

A PARAMETRIC COMPARISON OF TWO SCALAR PARTICLES IN RUSSIAN*

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1 Introduction: A Puzzle

Russian scalar particles *daže* and *voobšče* raise a puzzle: There are a number of similarities between them based on their similar *even*-like meaning. However, significant differences between *daže* and *voobšče* can also be observed.

More specifically, on the one hand, *daže* and *voobšče* can occur in the same constructions interchangeably, where both can be translated as *even*, as exemplified in (1).

- (1) *džon rešil zadanie srednej složnosti i daže /#voobšče*
John solve.3SG.M.PST task medium difficulty and DAŽE VOOBŠČE
samoe složnoe zadanie.
most hard task
'John solved the moderately difficult task and even the hardest task.'

On the other hand, there exist a number of contexts where *daže* and *voobšče* demonstrate different behavior. First, there are differences in the felicity of *daže* and *voobšče* in contexts where both can be translated as *even*, as in (2)-(4).

- (2) *džon rešil zadanie srednej složnosti; bil rešil*
John solve.3SG.M.PST task medium difficulty Bill solve.3SG.M.PST
#daže /voobšče samoe složnoe zadanie.
DAŽE VOOBŠČE most hard task
'John solved the moderately difficult task; Bill even solved the hardest task.'

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- (3) *džon rešil zadanie srednej složnosti i daže /#voobšče*
 John solve.3SG.M.PST task medium difficulty and DAŽE VOOBŠČE
samoe složnoe zadanie.
 most hard task
 ‘John solved the moderately difficult task and even the hardest task.’
- (4) A: *kak prošlo sorevnovanie?*
 how pass.3SG.N.PST competition
 ‘How was the competition?’
- B: *užasno. my #daže /voobšče proigrali.*
 horrible we DAŽE VOOBŠČE lose.PL.PST
 ‘Horrible. We even lost.’

Second, there are contexts where *voobšče* seems to produce a different semantic effect than *daže*: It yields *only-*, *at-all-/in-general-*, or *very-*like interpretations, which cannot be obtained with *daže*.¹

- (5) *džon rešil zadanie srednej složnosti; bil rešil*
 John solve.3SG.M.PST task medium difficulty Bill solve.3SG.M.PST
daže /#voobšče samoe prostoje zadanie.
 DAŽE VOOBŠČE most easy task
 ‘John solved the moderately difficult task; Bill only solved the easiest task.’
- (6) *džon vysokiy. bil voobšče /#daže vysokiy.*
 John tall Bill VOOBŠČE DAŽE tall
 ‘John is tall. Bill is very tall/taller.’
- (7) *u nas voobšče /#daže net kartoshki.*
 at us VOOBŠČE DAŽE NEG potatoes
 ‘We don’t have potatoes at all.’

Our general claim is that the similarities between *daže* and *voobšče* are due to the fact that both are scalar, focus-sensitive particles, and the differences between them derive from the variation in their behavior along four parameters: additivity, context dependency, relative strength of the prejacent, and the type of alternatives operated on (as well as interactions between the different parameters).

In particular, we maintain that *daže* largely falls in line with the description given to *even*-like operators in the literature, whereas *voobšče* demonstrates a more puzzling and sophisticated behavior with respect to most parameters.

The structure of the paper is as follows. In §2, we will begin by looking at the core theoretical background underlying the analysis of scalar *even*-like particles. In particular, we will examine the data concerning English *even*, the analysis of which served as the basis of the development of standard theory of *even*, and the points in the analysis of *even* that brought up major debates in the literature. In sections §3 to §6, we will look at the four parameters of variation underlying the difference between *daže* and *voobšče*. Each of the sections will begin with an examination of a debated component of the lexical entry for English *even*, and a

¹ Note that Russian *daže* may not be used in (5)-(7). English *even* cannot be used to translate (5)-(7) into English either.

corresponding discussion of cross-linguistic parametric variation regarding this component, especially in languages where more than one *even*-like operator exists. Then, each section will review the variation in the properties of *daže* and *voobščē* concerning the parameter discussed in that section. The final section, §7, draws upon the results of the analysis carried out in our study, providing a summary of the parametric comparison of *daže* and *voobščē*. In this section, we also identify implications for future research of systems of scalar particles in general, and the family of Russian scalar particles in particular.

2 A Brief Theoretical Background: The Traditional Semantics of *even*

The lexical entry for English *even* is standardly taken to be along the lines of (8) (e.g., Horn, 1969; Karttunen and Peters, 1979; Rooth, 1985, 1992; Giannakidou, 2007; Lahiri, 1998; Guerzoni, 2003).

$$(8) \quad [even]^{g,c} = \lambda C.\lambda p : \forall q \in C[p \neq q \rightarrow p <_c q].\lambda w : \exists q \in Cq \neq p \wedge q(w) = 1.p(w) = 1 \\ \text{where } C \subseteq p^F \wedge p^O \in C \wedge \exists q \neq p \wedge q \in C$$

In words:

- *even* combines with a contextually supplied set of alternatives, C , a proposition p and a world w , where C is a set of contextually supplied relevant alternatives to p , including p (under its ordinary semantic value) and at least one other contextually supplied distinct alternative;
- *even* has two presuppositions:
 - (i) Scalar: The prejacent of *even*, p , is stronger (e.g., less likely) than any other alternative q in C ;
 - (ii) Additive/Existential: There is at least one alternative q in C , distinct from p , which is true in w ;
- If defined, *even p* is true iff p is true in w .

The entry given above can apply to examples like (9):

$$(9) \quad \text{John invited even [Bill]}_F.$$

The presence of *even* in (9) has several effects given this entry:

- (i) It predicts the existence of a set C {‘John invited Bill,’ ‘John invited Mary,’ ‘John invited Jane,’ etc.}, where alternatives q ‘John invited Mary’ or ‘John invited Jane’ are relevant alternatives to proposition p ‘John invited Bill’;
- (ii) It triggers the presupposition that alternatives q , such as ‘John invited Mary’ or ‘John invited Jane’, are weaker than proposition p ‘John invited Bill’;²

² One, popular, way to think of p as the strongest alternative, is that p is the least likely alternative in C , as ordered on the scale of likelihood (Karttunen and Peters, 1979; Rooth, 1992; Lahiri, 1998). Note that the likelihood-based characterization of the ‘ p is stronger than q ’ relation is debated and there are other ways to characterize it, e.g., in terms of “weak informativity” (Kay, 1990), “noteworthiness” (Herburger, 2000), and “correlation of the alternatives

- (iii) It triggers another presupposition, that at least one of the alternatives that is different from p ‘John invited Bill’ is true in w (e.g., in the case of (9), either ‘John invited Mary’ or ‘John invited Jane’ must be true);
- (iv) It asserts that p ‘John invited Bill’ is true in w .

This semantic analysis of *even* became quite standard in the literature. However, this traditional analysis has been debated, mainly concerning the presence of the additive presupposition in the meaning of *even* (discussed below in §3) and the relative strength of the prejacent of *even* (discussed in §4). The growing body of literature on cross-linguistic research of languages with more than one *even*-like operator has shown that these debates correlate with parameters of variation in such languages. In fact, additivity and relative strength are only some of the parameters underlying the variation between *even*-like particles. Other parameters, such as context-dependency and operations on covert-based alternatives, have not been discussed in the literature on English *even*, but rather highlighted in the research of other languages, where particles actually show variation in their felicity based on this parameter.

The following sections present an overview of the analysis of the particles under discussion along four relevant parameters.

3 The First Parameter: Additivity

3.1 Additive Presupposition in the Meaning of *even*-Like Particles

Above we defined the lexical entry for English *even* (Horn, 1969; Karttunen and Peters, 1979; Rooth, 1985, 1992), where an inherent part of the meaning of *even* is the additive (sometimes called “existential”) presupposition, requiring that besides the prejacent of *even*, p , there is some alternative proposition q in C , which is distinct from p and also true in the world w .

Horn (1969) and Karttunen and Peters (1979) illustrate their judgment that additive presupposition is indeed indispensable for felicitous interpretation of *even* by examples like (10), which, according to them, inevitably result in infelicity:

- (10) #*Even Bill likes Mary, but no one else does.* (Karttunen and Peters, 1979:(19))

However, the presence of the additive presupposition in the lexical entry of *even* did not remain undisputed and was actually challenged in a number of works on the subject, such as those by von Stechow (1991), Krifka (1991), Wilkinson (1996), Rullman (1997), Lahiri (2008), Crnić (2011), Wagner (2014), and Greenberg (2016a). Below we examine two main types of problems raised against the presence of an additive presupposition of *even*, and illustrate them using examples. These are the felicity of *even* with mutually exclusive alternatives, and its behavior with entailed alternatives.³

with a contextually supplied gradable property” (Rullmann, 2007). See Greenberg (2015, 2018) for a review and a more recent proposal.

³ Another objection raised against the additive presupposition of *even* was its felicity in sentences with *only* (cf. (i) below), as reported by e.g. von Stechow (1991). Assertion of exclusive *only* is expected to be at odds with the additive presupposition of *even* (von Stechow, 1991).

The first potential counterexample to the additivity of *even* is its felicity with mutually exclusive alternatives, as discussed in e.g., Rullmann (1997). The latter provides the example cited in (11), where the prejacent of *even* is ‘Claire is an associate professor’ and the set of contextually supplied alternatives *C* is: {‘Claire is a lecturer,’ ‘Claire is an assistant professor,’ ‘Claire is an associate professor’, etc.}.

- (11) A: *Is Claire an [assistant]_F professor?*
 B: *No, she’s even/#also an [associate]_F professor.* (Rullmann, 1997:(18))

Given our world knowledge, only one alternative could be true at a time, as one cannot be both an assistant professor and an associate professor at the same time and the same institution. Therefore, the additive presupposition triggered by *even* cannot be possibly met, yet such example is felicitous in English. A similar example was reported by Lahiri (2008) in (12):⁴

- (12) *Hasiba won even/#also the [gold]_F medal.* (Lahiri, 2008:(20))

The second challenge to the additive nature of *even* is its felicity in entailed alternatives contexts, i.e., in contexts where the prejacent of *even*, *p*, asymmetrically entails a focus alternative, *q*. Such contexts were originally discussed in studies of additive particles like *too* and *also*. In particular, following discussions in Kratzer (1989), Krifka (1999), and Cohen (2009) on distinctness of alternatives in contexts with additive particles, Wagner (2014) formulates the constraint in (13):

- (13) The alternative(s), which an (additive) operator is anaphoric to, have to be ‘independent’. (Wagner, 2014:(25))

Given this principle, Wagner focuses his attention on the behavior of additive particles with (logically) entailed alternatives. This type of alternatives cannot possibly be distinct from each other. For example, in (14), it is impossible for ‘Someone solved the problem’ to be distinct and independent from ‘Everyone solved the problem’ (assuming the same domain is being used). Similarly, it is impossible for ‘Everyone solved the problem’ to be distinct from ‘Someone solved the problem’. Indeed, in the examples provided in (14)-(15) below, which were originally

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- (i) *Bill even danced only with Mary.*
(Exclusive) assertion of *only*: John did not dance with anyone besides Mary.
(Additive) presupposition of *even*: John danced with someone besides Mary.

Nevertheless, note that this is a problem only if one is to assume that *only* and *even* have the same focus associate, as exemplified in (iii) (Guerzoni, 2003:111). In case they have different associates, we can still keep the additive *ps* of *even* (ii).

- (ii) *John even [danced only with [Sue]_{F-of-only}]_{F-of-even}.*
Additive presupposition: There is something else that John did besides dancing only with Sue.
 (iii) *#John even [danced only with [Sue]_{F-of-only}]_{F-of-even}, but he did nothing else (that was unlikely of him to do).*
Additive presupposition: Not realized.

(Guerzoni, 2003:(111a-b))

Given that it is not clear whether such context is a reliable test for/against the additivity of *even*, we will not apply this test in our analysis of additive/exclusive properties of *daže* and *voobščē*.

⁴ See Greenberg (2018) for a gradability-based analysis of the semantics of *even*, where what is actually being compared is one’s degree of e.g., success associated with reaching the position of associate vs. assistant professor or winning gold vs. winning silver medal.

used by Wagner (2014) for contexts with entailed non-distinct alternatives, the use of additive particles is banned, as illustrated by the infelicity of *also*:

(14) *Everyone solved the problem. #Someone also solved the problem.*

(15) *Someone solved the problem. #Everyone also solved the problem.*

(Wagner, 2014:(22a-b))

Given the constraint in (13) above, and assuming that *even* is an additive particle, we would expect *even* (like other additive particles, such as *too* and *also*) to be banned with entailed alternatives.⁵

Crucially, however, Wagner (2014) and Greenberg (2016a) provide examples of felicitous occurrences of *even*, given in (16)-(19) below, where *p* asymmetrically entails *q*, and Wagner's (2014:4) distinctness constraint cited in (13) above is violated. In such examples, *also* is infelicitous, as expected. These examples, then, pose a challenge to the hypothesis concerning the existence of an additive presupposition of *even*.

(16) A: *Did John read some of the books?*

B: *He even/#also read all of the books.*

(Wagner, 2014:(33))

(17) *Some people really should try yoga. Everyone should even/#also do it.*

(Wagner, 2014:(51a.))

(18) *The queen gave birth to a child. She even/#also gave birth to [a boy]_F!*

(Greenberg, 2016a:(38e))

(19) A: *We need a signature of a professor on this form.*

B: *Well, John is a professor. He is even/#also a [full]_F professor.*

(Greenberg, 2016a:(38b))

This conclusion was further supported by **cross-linguistic research** on languages with more than one *even*-like particle, where we find the following three types of particles:

- **Necessarily additive *even*-like particles**, which must presuppose that at least one alternative is true besides *p* (e.g., German *sogar*, Guerzoni, 2003);
- **Exclusive *even* like-particles**, which presuppose that *p* is the only true alternative in *C* (e.g., German *auch nur*, Guerzoni, 2003; Japanese *-dake-demo*, Nakanishi, 2006);
- **'Unspecified' *even*-like particles**, which may operate on an alternative *p* regardless of the truth-conditional status of *q* (e.g., English *even*, Wilkinson, 1996; Rullman, 1997; Lahiri, 2008; Crnič, 2011; Wagner, 2014, and others; Hebrew *afilu*, Greenberg, 2016b)

⁵ Given also that *even* is not only additive, but also scalar, requiring *p* to be "stronger" than *q*, we will only review those cases where *p* asymmetrically entails *q*.

3.2 An Analysis of Russian Particles with Respect to the Additivity Parameter

We will now turn to Russian *daže* and *voobščē*, and examine their behavior from the perspective of the additivity parameter. We predict *daže* to be additive and *voobščē* to be exclusive. To support this conclusion, we will demonstrate the behavior of the particles in several contexts.

We will start our analysis by looking at the contexts where some other alternative q , different from p (which is true), is also true in the world w . If a particle is infelicitous in this context, we can conclude that it belongs to the necessarily exclusive type of particles.⁶ If a particle is felicitous in the context, we need to take one more step and proceed to examine its felicity in the contexts problematic for additive particles (where no alternative q is true). The felicity of a particle in this set of contexts will provide some evidence that this particle is unspecified. If we see that the particle is infelicitous in these contexts, then we may conclude that it is purely additive.

In addition, given the discussion in §3.1 we will check the behavior of *daže* and *voobščē* in two more contexts:

- (i) In contexts of mutually exclusive alternatives where only p is true (no q can be true): The felicity of a particle in such contexts shows that it is not necessarily additive;
- (ii) In contexts of entailed alternatives (where p asymmetrically entails q), which bans the use of necessarily additive particles

3.2.1 The Additivity of Russian *daže*

The main claim we make with respect to *daže* is that it is an inherently additive particle, which necessarily triggers additive presupposition in all possible types of contexts. The pieces of evidence for this claim are the following.

First, we can show that *daže* is not exclusive by its felicity in the contexts where some other alternative q is true beside p . Sentences (20)-(21) show the possible use of *daže* in contexts which were reported in classical works on additivity of English *even* (Horn, 1969, and Karttunen and Peters, 1979). In these examples, *daže* operates on its prejacent p in a context, where another (weaker) alternative q is also true in the world w .

(20) *bilu nraivitsja mēri i daže s'juzan.*
 Bill.DAT like.PRES.REFL Mary and DAŽE Susan
 'Bill likes Mary and even Susan.'

(21) *mēri nraivitsja x'jubert, ona daže progolosovala za nego.*
 Mary.DAT like.PRES.REFL Hubert she DAŽE vote.3SG.F.PST for him
 'Mary likes Hubert, she even voted for him.'

Second, we show that *daže* is infelicitous in contexts where p is the only true alternative, so it does not belong to the class of unspecified *even*-like particles either. Examples (22)-(25) below show that *daže* is infelicitous in contexts where the additive presupposition is not met, regardless of whether its syntactic position is pre-verbal or pre-nominal.

⁶ Assuming no other parametric constraint is at work.

- (22) Subject NP-Modifying Position
 #*daže* *mjurièl* *progolosovala* *za* *x'juberta* (*a* *bol'se* *nikto*).
 DAŽE Muriel vote.3SG.F.PST for Hubert but more Nobody
 'Even Muriel voted for Hubert (but no-one else did).'
- (23) Object NP-Modifying Position
 #*mjurièl* *progolosovala* *Daže* *za* *x'juberta* (*a* *bol'se* *ni* *za*
 Muriel vote.3SG.F.PST DAŽE for Hubert but more NEG for
kogo).
 anyone
 'Muriel voted even for Hubert (but she voted for no one else).'
- (24) VP-Modifying Position in Non-Transitive Verb Construction
 #*mjurièl* *pela,* *a* *x'jubert* *daže* *tanceval* (*i*
 Muriel sing.3SG.F.PST but Hubert DAŽE dance.3SG.M.PST and
ničego *bol'se*).
 nothing more
 'Muriel sang and Hubert even danced (but he did nothing else).'
- (25) VP-Modifying Position in Transitive Verb Construction
 #*mjurièl* *daže* *progolosovala* *za* *x'jubert* *tanceval* (*no* *ne*
 Muriel DAŽE vote.3SG.F.PST for Hubert dance.3SG.M.PST but not
sdelala *ničego* *bol'se*).
 do.3SG.F.PST nothing More
 'Muriel even voted for Hubert (but she did nothing else for him).'

What this shows is that the dependency of the additive presupposition of English *even* on its syntactic position, reported by Wagner (2014), finds no parallel in the use of Russian *daže* (compare the (in)felicity of the Russian and English sentences above). Note that, in example (25), we look at *even* in a VP-modifying position, where *even* may associate with either the whole VP or only the object-NP, and we show that in either case it is necessarily additive.

We can therefore conclude that *daže* is necessarily additive. Our claim regarding the necessarily additive presupposition of *daže* is further supported by the infelicity of *daže* in contexts of mutually exclusive alternatives (inspired by example (18) from Rullman, 1997). Again, compare this behavior of *daže* to the felicity of English *even* in this context.

- (26) A: *klèr* *dekan?*
 Claire dean
 'Is Claire a dean?'
 B: *net,* *ona* #*daže* *prorektor*.
 NEG she DAŽE prorektor
 'No, she is even a prorektor.'

In addition, just like the additive particles *too* and *also* (and unlike English *even*), *daže* is banned in contexts of entailed alternatives, where *p* asymmetrically entails *q*, e.g., (27).

- (27) A: *nam* *nužna* *podpis'* *professora*.
 we.DAT necessary signature professor

‘We need a signature of a professor on this form.’

- B: *džon professor. #daže polny professor!*
 John professor. DAŽE full professor
 ‘Well, John is a professor. He is even a full professor.’

We thus suggest the additive presupposition must be encoded in the lexical entry for *daže* as:

- (28) $[daže]^{s.c} = \lambda C.\lambda p : \dots : \exists q \in Cq * p \wedge q(w) = 1.p(w) = 1$
Additive presupposition: There is at least one alternative q in C , distinct from p , which is true in w .

3.2.2 The Exclusivity of Russian *voobščē*

We propose that, unlike *daže*, *voobščē* is not additive; in fact, it is exclusive in nature. This claim is based on the main observation that it is infelicitous in examples where both p and q are true.

- (29) *za x'juberta progolosovala mēri i #voobščē mjurièl (a*
 for Hubert vote.3SG.F.PST Mary and VOOBŠČE Muriel but
bol'she nikto).
 more nobody
 ‘Mary and even Muriel voted for Hubert (but no-one else did).’

Compare (29) with the felicity of *voobščē* in example (30), where only p is true. Therefore, we can claim that it is purely exclusive.

- (30) *za x'juberta progolosovala voobščē mjurièl (a bol'she nikto).*
 for Hubert vote.3SG.F.PST VOOBŠČE Muriel but more nobody
 ‘Even Muriel voted for Hubert (but no-one else did).’

To conclude, our data indicated that the properties demonstrated by *voobščē* characterize it as exclusive particle: It is infelicitous when both p and some other alternative q are true, and felicitous when p is the only true alternative.

We suggest that the exclusive component in the meaning of *voobščē* would be reflected in its lexical entry in the following way:

- (31) $[voobščē]^{s.c} = \lambda C.\lambda p : \dots \lambda w : \forall q \in Cq * p \rightarrow q(w) = 0.p(w) = 1$
Exclusive presupposition: No alternative q in C , distinct from p , is true in w .

As for the issue of whether such exclusive component is presupposed or not, we can suggest that it has a presupposition status. This is because the exclusive component in the meaning of *voobščē* survives with questions, as seen in (32), and conditionals, as demonstrated in (33).

- (32) *džon pil pivo. #on voobščē pil vodku?*
 John drink.3SG.M.PST beer he VOOBŠČE drink.3SG.M.PST vodka
 ‘John drank beer. Did he drink even vodka?’

- (33) *džon pil pivo. #esli on #voobščē pil*
 John drink.3SG.M.PST beer if he VOOBŠČE drink.3SG.M.PST
vodku, to on dolžno byt' očen' p'jan.
 vodka then he must be.INF very drunk
 ‘I know that John drank beer. If he drank even vodka, he must be very drunk.’

4 The Second Parameter: Context-Dependency

In our discussion of the additive properties of *daže* in §3, we came to the conclusion that *daže* belongs to the set of additive particles. Therefore, as long as both the prejacent of *daže*, *p*, and at least one alternative *q* in *C* is true, such that the additive presupposition of *daže* is met, we expect it to be felicitous. However, *daže* seems to be infelicitous in example (34) below, although its additive presupposition is met.

- (34) Context: Both speakers know Bill solved the moderately difficult task (i.e., the additive presupposition is met).

džon rešil zadanie srednej složnosti; bil rešil
 John solve.3SG.M.PST Task medium difficulty Bill solve.3SG.M.PST
 #*daže /voobšce samoe složnoe zadanie.*
 DAŽE VOOBŠČE most hard task
 ‘John solved the moderately difficult task; Bill even solved the hardest task.’

This puzzling behavior can be accounted for if we take into consideration an additional parameter: context-dependency. In this section, we will focus our attention on the variation in the felicity of *even*-like particles based on this parameter; specifically, we will investigate how the presence of an explicit alternative *q* in the context, or lack thereof, affects the felicity of these particles. We will provide theoretical background reported in the literature concerning the variation between *even*-like particles based on this parameter for languages like Spanish, German, and Hebrew (§4.1). We will then examine the context-dependency of *daže* and *voobšče*, in §4.2.

4.1 Context-Dependency of *even*-like Particles in Cross-Linguistic Research

One parameter of variation of *even*-like particles, closely connected to additivity, is their degree of context-dependency. We know of three studies that report variation in the felicity of scalar additive particles based on whether or not a linguistically salient alternative *q* is present in the context:⁷ Schwenter and Vashisht (2000) on Spanish *incluso* and Hindi *-bhii*, Greenberg (2014) and Greenberg and Orenstein (2016) on Hebrew *afilu* and *bixlal*, and Gast (2017) on German *sogar*, *selbst*, and *auch*.

For example, Schwenter and Vasishth (2000) look at the pairs of Spanish and Hindi *even*-like particles *incluso/hasta* and *-tak/-bhii*, all of which can be translated as English *even*. In their examples, provided in (35)-(36), where both *p* (‘My grandma ate it’) and a linguistically salient *q* (‘I ate it’) are pronounced, Spanish *incluso* and Hindi *-bhii* are felicitous, just like their respective counterparts *hasta* and *-tak*.

- (35) A: ¿*Quién ha comido oreja de cerdo?*
 ‘Who ate a pig’s ear?’
 B: *Pues yo (la he comido) e hasta/incluso mi abuela (la ha comido).*
 ‘Well, I (ate it) and HASTA/INCLUSO my grandma (ate it).’
 (Spanish; Schwenter and Vashisht, 2000:(11))

⁷ Here and below, under “linguistically salient” alternatives, we refer to the alternatives explicitly pronounced in the context (cf. the notion of discourse set and linguistically salient material in Wagner, 2012).

(36) A: *kis-ne bakri-kii aankhe khaayiâiâ?*
 ‘Who ate goat’s eyes?’

B: *mai-ne khaayiâiâ aur meri daadii-ne-tak/-bhii khaayiâiâ.*
 ‘I ate it and my grandma-BHII ate it.’

(Hindi; Schwenter and Vashisht, 2000:(12))

However, the difference between two particles in each minimal pair is that Spanish *incluso* and Hindi *-bhii* are highly context-dependent, while Spanish *hasta* and Hindi *-tak* show low level of context-dependency. Examples (37)-(38) show that, where *q* is only accommodated, but not pronounced, Spanish *hasta* and Hindi *-tak* continue to be felicitous, but *incluso* and *-bhii* become infelicitous:

(37) A: *¿Quién ha comido oreja de cerdo?*
 ‘Who ate a pig’s ear?’

B: *Hasta/#Incluso mi abuela la ha comido.*
 ‘HASTA my grandma ate it.’ (Spanish; Schwenter and Vashisht, 2000:(9))

(38) A: *kis-ne bakri-kii aankhe khaayiâiâ?*
 ‘Who ate goat’s eyes?’

B: *meri daadii-tak-ne /#-ne-bhii khaayiâiâ.*
 ‘My grandma-TAK ate it.’ (Hindi; Schwenter and Vashisht, 2000:(10))

We saw above the puzzling example (34), cited again below in (39), where *daže* is odd although its additive presupposition is met.

(39) Context: Both speakers know Bill solved the moderately difficult task (i.e., the additive presupposition is met).

džon rešil zadanie srednej složnosti; bil rešil
 John solve.3SG.M.PST Task medium difficulty Bill solve.3SG.M.PST
#daže /voobšce samoe složnoe zadanie.
 DAŽE VOOBŠCE most hard task
 ‘John solved the moderately difficult task; Bill even solved the hardest task.’

This puzzle can be solved if we take into account the context-dependency parameter.

4.1 Context-Dependency of *daže* and *voobšče*

We suggest that *daže* is highly context-sensitive and requires that there is an alternative *q* that is not only true, but also made linguistically salient in the context. Example (40) demonstrates that *daže* cannot modify *p* ‘Mary drank whiskey’ if no alternative of the form ‘Mary drank *y*’ (where only the focus constituent is replaced) is linguistically salient in the context. Even if such an alternative is accessible (e.g., both speakers know that Mary also drank beer), the use of *daže* is banned as long as this alternative is not explicitly mentioned, hence the difference in felicity between (40) and (41). As for *voobšče*, it appears to have no such requirement, as can be seen in (40) below.

- (40) Context: Both speakers know Mary drank vodka
džon pil pivo; mèri #daže /voobščè pila
 John drink.3SG.M.PST beer Mary DAŽE VOOBŠČE drink.3SG.M.PST
viski.
 whiskey
 ‘John drank beer; Mary even drank whiskey.’
- (41) *džon pil pivo, a mèri pila vodku i*
 John drink.3SG.M.PST beer but Mary drink.3SG.F.PST vodka and
daže /#voobščè viski.
 DAŽE/ VOOBŠČE Whiskey
 ‘John drank beer, whereas Mary drank vodka and even whiskey.’

5 The Third Parameter: Relative Strength of the Prejacent

5.1 The Semantics of *even* and the Relative Strength of Its Prejacent in Various Contexts

The main claim made by the theory of *even* reviewed in §3 with respect to the relative strength of the prejacent, is that any other alternative *q* in *C*, which is distinct from *p*, must be weaker than *p*. This claim appears to be successful in accounting for the strength of the prejacent of *even* in simple matrix sentences. However, as was observed by many researchers (Karttunen and Peters, 1979; Rooth, 1985; von Stechow, 1991; Wilkinson, 1996; Lahiri, 1998; Guerzoni, 2003; Giannakidou, 2007; Crnič, 2011), the prejacent of *even* seems to be the weakest alternative in sentences like (42) (and not the strongest alternative, as was stated in the lexical entry for *even* in (8) above; cf. §2):

- (42) *Mary cannot solve even [the easiest task]_{weak}.*

For example, if one takes “stronger” to be “less likely” (as is done in many theories, e.g., Karttunen and Peters, 1979; Rooth, 1992; Lahiri, 1998; and others), it is clear that solving the most difficult problem is less likely than other relevant alternatives (e.g., solving the moderately difficult task, solving the easiest task), whereas solving the easiest one is something very likely of an individual to do, in fact, the most likely thing to do. Therefore, the requirement of *even* that its prejacent be stronger than its contextually supplied focus alternatives, instead of weaker as in the standard lexical entry, seems to fail.⁸

In addition to that, in some cases, the prejacent of *even* seems to be understood as either stronger or weaker than its alternatives, thus, creating ambiguity, as in (43):

- (43) *I refuse to believe that Bill even [slapped]_F that man.*
 (Gust and van der Auwera, 2011:(24))

Here, what seems to be the prejacent of *even* – ‘Bill slapped the man’ – could be interpreted as either the least likely or the most likely proposition depending on the context, so that two readings are possible:

⁸ The same problem arises for other characterizations of the “stronger than” relation in the scalar presupposition (e.g., Kay, 1990; Rullman, 1997, 2007; Herburger, 2000; and Greenberg 2015, 2018).

- (i) ‘I refuse to believe that Bill (not only insulted but) even slapped that man’, where p ‘Bill slapped the man’ seems stronger than q ‘Bill insulted the man’;
- (ii) ‘Bill is accused of murder, but I’m sure he’s innocent: I refuse to believe he killed the man. In fact, I even refuse to believe that he slapped that man,’ where p ‘Bill slapped the man’ seems weaker than q ‘Bill killed the man’

Crucially, the lexical entry in (8) does not provide conclusive explanation by itself for the ambiguity created by *even* in such sentences and only expects *even* to appear with the strongest alternative.

The key observation about contexts where *even* appears with the weakest alternative is that such contexts are those which license Negative Polarity items, i.e., they are Downward Entailing (DE) contexts (Ladusaw, 1979; Rooth, 1985; Wilkinson, 1996; Rullmann, 1997; Guerzoni, 2003). In such contexts, the strength relation of p , relative to its alternative q , is reversed. This is surprising, as given that negation only targets assertions, the scalar presupposition is not supposed to be affected in this case at all.

Attempts to explain the behavior of *even* with DE contexts were made by two types of theories which have been sometimes called the “lexicalist” and the “scope” theories.

The lexicalist type of theory (Rooth, 1985; von Stechow, 1991; Giannakidou, 2007; and others) claims that there are two lexical entries for *even*: a negative polarity item and a positive polarity item. Positive polarity-*even* (PPI-*even*) indicates that the prejacent is stronger (e.g., less likely) than all contextually supplied alternative propositions. Negative polarity-*even* (NPI-*even*) indicates that the prejacent is weaker (e.g., more likely) than all contextually supplied alternative propositions. NPI-*even* only occurs in DE contexts that produce scale reversal effect. In other terms, the propositions operated on by NPI-*even* and PPI-*even* occupy positions on (or near) the opposite ends of the scale (Rooth, 1985).

- (44) PPI-*even*: *John even invited [Bill]_F*.
Scalar presupposition: Bill was the least likely for John to invite.
 LF: [*even* [John invited Bill]]
- (45) NPI-*even*: *John didn’t even invite [Bill]_F*.
Scalar presupposition: Bill was the most likely person for John to invite.
 LF: [NEG [NPI-*even* [John invited Bill]]] (based on Rullman, 1997:(10)-(17))

The lexicalist theory claims that different interpretations of the ambiguous sentences with *even* under DE expressions arise due to the existence of two different lexical items for *even* (NPI-*even* and PPI-*even*):

- (46) *It is hard to believe that John understands even Syntactic Structures*.
 a. NPI-*even* interpretation
Scalar presupposition: *Syntactic Structures* is the book John is most likely to understand.
- b. PPI-*even* interpretation
Scalar presupposition: *Syntactic Structures* is the book John is least likely to understand. (Rooth, 1985:(28)-(29))

The second type of theory about *even* is the scope theory (Karttunen and Peters, 1979; as well as Wilkinson, 1996; Lahiri, 1998; Guerzoni, 2003; Crnič, 2011), according to which there is a single *even*, with a lexical entry as in (8) above, i.e., requiring that the prejacent, *p*, is stronger than its focus alternatives, *q*, but allowing *even* to take variable scope: It can scope over a DE expression, or appear within its scope (e.g., take scope under negation). For a sentence like (47), Karttunen and Peters (1979) provide possibilities of the associate of *even*: the embedded sentence only, or the whole phrase.

(47) *It is hard for me to believe that Bill can understand even Syntactic Structures.*

a. Narrow scope of *even*

Scalar presupposition: *Syntactic Structures* is the book Bill is least likely to understand (*Syntactic Structures* is the most difficult book for Bill).

LF: [*even* [Bill can understand *Syntactic Structures*]]

b. Wide scope of *even*

Scalar presupposition: *Syntactic Structures* is the least likely book it is hard for me to believe Bill can understand (*Syntactic Structures* is the easiest book for Bill).

LF: [*even* [It is hard for me to believe Bill can understand *Syntactic Structures*]]

5.2 Cross Linguistic Variability in Encoding the Behavior of *even*-like Operators in DE Contexts

In English, different readings of *even* are associated with one lexical item: *even* itself. However, cross-linguistic research reports different lexical entries for the two readings of *even*. As reported in Giannakidou (2007) and Guerzoni (2007), PPI- and NPI-*even* are found in languages like German (*sogar* and *auch nur*), Italian (*addirittura* and *anche solo*), Japanese (*mo/demo* and *-dake-demo*), Greek (*akomi ke* and *oute*), and others. For example, the division between PPI- and NPI-*even* in German is illustrated in Guerzoni (2007) in the following way (example and original German gloss taken from Guerzoni, 2003:164-165, (2), (10)):

(48) German PPI-*even* (strongest reading): *sogar*

Der Hans hat sogar die Maria begruesst.

the John has even the Mary greeted

‘John even greeted Mary.’

(49) German NPI-*even* (weakest reading): *auch nur*

Niemand hat auch nur/#sogar die Maria begruesst.

No-one has also only/#even the Mary greeted

‘No-one has greeted even Mary.’

Of crucial importance for the part of our research dealing with ordering of focus alternatives on a scale, is the fact that both the lexicalist and the scope theories associate the reason behind *even*-related ambiguity with a particular licensing factor, namely, the presence of a DE operator around. Under the scope theory, *even*, which always associates with the strongest element, may take variable scope. Under the lexicalist theory, there exist two *even*-like particles: one associating with weak elements and one associating with strong elements, which, in DE

environment, undergoes scale reversal and consequently appears in examples involving weak readings. Neither theory deals with *even*-like particles that operate on both the strongest and the weakest alternative in the absence of such factors.

Having provided this background, we now turn to examine *daže* and *voobščē* in three types of contexts: upward entailing (UE) (simple matrix sentences), DE negative (clausemate negation), and DE non-negative (adversative predicates, antecedents of conditional and other DE-expressions which do not include overt lexico-grammatical negation). For each particle we define whether it can appear with strong and weak propositions in each type of surface context.⁹

Our examination will show that, whereas *daže* demonstrates properties similar to *even*-like particles already described in the literature in all three types of contexts, *voobščē* demonstrates extremely flexible behavior and may appear with both the weakest and the strongest alternative in any of the analyzed context types.

5.3 An Analysis of Russian Particles with Respect to the Relative Strength of the Prejacent

5.3.1 An Analysis of *daže* with Respect to the Relative Strength of the Prejacent

Similar to all particles occurring in UE contexts described by Crnič (2011) and by Gast and van der Auwera (2011), in UE context, *daže* can only occur with the strongest proposition.

- (50) *džon rešil zadanie srednej složnosti i daže samoe složnoe /#samoe prostoe zadanie.*
 John solve.3SG.M.PST task medium difficulty and DAŽE most hard most easy task
 ‘John solved the moderately difficult task and even the hardest/#easiest task.’

In the presence of clausemate negation (negative DE context), *daže* behaves just like English *even*. Note that Russian word order is rather free compared to English, so *daže* may precede or antecede negation, but it still occurs only when the strongest proposition is present in the context (two word order variations provided for both (51) and (52) below). This pattern can be explained if we assume the scope theory and say that *daže* can only appear with the strong element and must scope over clausemate negation at LF, regardless of its surface-scope position.

- (51) A: *mèri ne rešila zadanie srednej složnosti.*
 Mary NEG solve.3SG.F.PST task medium difficulty
 ‘Mary did not solve the moderately difficult task.’
 B: *mèri ne rešila daže samoe prostoe zadanie. /*
 Mary NEG solve.3SG.F.PST DAŽE most easy task
mèri daže ne rešila samoe prostoe zadanie.
 Mary DAŽE NEG solve.3SG.F.PST most easy task
 ‘Mary did not solve even the easiest task.’
 LF: [*even* [NEG [solve the easiest task] weak] strong]

⁹ Availability of different particles with strong or weak alternatives in each type of context was the basis for analysis that shaped the typologies of scalar operators in Crnič (2011) and Gast and van der Auwera (2011). At this point we do not investigate the particles of our interest in “concessive *even*” contexts (Crnič, 2011).

- (52) A: *mèri ne rešila zadanie srednej složnosti.*
 Mary NEG solve.3SG.F.PST task medium difficulty
 ‘Mary did not solve the moderately difficult task.’
- B: #*mèri ne rešila daže samoe složnoe zadanie.* /
 Mary NEG solve.3SG.F.PST DAŽE most hard task
mèri daže ne rešila samoe složnoe zadanie.
 Mary DAŽE NEG solve.3SG.F.PST most hard task
 ‘Mary did not solve even the hardest task.’
 LF: #[*even* [NEG [solve the hardest task] strong] weak]

At this point it can already be stated that *daže* is not an unambiguous/pure PPI-*even* from the viewpoint of the lexicalist theory. As reviewed above, this type of *even*-like particles can never occur under surface scope of negation and modify the weakest proposition (like German *sogar*).¹⁰ In DE non-negative contexts, *daže*, like English *even*, may appear with either the strongest or the weakest proposition.

- (53) *složno poverit’, što on rešit zadanie srednej složnosti*
 hard believe.INF that he solve.3SG.M.FT task medium difficulty
ili daže samoe složnoe.
 or DAŽE most hard
 ‘It is hard to believe that he will solve the moderately difficult, or even the hardest, task.’
- (54) *složno poverit’, što on rešit zadanie srednej složnosti*
 hard believe.INF that he solve.3SG.M.FT task medium difficulty
ili daže samoe prostoe.
 or DAŽE most easy
 ‘It is hard to believe that he will solve the moderately difficult, or even the easiest, task.’

5.3.1 An Analysis of *voobšče* with Respect to the Relative Strength of the Prejacent

The main claim we will now make is that, in a truly unique way, and unlike any of the particles reported in the literature (to our knowledge), *voobšče* can modify both the strongest and the weakest proposition in UE context. Note that such a distribution is unique among *even*-like operators. In a sense, the ability of *voobšče* to occur with the weak proposition in UE contexts, a distribution no other *even*-like particle shows, makes it in fact behave in such contexts in ways which resemble the behavior of *only*, the “pragmatic antonym” of *even* in Beaver and Clark’s (2008) terms.

Even and *only* produce opposite semantic effects (Beaver and Clark, 2008; Bliss, 2010; Grubic, 2015; Greenberg, 2016b) and appear in mutually exclusive contexts, as shown in examples (55)-(56), based on English data. In English UE contexts the particle that operates on the strongest proposition is *even*, whereas the particle that operates on the weakest proposition is *only*.

¹⁰ The issue of what form *q* takes, to be sufficient for the realization of an additive presupposition of *even*-like particles, when such particles occur under negation, is a matter of debate in the literature (cf. Karttunen and Peters, 1979; Schwarz, 2005; Crnič, 2011). We leave this issue to future research.

(55) *John solved the moderately difficult task, Mary even/#only solved the hardest task.*

(56) *John solved the moderately difficult task, Mary even/#only solved the easiest task.*

In a similar way, *daže* and *tol'ko*, translational equivalents of *even* and *only*, respectively, follow the behavior of their English counterparts, as defined in the standard theory, described in §2 above.

In particular, as we have shown above, once relevant parameters are satisfied (additivity, context-dependency, etc.), in UE contexts, *daže* behaves as expected of an *even*-like particle (namely, it appears with strong proposition only), as shown in (57)-(58).

(57) *džon rešil zadanie srednej složnosti i daže samoe*
 John solve.3SG.M.PST task medium difficulty and DAŽE most
složnoe zadanie.
 hard task
 ‘John solved the moderately difficult task and even the hardest task.’

(58) *#džon rešil zadanie srednej složnosti i daže samoe*
 John solve.3SG.M.PST task medium difficulty and DAŽE most
prostoe zadanie.
 easy task
 ‘#John solved the moderately difficult task and even the easiest task.’

The Russian standard exclusive particle, *tol'ko* ‘only’, follows the pattern of standard *only* and appears in UE contexts with the weak proposition only. Compare (59) to (60).

(59) *džon rešil zadanie srednej složnosti; bil rešil*
 John solve.3SG.M.PST task medium difficulty Bill solve.3SG.M.PST
#tol'ko samoe složnoe zadanie.
 only most hard task
 ‘#John solved the moderately difficult task; Bill only solved the hardest task.’

(60) *džon rešil zadanie srednej složnosti, bil rešil*
 John solve.3SG.M.PST task medium difficulty Bill solve.3SG.M.PST
tol'ko samoe prostoe zadanie.
 only most easy task
 ‘John solved the moderately difficult task; Bill only solved the easiest task.’

Given the contrast between *even* and *only*, one would not expect a single particle to demonstrate the behavior of both *even* and *only*. However, this is precisely what Russian *voobščē* seems to do, as seen in the data below:¹¹

(61) *džon rešil zadanie srednej složnosti, bil voobščē*
 John solve.3SG.M.PST task medium difficulty Bill VOOBŠČE
rešil samoe složnoe zadanie.
 solve.3SG.M.PST most hard task
 ‘John solved the moderately difficult task; Bill even solved the hardest task.’

¹¹ In describing the behavior of *voobščē* as exclusive and *only*-like, we make reference to scalar *only*, e.g., it does not presuppose that no other alternative – but rather than no stronger alternative – is true (See e.g., Beaver and Clark, 2008, and Coppock and Beaver, 2014).

- (62) *džon rešil zadanie srednej složnosti, bil voobščē*
 John solve.3SG.M.PST task medium difficulty Bill VOOBŠČE
rešil samoe složnoe zadanie.
 solve.3SG.M.PST most hard task
 ‘John solved the moderately difficult task; Bill only solved the hardest task.’

This behavior of *voobščē* is surprising, as in no theoretical account presented in the literature so far were *even*-like particles predicted to modify weak propositions in the absence of special licensing factors (DE-expressions). In examples (62), however, we observe *voobščē* with a weak proposition in the simplest matrix sentence (i.e., in the absence of any triggers for such unique distribution). This distribution is indeed unique, as we can see a close-to-complementary distribution between English *even* and *only*, as well as between Russian *daže* ‘even’ and *tol’ko* ‘only’, whereas *voobščē* is felicitous in both types of environment.

Table 1 shows that, in UE contexts, the distribution of *voobščē* overlaps with the distribution of both English *even* and *only* and their respective Russian counterparts: *daže* and *tol’ko*.

	ENGLISH <i>EVEN</i> AND RUSSIAN <i>DAŽE</i>	ENGLISH <i>ONLY</i> AND RUSSIAN <i>TOL’KO</i>	RUSSIAN <i>VOOBŠČE</i>
STRONG PROPOSITION	good	bad	good
WEAK PROPOSITION	bad	good	good

Table 1. Distribution of *daže*, *tol’ko*, and *voobščē* in UE contexts

In DE negative contexts, *voobščē* may appear with both the weakest and the strongest reading, as seen in (63)-(64). This can be interpreted in two ways. On the one hand, it can indicate that, in the DE negative contexts, *voobščē* again shows extreme flexibility. On the other hand, one can perhaps suggest that, unlike *even* and *daže*, *voobščē* can scope over negation.

- (63) *džon ne rešil zadanie srednej složnosti; bil voobščē*
 John NEG solve.3SG.M.PST task medium difficulty Bill VOOBŠČE
ne rešil samoe složnoe zadanie.
 NEG solve.3SG.M.PST most hard task
 ‘John did not solve the moderately difficult task; Bill did not even solve the hardest task.’
- (64) *džon ne rešil zadanie srednej složnosti; bil voobščē*
 John NEG solve.3SG.M.PST task medium difficulty Bill VOOBŠČE
ne rešil samoe prostoe zadanie.
 NEG solve.3SG.M.PST most easy task
 ‘John did not solve the moderately difficult task; Bill did not solve even the easiest task.’

Finally, in DE non-negative contexts, *voobščē* again demonstrates its ability to appear with both the weakest and the strongest alternative (cf. (65)-(66) below). It shows a distribution similar to English *even* and different from Russian *daže*: It can occur with both strong and weak propositions.

(65) *složno poverit', čto on voobščě rešit samoe složnoe*
 hard believe.INF that he VOOBŠČĚ solve.3SG.M.FT most hard
zadanie.
 task

‘It is hard to believe that he will solve even the hardest task.’

(66) *složno poverit', čto on voobščě rešit samoe prostoe*
 hard believe.INF that he VOOBŠČĚ solve.3SG.M.FT most easy
zadanie.
 task

‘It is hard to believe that he will solve even the easiest task.’

The use of *voobščě* in DE non-negative contexts also results in ambiguity.

(67) *esli džon rešit voobščě èto zadanie, to sdast.*
 if John solve.3SG.M.FT VOOBŠČĚ this task then pass.3SG.M.FT
 ‘If John solves even/at least this task, he will pass.’

Possible interpretations:

- (i) Strong proposition reading: ‘This problem is very difficult, so if John solves it, he can pass the course.’
- (ii) Weak proposition reading: ‘John is not good at this course, but if he can manage to solve (at least) this problem, the course lecturer will give him credit for the course.’

To conclude, we showed above that *daže* demonstrates distributional properties similar to standard *even*-like particles, in particular to English *even*. The lexical entry we can propose for *daže* in (68) is thus identical to the entry proposed for English *even* in (8):

(68) $[daže]^{g,c} = \lambda C.\lambda p : \forall q \in C[p \neq q \rightarrow p < c q].\lambda w : \exists q \in Cq \neq p \wedge q(w) = 1.p(w) = 1$
 where $C \subseteq p^F \wedge p^O \in C \wedge \exists q \neq p \wedge q \in C$

As for *voobščě*, it appears that, unlike any other particle described in the literature, it is extremely flexible in its association with both the weakest and the strongest alternative in matrix sentences, as well as DE (both negative and non-negative) environments.

The unique distribution of *voobščě* makes it able to function as both *even*-like and *only*-like particles, a surprising observation given the opposite semantic effect produced by the two particles.

The absence of dependency between the scope or DE context and the pragmatic strength of the alternatives modified by *voobščě* is of particular significance to the research of systems of scalar particles in general. It is the presence of some context-modifying factors that were reported by both the scope and the lexicalist theory to be the key reason behind the ambiguity related to *even*-like operators.

The lexical entry for *voobščě* may thus take one of the following forms:

(69) $[voobščě]^{g,c} = \lambda C.\lambda p : \forall q \in C[p \neq q \rightarrow p > c q \vee p < c q].\lambda w : \exists q \in Cq \neq p \wedge q(w) = 0.p(w) = 1$

Scalar presupposition: *p* is stronger than *q*, or *q* is stronger than *p*.

- (70) $[voobšče]^{s,c} = \lambda C.\lambda p : \forall q \in C[p \neq q \rightarrow p R_{\text{scale}} q].\lambda w : \exists q \in Cq \neq p \wedge q(w) = 0, p(w) = 1$
Scalar presupposition: There is an unspecified scalar relation between p and q (where p and q do not occupy the same position on the scale, see Greenberg and Orenstein, 2016).

6 The Fourth Parameter: Operations on Covert-Based Alternatives

In this section, we will focus on the association of *even*-like particles with covert-based alternatives (as opposed to standard ones that were reviewed in the previous sections above). We will start by presenting the theoretical background and characterization of covert-based alternatives, provide some examples of particles operating on them (we will mainly focus on Hebrew *bixlal*), and proceed to examine the ability of *daže* and *voobšče* to associate with this type of alternatives.

6.1 Even-Like Particles Operating on Covert-Based Alternatives

So far, we have been reviewing the alternatives modified by *even* in the light of the theory of “alternative semantics” and standard “Roothian” alternatives. According to Rooth (1985), besides ordinary semantic value derived compositionally, there exists an additional semantic value of expressions, called “the focus semantic value”. What is relevant for us is that the propositions in the focus semantic value of the sentence are derived from the ordinary semantic value by means of substituting the focused element in the sentence with a different element of the same semantic type. Crucially, in Rooth’s theory, the substitution of the overt element takes place, i.e., overt focused elements, which are usually prosodically accented, are substituted by other overt elements. It is these “overt-based” alternatives that focus sensitive particles (like *only*, *also*, and *even*) have been usually described to operate on.

Greenberg (2014, 2016b, 2018) however, observes that, in addition to the standard “Roothian” alternatives described above, focus sensitive particles may also operate on covert-based alternatives. This type of alternatives does not rely on the variation along overt elements. Rather, their difference from the ordinary semantic value is due to variation in a covert argument/variable in the prejacent of the particle, whereas all overt content is the same both in p and q . In particular, such a covert variable may be represented by (i) the standard variable or the comparison class argument in the positive form of gradable constructions, or (ii) the domain-variable in quantified structures.

Cross-linguistic research indicated the existence of several particles and focus-sensitive expressions, which appear to operate on such covert-based alternatives; among them: Hebrew *bixlal* (Greenberg and Khrizman, 2012a, 2012b; Greenberg 2014, 2016b), the Hebrew *only*-like *be-sax ha-kol* and *stam* (Greenberg, 2018; Greenberg and Orenstein, 2016), the covert variant of *even* involved in NPIs like *give a damn* (Chierchia, 2013), and Hindi *ek bhii* (Lahiri, 1998).

To exemplify such alternatives, as well as the particles that can operate on them, we will cite the analysis proposed by Greenberg (2016b) for the association of Hebrew *bixlal* with covert-based alternatives. Greenberg and Khrizman (2012a, 2012b), Greenberg (2014), and Greenberg (2016b) show that *bixlal*, despite being usually translated as *very*, *in general*, or *at all*, may also demonstrate scalar *even*-like readings in sentences like (71).

- (71) Context: Discussing Danny's and Yossi's great success in the competition
dani zaxa be-medalyat kesef, ve- yosi afilu /bixlal
 Danny won.3SG.M in-medal silver and Yossi AFILU/BIXLAL
zaxa be-[zahav]_F/#[bronza]_F.
 won.3SG.M in-gold / bronze
 'Danny won a silver medal, and Yossi even won [gold]_F/#[bronze]_F.'

In (71) above, the prejacent of *bixlal* is *p* 'Yossi won a gold medal' and *bixlal* shows that it is stronger than *q* 'Yossi won a silver medal'. Note that, similarly to English *even* or standard Hebrew *even*-like particle *afilu*, *bixlal* may not appear with alternative *p*, which is weaker than *q*, therefore the infelicity of 'Yossi even won a bronze medal'. Crucially, in this example, *bixlal* still operates on traditional "overt-based" alternatives (derived by substituting e.g., the overt *zahav* ('gold' with *kesef* 'silver').

6.2 Association of *daže* and *voobšče* with Covert-Based Alternatives

We make a claim that *daže* cannot operate on "covert-based" (both degree-based and domain-based) alternatives, whereas *voobšče* shows a similar distribution of *bixlal*, as described in Greenberg (2016b), and may operate on covert-based alternatives in all of the contexts characteristic of the use of *bixlal* in Greenberg (2016b).

For example, *voobšče*, but not *daže*, may appear with one-dimensional adjectives operating on covert degree-based alternatives, as in (72).

- (72) *džon vysokiy. bil voobšče /#daže vysokiy.*
 John tall Bill VOOBŠČE DAŽE tall
 'John is tall. Bill is very tall/taller.' (Tall *even* relative to a higher standard)
- (73) A: *džon umnyj student. u nego otličnye ocenki po matematike.*
 John smart student at him amazing grades at math
 'John is smart. He has excellent grades in math.'
- B: *bil voobšče /#daže umnyj paren', on xoroš vo vsem.*
 Bill VOOBŠČE DAŽE smart guy he good at everything
 'Bill is *even* very smart. He excels in all fields.'

Voobšče appears with covert-based alternatives in contexts involving multi-dimensional adjectives, where *daže* is banned.

- (74) A: *y nas net kartoshki.*
 at we NEG potatoes
 'We don't have potatoes.'
- B: *mozhet est xot malenkaya?*
 maybe be.3SG.F.PRES at.least small
 'Maybe you have a small one at least?'
- A: *net, u nas #daže /voobšče net kartoshki.*
 NEG at we DAŽE VOOBŠČE NEG potatoes
 'No, I don't have potatoes at all.' (not even in a wider domain)

Above we have made claims about the extreme flexibility of *voobšče* with respect to the relative strength of the prejacent on the scale, and came to the conclusion that it may appear with both the weakest and the strongest alternative, both in matrix sentences and in DE environments. Therefore, in order to provide a thorough and complete analysis of *voobšče* with covert-based alternatives, we will try to integrate the two parameters, namely, the relative strength of the prejacent on the scale, and the availability of operations on covert-based alternatives. We will examine whether *voobšče* can appear with both weak and strong *p*, when *p* is a covert-based alternative.

In the case of *bixlal*, Greenberg (2016b) shows that it follows the pattern of English *even* in terms of the relative strength of the prejacent and may only appear with the strongest alternative. As for *voobšče*, based on its extreme flexibility on the level of relative strength of the prejacent, we can predict that, in operating on covert-based alternatives, it may appear with both the weakest and the strongest alternative. This prediction is, in fact, borne out. In examples (72)-(74) above, we showed that *voobšče* may operate on strong covert-based alternatives. The examples below show that *voobšče* may also appear with weak covert-based alternatives, see (75)-(76).

(75) A: *džon ocen visokij. a ego brat bil?*
John very tall but his brother Bill
'John is really tall. What about his brother Bill?'

B: *nu, bil voobšče visokij, no ne nastolko kak džon.*
well Bill VOOBŠČE tall but NEG as.much as John
'Well, Bill is quite tall, but not as tall as John.'

Possible paraphrase: Bill is (only) tall and is not taller than John.

(E.g., he is tall, but relative to a lower standard.)

(76) A: *džon xoroš vo vsem: fizike, algebre, geografii ... a bil?*
John good at all physics algebra geography but Bill
'John is good at everything: physics, algebra, geography... What about Bill?'

B: *bil voobšče xoroš, no ne tak kak džon*
Bill VOOBŠČE good but such as John
'Bill is VOOBŠČE good, but not as good as John.'

The results of the analysis of the relative strength of the prejacent of *voobšče*, which has standard overt-based alternatives and occurs in DE negative contexts reported in §5 above showed that, in the presence of clausemate negation, *voobšče* may appear with both the weak and the strong alternatives. This flexibility of *voobšče* is also observed in its use in the presence of clausemate negation with covert-based alternatives. Both of the sentences in (77)-(78) below show the use of *voobšče* operating on covert-based alternatives in the presence of clausemate negation: Example (77) illustrates operation on the strong alternative, and example (78) – operation on the weak alternative. Crucially, both examples are felicitous.

(77) A: *ja somnevajus', stoit li brat' džona v komandu; on ne-vysokij.*
I doubt.1SG.PST worth if take.INF John to team he NEG-tall
čto nasčet bila?
what about Bill
'I have doubts about taking John to the sports team; he is not tall. What about Bill?'

B: *bil ešče xudšij kandidat, on voobšče ne-vysokij.*

Bill more worse candidate he VOOBŠČE NEG-tall
 ‘Bill is an even worse candidate, he is VOOBŠČE not tall.’

Possible paraphrase: John is a bad candidate; Bill is an (even) worse one.

(78) A: *mne nužno pomoč’ snjat’ knigu s verxnej polki, no*
 I.DAT necessary help take.INF book from top shelf but
džon ne možet mne pomoč’; on ne-vysokij.
 John NEG can.3SG.M.PRES me help.INF he NEG-tall
 ‘I need help fetching a book from a top shelf, but John cannot help me; he is not tall.’

B: *poprosi bila. on voobšče ne-vysokij, no on dostatočno vysok*
 ask Bill he VOOBŠČE NEG-tall but he enough tall
čtoby pomoč’ tebe.
 to help.INF you

‘You can ask Bill. He is VOOBŠČE not tall, but he is tall enough to help you.’

Possible paraphrase: John is not tall (short); Bill is not as short.

This section showed that only *voobšče*, and not *daže*, may operate on covert-based alternatives. In addition, in its association with covert-based alternatives, *voobšče* once again demonstrates its extreme flexibility with respect to the “relative strength of the prejacent” parameter. Not only is it more flexible than English *even*, Hebrew *afilu*, and Russian *daže*, none of which may operate on covert-based alternatives; it is also more flexible than Hebrew *bixlal*, which, similarly to *voobšče*, operates on covert-based alternatives, but only on those where *p* is stronger than *q*.

7 Summary and Directions for Future Research

We started our research with a piece of a puzzle: Both *daže* and *voobšče* showed properties of focus-sensitive *even*-like particles and could yield the same *even*-like effect. However, we also observed that the two particles demonstrate a number of crucial differences in terms of their distributional and semantic properties.

Our study set out with the aim of defining the exact range of shared and different properties of *daže* and *voobšče*. The method we have used to analyze the two particles was parametric comparison, based on the idea that *even*-like particles across languages share core meaning, but vary due to several parameters.

Our results showed that both *daže* and *voobšče* are indeed scalar particles, but the two differ with respect to several parameters of variation: additivity, context dependency, relative strength of the prejacent, and operations on covert-based alternatives. In most cases, *voobšče* demonstrated more flexibility than both English *even* and Russian *daže*.

The results of the study are summarized in Table 2 below.

	ENGLISH <i>EVEN</i>	RUSSIAN <i>DAŽE</i>	RUSSIAN <i>VOOBŠČE</i>
ADDITIVITY	unspecified	additive	exclusive
CONTEXT-DEPENDENCY	low level	high level	low level
RELATIVE STRENGTH OF THE PREJACENT	strong in UE/weak in surface negation	strong in UE/weak in surface negation	weak or strong in UE/weak or strong in surface negation
OPERATIONS ON COVERT-BASED ALTERNATIVES	overt-based	overt-based	overt-based

Table 2. Summary of the parametric analysis of *daže* and *voobščē*

The comparison of *daže* and *voobščē* carried out in the present study is novel and important, not only as a step towards a fuller understanding of the scalar particles system in Russian, but also in providing the potential for wider contributions for cross-linguistic research of parametric variation of e.g. *even*-like particles and, more generally, of scalar particles.

The challenging, *even*-like/*only*-like flexibility of *voobščē*, as well as its “exclusivity”, is particularly interesting, and can contribute to the development of a unified semantics for scalar-particles languages (cf. Grubic, 2015; Zimmermann, 2015; Greenberg and Orenstein, 2016; Liu, 2016) as well as the research on the scalarity-polarity interface.

An interesting direction for further research is the operation of *voobščē* on covert speech-act operators. Iatridou and Tatevosov (2016) observed that *voobščē*, unlike *daže*, can appear with discursive “our *even*” function, which they analyze as an *even*-like operation on questions, indicating that the prejacent question is the least likely to be asked.

- (79) A: *davaj vstretimsja použinat’ u oleany.*
 let’s meet.INF eat.INF-dinner at Oleana
 ‘Let’s meet at Oleana for dinner.
- B: *eto voobščē/#daže gde?*
 this voobščē/#daže where
 ‘Where is that even?’

This ability of *voobščē* to operate on questions with “discursive” function potentially supports a direction where it operates on covert speech-act operators (cf. Greenberg and Orenstein, 2016, and Wiegand, 2018 on English *just*).

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