Role of alternatives in PPI licensing:

a case study of Russian plain disjunction *ili*

Anonymized

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Abstract

Russian plain disjunction *ili* is characterized as a positive polarity item: the generalization is that it is unable to take narrow scope with respect to a clausemate negation. In this paper, I discuss two cases where the generalization does not hold: disjunction of embedded clauses and topicalized disjunction. Both cases share the property that the conjunction is unavailable as a scalar alternative (either by the virtue of resulting in contradiction or by pragmatic irrelevance). On that basis, I argue that the correct generalization for distribution of Russian plain disjunction *ili* is that it is blocked when it is contextually equivalent to an alternative with Russian conjunction *i* (which is possible due to homogeneity effects associated with Russian conjunction *i*). The paper thus presents a novel empirical argument in favor of an alternative-sensitive approach to PPI licensing.

1 Introduction

Russian plain disjunction *ili* is a positive polarity item, as evidenced by its inability to take narrow scope with respect to clausemate negation (1; Szabolcsi 2002): the only available interpretation is exclusive, where it is either Russian or English that Grisha does not speak.. All reported judgements in this paper have been checked with around 5 native speakers of Russian, aged 20–30, via informal judgement collection.

(1) *Grisha ne govorit po-russki ili po-anglijski*

G. not speaks Russian or English

'Grisha doesn't speak Russian or English.' $(\vee > \neg, *\neg > \vee)$

This paper is concerned with two exceptions from Russian *ili*'s PPI behavior where there is a natural reading where negation takes scope over plain disjunction *ili*: disjunction of finite clauses headed by the complementizer *čto* (2) and topicalization of the disjunction phrase (3; first observed by Rudnev 2017). In (2), the most prominent reading is that Maria neither thinks that Grisha is a fool nor thinks that Vanja is a moron. This reading is characterized by narrow scope of disjunction with respect to clausemate negation, in contradiction to Szabolcsi's (2002) characterization of Russian plain disjunction *ili* as a PPI.

(2) Disjunction of *čto*-CPs: disjunction may scope under negation

Maria ne dumaet čto Grisha durak ili čto Vanja debil

M. not thinks that G. fool or that V. moron

'Maria doesn't think that Grisha is a fool or that Vanja is a moron.' $(\vee > \neg, \neg > \vee)$

In (3), the disjunction is topicalized, as indicated by the word order. The relevant pragmatic configuration can be forced by making the implicit question of (3) explicit. In any case, the sentence in (3) has the reading that Grisha speaks neither Russian, nor English. Again, this reading corresponds to narrow scope of disjunction, contradicting the characterization of Russian plain disjunction *ili* as a PPI.

(3) Topicalized disjunction: disjunction may scope under negation

Implicit question: is it true that Grisha speak Russian or English?

[Po-russki ili po-anglijski]$_{\text{TOP}}$ *Grisha ne govorit*

Russian or English G. not speaks

'Grisha doesn't speak Russian or English.' $(\neg > \vee)$

This paper starts with the idea that the two types of exceptions must be unified and derived in a principled manner: the characterization of Russian plain disjunction as a PPI is robust enough to maintain even in light of exceptions. The intuition is that the exceptions in (2) and (3) may shed light on the precise mechanism of PPI anti-licensing, which is a point of debate in the literature on polarity items (see Szabolcsi 2004; Nicolae 2012; Spector 2014; Nicolae 2017; Homer 2021 for a variety of proposals). Clearly, the pattern appears problematic for theories of PPI (anti-)licensing that only rely on the logical properties of the local domain, in which the PPI is positioned: pattern of CP disjunction shows that the properties of disjuncts themselves must be taken into account.

In this paper, I argue that the unification of cases like (2) and (3) comes from the properties of their corresponding conjunctive alternative: it is *unavailable*, pragmatically deficient. The cases of disjunction of *čto*-CPs involve a logically contradictory conjunctive alternative (Bassi & Bondarenko 2020; Bondarenko 2022), which is thus unavailable as a suitable alternative sentence. The

cases of topicalized disjunction, as I argue, involve a conjunctive alternative that is rendered irrelevant relative to the question under disjunction (QuD: *is it true that* $p \vee q$?).

It is rather surprising that the PPI status of Russian plain disjunction *ili* is sensitive to the properties of a corresponding sentence with conjunction. While alternative-sensitive theories of PPI licensing exist (Spector 2014, Nicolae 2017), they do not rely in a crucial way on the conjunctive alternative. In light of the conjunction-related generalization I put forward, my proposal is that Russian plain disjunction leads to oddness under equivalence with Russian simplex homogeneous conjunction *i* (see Szabolcsi & Haddican 2004 for homogeneous conjunctions). At the end of the paper, I preliminarily suggest that the pattern should be subsumed under Maximize Presupposition!-style effects, assuming that the plain conjunction's homogeneity properties come from its presuppositions.

The paper is structured as follows. Section 2 presents the relevant background on Russian plain disjunction *ili*. Section 3 argues in favor of the generalization that unavailability of the conjunctive alternative allows the plain disjunction to take narrow scope with respect to negation. Section 4 argues that the sensitivity of Russian plain disjunction to the corresponding conjunctive alternative should be understood as an effect of competition with Russian homogeneous plain conjunction *i*. Section 5 concludes.

2 Background on Russian plain disjunction *ili*

This section presents the necessary background on Russian plain disjunction *ili*. First, let us establish which environments allow *ili* to occur in them and which do not. As shown in (4), the plain disjunction *ili* cannot be present in the scope of clausemate negation (4a). If there is a clausal bound-

ary, however, negation can scope over the disjunction (4b). Therefore, *ili* is a local positive polarity item, rather than a global one (see Spector 2014 for the discussion of the difference between local and global PPIs).

(4) Russian plain disjunction *ili* is a local PPI.

a. Clausemate negation cannot scope over disjunction

Maša ne pila pivo ili vino

M. not drank beer or wine

'Masha did not drink beer or wine.' $(\vee > \neg, {}^{*}\neg > \vee)$

b. Negation in another clause can scope over disjunction

Maša ne dumaet čto pila pivo ili vino

M. not thinks that drank beer or wine

'Masha doesn't think that she drank beer or wine.' $(\neg > \vee)$

Besides negation, other environments that license negative polarity items do not lead to unavailability of narrow scope of disjunction as shown in (5) below for restrictor of a universal quantifier (5a), nuclear scope of *few* (5b), conditional antecedent (5c), and scope of an exclusive focus particle (5d).

(5) Plain disjunction *ili* occurs in other negative environments

a. Restrictor of *every*

Každyj čitatel' Rouling ili Gejmana ves'ma razočarovan.

every reader Rowling or Gaiman rather disappointed

'Every reader of Rowling or Gaiman is rather disappointed.'

The interpretation: readers of both are disappointed

b. Nuclear scope of *few*

Malo detej čitaet Puškina ili Gogolja.

few kids read Pushkin or Gogol

'Few kids read Pushkin or Gogol.' (few $>$ $\vee$)

c. Antecedent of a conditional

Esli on sjel araxis ili funduk, to nužno zvonit' v skoruju.

if he ate peanut or hazelnut then necessary call to ambulance

'If he ate a peanut or a hazelut, then we need to call the ambulance.' (if $>$ $\vee$)

d. Scope of *only*

Tol'ko deti pjut moloko ili limonady

Only kids drink milk or lemonades

'Only kids drink mild or lemonades.' (only $>$ $\vee$)

Russian plain disjunction is thus a weak PPI. A simplifying assumption that I employ is that the scope of disjunction is determined by its clausal/phrasal status. The rationale is to have the simplest view of disjunction's scope taking: it's determined by the size of disjuncts. I should note that Rudnev (2017) presents an argument in favor of my assumption: when a clausal disjunction parse is

unavailable (like in 6a; assuming that non-constituent deletion is impossible: Sailor & Thoms 2014) the sentence lacks a reading with wide scope of disjunction and is thus ungrammatical (depending on the context, however, see section 3.2).

(6) Lack of a plausible clausal disjunction parse leads to ungrammaticallity

a. Implicit alternative question: did Grisha give Vanja a pen, a pencil, and a rubber?

The answer: Grisha gave Vanja a rubber, but ...

* *Grisha ne dal ručku ili karandaš Vanje*

G. not gave pen or pencil V.

Int.: 'Grisha either didn't give Vanja a pen, or a pencil.'

b. The only clausal ellipsis parse imaginable requires non-constituent deletion

Grisha ne dal ručku ~~Vanje~~ ili ~~Grisha ne dal~~ karandaš Vanje

Thus, the claim we start with is that Russian plain disjunction leads to ungrammaticallity in the scope of negation (modulo PPI rescuing, the discussion of which I postpone until Section 4.2). Let us now consider two exceptions to the claim.

3 Two cases of disjunction in the scope of negation

This section discusses the two cases where Russian disjunction is licit in the scope of clausemate negation: disjunction of embedded *čto*-clauses and topicalization disjunction. In light of the results of Bassi & Bondarenko (2020), the case of embedded *čto*-clauses will suggest the conjunctive alternative as the culprit for disjunction's exceptional availability in the scope of negation. This idea, when combined with a common understanding of relevance, provides an insight into topicalized

disjunction's exceptional availability in the scope of negation: if the question under discussion only concerns the truth of the disjunctive statement, the conjunctive statement is rendered irrelevant.

3.1 Disjunction of embedded clauses

Consider the example (7), repeated from the introduction. It can easily be understood as Maria not thinking that either Grisha or Vanja is a moron. Importantly, since the embedded clauses themselves are coordinated, the availability of narrow scope of disjunction here violates its PPI-hood: the negation is in the same clause.

(7) *Maria ne dumaet čto Grisha durak ili čto Vanja debil*
M. not thinks that G. fool or that V. moron
'Maria doesn't think that Grisha is a fool or that Vanja is a moron.' ($\vee > \neg, \neg > \vee$)

The effect is sensitive to the complementizer: as shown in (8), disjunction of two clauses headed by *kak* cannot be understood in the scope of negation. I note that the unavailability judgement has been elicited with an explicit question "What did Maria see?", in order to avoid the pragmatic effect discussed in the next subsection.

(8) *Maria ne uvidela kak Grisha pil ili kak Vanja pel*
M. not saw how G. drank or how V. sang
'Maria didn't see how Grisha drank or how Vanja sang.' ($\vee > \neg, {}^{*}\neg > \vee$)

The takeaway is that the effect cannot be reduced to any syntactic property of embedded CPs in Russian and its explanation must rely on the properties of the complementizer *čto*. I suggest to build on the contrast between the complementizers *čto* and *kak* reported by Bassi & Bondarenko

(2020): conjunction of *čto*-clauses is illicit, under a single event reading (which rules out covert disjunction of matrix clauses).

(9) Phrasal conjunction of *čto*-clauses is bad, while phrasal conjunction of *kak*-clauses is not.

a. Context: Masha's singing is quite likely, but Dina's dancing is very unlikely. Thus, the combination of these two events is also very unlikely.

#*Ja somnevajus', [čto Maša pela] i [čto Dina tancevala].*

I doubt that M. sang and that D. danced

Int:'I doubt that Masha sang and Dina danced.'

b. Context: Maria looked into a room and saw a wild party going on.

Maria uvidela kak Grisha pil i kak Vanja pel

M. saw how G. drank and how V. sang

'Maria saw how Grisha drank and how Vanja sang.'

In fact, the contrast is not mysterious and is borne out under the assumption that clauses headed by complementizers like English *that* and Russian *čto* denote predicates over events that uniquely specify the content of events (Elliott 2020; Bondarenko 2022).

(10) Under equality semantics for *that*-/*čto*-clauses, their conjunction is contradictory

$[\![\text{[that P] and [that Q]}]\!] = \lambda e.\ \textsc{cont}(e) = \{w | [\![p]\!](w) = 1\} \wedge \textsc{cont}(e) = \{w | [\![q]\!](w) = 1\}$

Therefore, we might conclude that Russian plain disjunction *ili* is able to take narrow scope with respect to negation when the corresponding sentence with conjunction, its conjunctive alternative, is trivially false. That is, however, a peculiar condition that only encompasses a single data point. Next subsection shows that the condition can be generalized into the pragmatic badness of the

conjunctive alternative.

3.2 Topicalized disjunction

Consider the example (11), repeated from the introduction. When the disjunction phrase is topicalized, the most natural interpretation is the one where the clausemate negation outscopes the disjunction. In fact, as argued by Rudnev (2017), this interpretation is the only one available (I follow Rudnev in taking the unavailability of wide scope here as a syntactic fact; see Section 2).

(11) Implicit question: is it true that Grisha speaks Russian or English?

[Po-russki ili po-anglijski]$_{\text{TOP}}$ *Grisha ne govorit*

Russian or English G. not speaks

'Grisha doesn't speak Russian or English.' $(\neg > \vee)$

Based on the result of the last subsection, one should expect that there should be something going on with conjunction when disjunction is topicalized. In fact, there is. Experimental work on scalar implicature calculation has argued in favor of QuD-sensitivity of the process (Zondervan, Meroni & Gualmini 2008; Degen 2013; Yang, Minai & Fiorentino 2018; Ronai & Xiang 2021 a.o.): strengthening of $p \vee q$ into $[p \vee q] \wedge \neg[p \wedge q]$ seems to happen less or not happen at all when the disjunction is topicalized (see, for example, the experiment 2 in Zondervan, Meroni & Gualmini 2008). The informal judgements of Russian speakers seem to conform with the expectation, as shown by the examples in (12) where cancellation of the scalar implicature is easier with the word order corresponding to topicalization of the disjunction phrase.

(12) Topicalization of disjunction makes the scalar implicature easier to cancel.

a. *Ja čitaju po-anglijski ili po-nemetski. ?? Ja oba jazyka prekrasno znaju.*
I read English or German I both language very.well know
'I know how to read English or German. I know both languages very well.'

b. *[Po-anglijski ili po-nemetski]*$_{\text{TOP}}$ *ja čitaju. Ja oba jazyka prekrasno znaju.*
English or German I read I both language very.well know
'English or German, I know how to read. I know both languages very well.'

The effect follows the from existing theories of scalar implicatures. Even the grammatical theory of scalar implicatures concedes that the exhaustification operator EXH only negates the relevant alternatives (Magri 2009; Magri 2011; Marty 2017 a.o.). Under the common formulation of relevance when QuD is understood as a partition of the context set, $p \wedge q$ is irrelevant when the QuD is whether $p \vee q$ is true. First, consider the definition of relevance in (13) along the lines of notions of partial answerhood in Groenendijk & Stokhof (1984), Heim (1994) and others.

(13) Relevance of p given a question under discussion Q (Lewis 1988; Bar-Lev 2024)

a. A proposition p is relevant given a partition Q iff $\exists Q' \subseteq Q[p = \bigcup Q']$

b. A proposition is relevant given a QUD when there are no two worlds which are in the same cell in the QUD but which don't agree on the truth of the proposition.
(both quote and formulation come from Bar-Lev 2024).

Now, let there be a context set with 4 worlds $\{w_\emptyset, w_p, w_q, w_{pq}\}$. Let there be two propositions $p = \{w_p, w_{pq}\}$ and $q = \{w_q, w_{pq}\}$. Consider then the partitions Q_4 and Q_2 provided below. The partition Q_4 corresponds to a QuD "What is true?" while the partition Q_2 corresponds to a QuD "Is $p \vee q$ true?".

(14) Set of worlds $W = \{w_\emptyset, w_p, w_q, w_{pq}\}$

a. Partition $Q_4 = \{\{w_\emptyset\}, \{w_p\}, \{w_q\}, \{w_{pq}\}\}$

b. Partition $Q_2 = \{\{w_\emptyset\}, \{w_p, w_q, w_{pq}\}\}$

For $p \wedge q$ to be relevant, there needs to be a subset of the partition that contains all worlds where $p \wedge q$ and no worlds where $p \wedge q$ is false. Therefore, $p \wedge q$ is relevant only if the partition includes the singleton set $\{w_{pq}\}$. The partition Q_4 includes $\{w_{pq}\}$, but Q_2 doesn't. Therefore, $p \wedge q$ is irrelevant if the QuD is "Is $p \vee q$ true?".

Summing up, it seems that the Russian plain disjunction *ili* is available in the scope of negation only if the conjunctive alternative is somehow illicit: either trivially false, or pragmatically irrelevant. The next section aims to explain this generalization.

4 A new condition on licensing of Russian disjunction *ili*

4.1 The role of homogeneous conjunction

The last section has established the generalization in (15). What is less clear, however, is how to derive it: to the author's knolwedge, no theory of PPI licensing can accommodate this generalization straightforwardly.

(15) When a conjunctive alternative is rendered UNAVAILABLE, Russian plain disjunction can take scope under negation.

Many accounts of PPI licensing do not rely on the alternative set in any manner (see Szabolcsi 2004 for theories based on dependencies between polarity items and operators; see Homer & Bhatt 2019;

Homer 2021 for a theory based on the interpretational properties of syntactic domains). Existing accounts of PPI licensing that rely on the alternative set by the virtue of relying on the exhaustification mechanism derive anti-licensing of PPIs from the ban on vacuous exhaustification (see Nicolae 2012 for PPI indefinites; see Spector 2014, Nicolae 2017 for PPI disjunction) which rules out disjunction in the scope of negation regardless of the status of the conjunctive alternative. Therefore, something else is required. In this work, I present the first step.

The core observation is that Russian plain conjunction *i* exhibits homogeneity effects (see Szabolcsi & Haddican 2004 for homogeneous conjunction): when in the scope of negation, the conjunction *i* behaves as if it takes wide scope, as shown in (16). If conjunction could be interpreted in the scope of negation, the continuation that one of the items was bought would be licit. However, it isn't.

(16) *Grisha ne kupil ručku i karandaš Vanje. #On kupil emu toljko ručku.*
G. not bought pen and pencil V. he bought him only pen
Int.: 'Grisha did not buy Vanja pen and pencil. He only bought him a pen.'

Importantly, the reading that the plain conjunction *i* gets in the scope of negation is exactly the reading usually associated with disjunction in the scope of negation (after all, $\neg p \wedge \neg q \equiv \neg[p \vee q]$). The intuition is, then, that the unavailability of the plain disjunction *ili* in the scope of negation arises under equivalence with the plain conjunction *i*. In the case of disjunction of *čto*-clauses, equivalence breaks down for logical reasons (only conjunction gives rise a contradiction), and in the case of topicalization disjunction, the equivalence is rendered irrelevant since the conjunctive alternative is irrelevant.

What could be a suitable competition mechanism? I suggest that the anti-licensing of Rus-

sian plain disjunction *ili* can be subsumed under presuppositional competition effects. The standard formulation of Maximize Presupposition! holds that if two expressions are truth-conditionally equivalent, the one with stronger presupposition must be chosen. If homogeneous conjunction introduces homogeneity presupposition (either directly, as in Schwarzschild 1993, or indirectly, as in presuppositional exhaustification approaches of Paillé 2022; Wehbe 2022; Guerrini & Wehbe 2024) blocking of disjunction in the scope of negation can be analysed as a Maximize Presupposition! effect.

4.2 Rescuing: an open problem

A prominent property of polarity item licensing is the rescuing effect: if the clausemate negation is in (immediate) scope of a downward entailing operator, the positive polarity item ceases to be anti-licensed (see Szabolcsi 2004 for discussion of rescuing; see also Homer 2021 for a thorough discussion of rescuing effects in licensing of polarity items).

(17) Rescuing: narrow scope of disjunction is possible if the negation is in the scope of a downward entailing operator: as exemplified by *malo* 'few'.

Malo podrostkov ne pjet pivo ili vodku.

few teenagers not drink beer or vodka

'Few teenagers drink neither beer nor vodka.' (few $>$ $\neg$ $>$ $\vee$)

The condition proposed in the last subsection seems to be unable to account for the rescuing effect on its own: as shown in (18) the corresponding sentence with conjunction has the same reading. Insofar as the equivalence with conjunction leads to anti-licensing of PPI disjunction, ungrammaticallity is incorrectly predicted for (17).

(18) *Malo podrostkov ne pjet pivo i vodku.*

few teenagers not drink beer and vodka

'Few teenagers drink neither beer nor vodka.'

Similarly, a non-clausemate negative item (like *doubt*) is able to save narrow scope of disjunction. Insofar as the equivalence with conjunction leads to anti-licensing of PPI disjunction, ungrammaticallity is incorrectly predicted yet again.

(19) *Ja somnevajus', čto Maša ne p'et pivo ili vodku.*

I doubt that M. not drinks beer or vodka

'I doubt that Masha drinks neither beer nor vodka.'

To double check, the example (20) shows that the corresponding sentence with conjunction has the same reading.

(20) *Ja somnevajus', čto Maša ne p'et pivo i vodku.*

I doubt that M. not drinks beer and vodka

'I doubt that Masha drinks neither beer nor vodka.'

Given that the current account only relies on equivalence to the conjunctive alternative to anti-license the PPI plain disjunction *ili*, the rescuing effects are not predicted. For the current purposes, I leave it as an open problem. However, there might be a parallel from other cases of competition-induced oddness. Sudo (2025) argues that Magri effects (Magri 2009; Magri 2011; see Anvari 2018; Marty & Romoli 2021 for attempts to unify Maximize Presupposition! effects and Magri effects) are, in fact, inactive in downward entailing environments. While the matter is contested (for example,

Magri 2011 argues that Magri effects are found in downward entailing environments while Sudo argues in the opposite direction), the data reported by Sudo nevertheless mirrors the rescuing effects shown above. Due to the lack of a fully fleshed out model for the competition-based analysis the current argument suggests, I do not pursue the idea further.

5 Conclusion

This paper's focus is on two exceptions to the generalization that Russian plain disjunction *ili* is ungrammatical in the scope of negation. I have argued that the two exceptions, disjunction of *čto*-clauses and topicalized disjunction, arise from the same principle: PPI-hood of plain disjunction is dependent on the status of the conjunctive alternative. The pattern thus constitutes an empirical argument in favor of alternative-based treatment of PPI licensing. At the end of the paper, I have sketched an account based on the intuition that PPI status of Russian plain disjunction *ili* is due to the homogeneity presupposition carried by Russian plain conjunction *i*. I leave for further research whether the intuition applies to other cases of PPI plain disjunction: I find it plausible, however, that PPI licensing is not a uniform phenomenon and, as such, not all PPIs are sensitive to the alternative set. What this paper has argued for, however, is that alternative-sensitive PPI (anti-)licensing must be an option.

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