Figure 1.

As can be seen, *ni*-phrases do not take scope w.r.t. negation and only trivially scopally interact with each other (as $\exists xPx \vee \exists xQx \Leftrightarrow \exists x(Px \vee Qx)$). Moreover, none of them introduces negative force into interpretation. This will play a role in the explanation of why no double negation arises.[6] However, at this point the semantics of negation has not yet been introduced,

[6] The same result is elegantly achieved within the approaches that take NC items to undergo obligatory QR

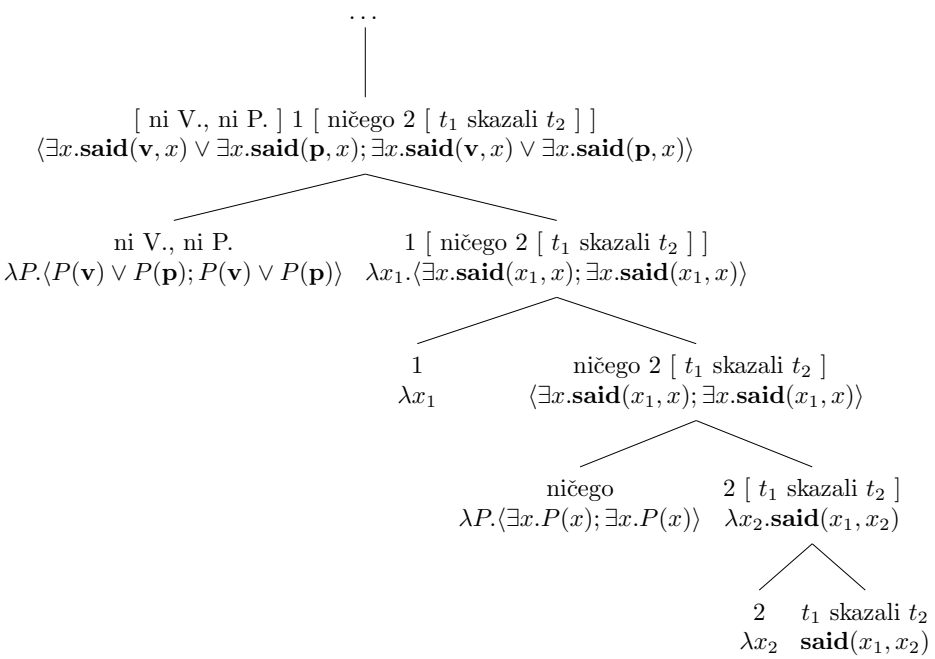

Figure 1: A partial derivation of (9)

and the roles of the two dimensions are unclear, as they do not differ from each other. As will be clarified presently, the role of the second dimension is to "memorize" the denotation of the negation's complement and to transmit it to a later stage of computation.

4.2 Negation and *ni*-licensing

Out of the two semantic dimensions, the negative particle *ne* affects only C_1 of its argument, leaving C_2 intact:

(11) $[\![\neg p]\!] = \langle \neg [\![C_1(p)]\!]; [\![C_2(p)]\!]\rangle$.

Therefore, the step immediately following those shown in Figure 1 will be

(9)′ ne [[ni V., ni P.] 1 [ničego 2 [t_1 skazali t_2]]]
$\langle \neg\big(\exists x.\mathbf{said}(\mathbf{v},x) \vee \exists x.\mathbf{said}(\mathbf{p},x)\big); \exists x.\mathbf{said}(\mathbf{v},x) \vee \exists x.\mathbf{said}(\mathbf{p},x)\rangle$

Following the treatment of *any*-series in Chierchia [2] and Xiang [8], I postulate a silent operator O_D at the left periphery, which licenses *ni*-items. Its semantic contribution invokes the *subdomain alternatives* of its complement's C_1.

Definition 1 (subdomain alternatives)**.** *Given a sentence S whose quantifiers $Q_1, \ldots, Q_n$ range over the domain D, the set of S's subdomain alternatives $\mathcal{ALT}(S)$ is defined as*

$$\mathcal{ALT}(S) = \{S' \mid S' \rightarrow S \text{ and } \exists D' \subset D : Q_1, \ldots, Q_n \text{ range over } D' \text{ in } S'\}.$$

over negation, thus treating them as PPI, such as that of Abels [1].

More specifically (and somewhat differently from Chierchia's account of English), I take it that O_D (a) completes the task left incomplete by negation, i.e. negates its complement's C_2, and (b) asserts all the subdomain alternatives of its complement's C_1 not entailed by C_1. The results of (a) and (b) are conjoined, so the two dimensions collapse back into one.

(12) $[\![O_D\, p]\!] = \neg C_2(p) \wedge \forall S \in \mathcal{ALT}(C_1(p)) : ((C_1(p) \not\to S) \to S$

Intuitively, this performs a check on the relation between the two dimensions: if C_1 as input to O_D does not in some salient sense, cast in terms of entailment, match the negation of C_2, the resulting interpretation will be contradictory (due to conjunction) and the sentence will be ruled out.

Continuing with (9), at the point where O_D is merged we get

(9)″ O_D [ne [[ni V., ni P.] 1 [ničego 2 [t_1 skazali t_2]]]]
$\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big) \wedge$
$\wedge \forall S \in \mathcal{ALT}\big(\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big)\big) :$
$\big(\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big) \not\to S\big) \to S$

Obviously, if neither Vasya nor Petya said anything (where *anything* quantifies over a given domain D), then for any $D' \subset D$ it also holds that neither Vasya nor Petya said anything. Thus all subdomain alternatives of $C_1(p)$, which happens to be 'neither Vasya nor Petya said anything', are entailed by $C_1(p)$. Thus, the whole second conjunct in the denotation of (9)″ is vacuous, and the resulting truth conditions are $\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big)$.

4.3 The absence of *ne*

Ungrammatical cases. Let us now consider what happens if a sentence does not contain *ne*. We know from Section 2 that in such cases it makes a difference whether *ni* conjoins VPs or occurs elsewhere in the sentence. Let us first consider (13), the ungrammatical pair for (9).

(13) *Ni Vasja, ni Petja ničego skazali.
NI V. NI P. NI.thing.GEN said

We assume that a structure with *ni*-words but without the licensing O_D is syntactically ill-formed (e.g. because O_D has to check the [+ D] feature of *ni*-items, as in [2]). Therefore we grant that (13) does contain O_D. The following predicts that it will be still ruled out due to the lack of *ne*.

Having gone through the steps in Figure 1, we do not add *ne* but proceed directly to

(14) *O_D [[ni V., ni P.] 1 [ničego 2 [t_1 skazali t_2]]]
$\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big) \wedge$
$\wedge \forall S \in \mathcal{ALT}\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big) :$
$\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x) \not\to S\big) \to S$

This denotation minimally differs from that of (9)″ in that there is no negation in C_1. Therefore, none of the elements of the set returned by $\mathcal{ALT}$ is entailed by $\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)$: if $\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)$ is made true by a single value of x, no proper subdomain of D may be *a priori* assumed to contain that object even if D itself does. So (14) is equivalent to

$$\neg\big(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\big) \wedge \bigwedge_{S \in \mathcal{ALT}\left(\exists x.\mathbf{said}(\mathbf{v}, x) \vee \exists x.\mathbf{said}(\mathbf{p}, x)\right)} S,$$

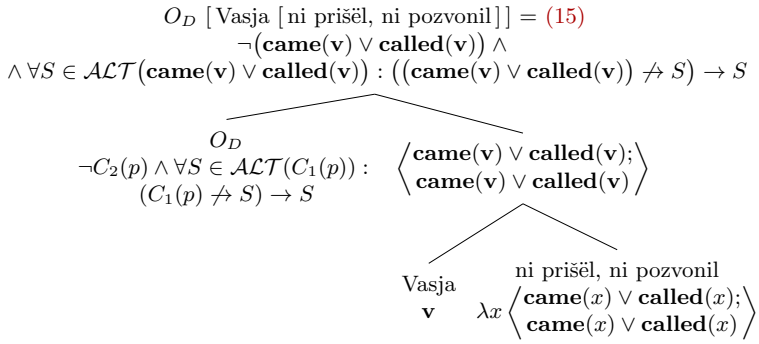

Figure 2: A derivation without *ne*, (15)

which is a contradiction ('in D, neither Vasya nor Petya said anything, but in all $D' \subset D$ one of them did').

To conclude, (14) is correctly predicted to be impossible without *ne* for the same reason as the English **John met any girl* is on Chierchia's approach: applying O_D will yield the contradiction 'for the domain D, John met a girl, but for all $D' \subset D$, he didn't'.

Grammatical cases. Instead of a fairly complicated (4), consider the simpler (15).

(15) Vasja ni prišël, ni pozvonil.
V. NI came NI called
'Vasya neither came nor called.'

Figure 2 shows how (15) is interpreted. The crucial point is that none of the subdomain alternatives of C_1 is entailed by $\neg C_2$ and therefore all the alternatives are negated. This is exactly what we need, since this negation of everything in $\mathcal{ALT}(C_1(p))$ is itself entailed by $\neg C_2$ to the effect that the overall denotation of (15)—the conjunction of that negation and $\neg C_2$—is equivalent to C_2 alone. The quantification over subdomains is again vacuous, since the formula $\mathbf{came}(\mathbf{v}) \vee \mathbf{called}(\mathbf{v})$ contains no quantifiers and therefore entails all its subdomain alternatives (provided that Vasya exists in the given subdomains).

The effect of the proposal is that the absence of *ne* does not prevent (15) from having "negative" meaning, in the same way as the presence of both *ne* and *ni* in (3) does not prevent it from negating, not asserting, that I ate soup or potatoes.

5 Further issues

The puzzle as I presented it in Section 2 was actually simplified. The real distribution of the negation *ne* in the presence of *ni... ni* is somewhat more complex. More precisely, *ne* is not required where in each of the conjoined VPs the verb linearly precedes other material; if some other part of the VP is scrambled in a position before the verb, the presence of *ne* adjacent to the verb is again required:[7]

[7]The situation seems to have been different several centuries ago:

(16) Vy, Stëpka, ni [$_{VP}$ konja ne najdëte], ni [$_{VP}$ nas ne otyščete].
you S. NI horse NEG will.find NI us NEG will.find
'You, Styopka, will neither find a/the horse nor find us.' (RNC)

If only one of the conjoined VPs has preverbal material, *ne* appears only in that conjunct:

(17) mama i brat celyj den' na rabote, a ona ni [kušat' ne prigotovit], ni [uberët].
Mom and brother whole day at work but she NI eat.INF NEG will.prepare NI will.clean.up
'My mom and brother are at work all day long, but she [the wife] would neither make food nor clean up' (RNC)

Similarly, if *ni... ni* conjoins clauses, the main verb, which is then not clause-initial, should be marked with *ne*:

(18) Ni babka moja ni slova ne znala po-ukrainski, ni otec ne znaet.
NI grandmother my NI word NEG knew in.Ukrainian NI father NEG knows
'Neither did my grandmother know a single Ukrainian word nor does my father' (RNC)[8]

As for now, I will have to leave this further puzzle as a direction for future work.

References

[1] Klaus Abels. Expletive (?) negation. In *Proceedings of FASL*, volume 10, pages 1–20, 2002.

[2] Gennaro Chierchia. *Logic in grammar: Polarity, free choice, and intervention*. OUP, 2013.

[3] Anastasia Giannakidou. N-words and negative concord. In M. Everaert and H. van Riemsdijk, editors, *Blackwell Companion to Syntax*, volume III, pages 327–391. Blackwell, 2006.

[4] Anastasia Giannakidou and Hedde Zeijlstra. The landscape of negative dependencies: negative concord and n-words. In Martin Everaert and Henk van Riemsdijk, editors, *The Wiley Blackwell Companion to Syntax*. Blackwell, 2nd ed. edition, 2017.

[5] Irene Heim and Angelika Kratzer. *Semantics in Generative Grammar*. Oxford: Blackwell, 1998.

[6] Moreno Mitrović and Uli Sauerland. Decomposing coordination. In *Proceedings of NELS*, volume 44, pages 39–52, 2014.

[7] Akira Watanabe. The genesis of negative concord: Syntax and morphology of negative doubling. *Linguistic Inquiry*, 35(4):559–612, 2004.

[8] Yimei Xiang. *ONLY*: An NPI-licenser and NPI-unlicenser. *Journal of Semantics*, 34(3):447–481, 2017.

[9] Hedde Zeijlstra. *Sentential Negation and Negative Concord*. PhD thesis, University of Amsterdam, 2004.

(i) Vot i prilëg on na otcovoj mogilke, ni šknët, ni čixnët, ni [$_{VP}$ uxom povedët].
NI will.utter NI will.sneeze NI ear.INS.SG will.move
'So he lay down on his father's grave, making no sound, not sneezing, not moving his ears' (RNC, 1825–1833)

[8] Phrases such as *ni slova* 'not a single word' do, formally speaking, contain *ni* but remain outside the scope of the present inquiry.