Polarity subjunctive in German and Russian

Abstract Varied evidence suggests that across a number of European languages, subjunctives have a use as NPIs, not conflatable with 'intensional' or 'irrealis' uses. Based on this evidence as it relates to German and to Russian, a case is built that there is indeed a distinct polarity sensitive subjunctive in both of these languages. To explain the licensing conditions of these items, they are given an analysis in analogy to that of familiar NPIs like any or ever in terms of activated subdomain alternatives and a covert even operator associating with them, the novel feature being that the domains do not consist of individuals or times but worlds.

Keywords: subjunctive mood, negative polarity

1 Introduction

The central claim of this paper is that there is a distinct use of a subjunctive mood as a negative polarity item (an NPI) in at least two languages, German and Russian. I present a series of arguments for this and, building on the analyses of the NPI any proposed by Chierchia (2013) and, somewhat differently, Crnič (2019), propose an analysis which explains the polarity sensitivity of these 'polarity subjunctives': they activate 'subdomain alternatives' to their argument propositions.

The Russian sentence (1), essentially reproducible in many languages, such as French and German, may serve to give a sense of the facts that will be at issue.

(1) Ne vižu ženščiny, kotoraja stojala by nedaleko ot vyhoda.¹
   not see woman.gen who stood subj near from exit
   'I don’t see any woman standing next to the exit.'

Here the subjunctive particle by in the relative clause depends on the negation ne in the matrix: The corresponding sentence without it, (2-a) (where the accusative replaces the ‘genitive of negation’ (see, e.g., Padučeva 2006)), is not felicitious.

(2) a. #Vižu ženščinu, kotoraja stojala by nedaleko ot vyhoda.
    see woman.acc who stood subj near from exit
    'I don’t see a/the woman standing next to the exit.'

b. Vižu ženščinu, kotoraja stoit nedaleko ot vyhoda.
   see woman.acc who stands subj near from exit
   'I see a/the woman standing next to the exit.'

¹ Cited by Dobrušina (2010: 192), Dobrušina (2016: 242) and attributed to Elena Padučeva
The infelicity of (2-a) will be argued to result from the fact that *by* is in a context which is not downward entailing (nor in any way intensional), ultimately, the fact that it causes a covert *even* to trigger a necessarily false presupposition.

Concerning Russian, the view that a polarity sensitive use of the subjunctive behaves like and should be thought of as an NPI is not entirely new: Bondarenko (2021) relates the distribution of certain classes of subjunctive complement clauses to downward entailing environments and addresses their licensing as NPI licensing. I will be returning to Bondarenko’s work in sections 2.4, 3.3 and 4.2.

In section 2, I present the evidence that there are separate NPI subjunctives to be taken into account in German and in Russian, and survey their distribution, in terms of (non-)locality and ‘degrees of negativity’ (de Swart 2010: 16) and with a view to scalar implicatures and presuppositions which may interfere with them. Section 3 reviews two approaches to cases like (1) which both seek to unify them with ‘intensional’ cases; one, I will argue, is too weak and overgenerates, the other is too strong and undergenerates. Then, the hypothesis developed by Bondarenko (2021) that the Russian subjunctive has a life as a ‘weak’ NPI is reviewed.

In section 4, I develop an analysis of NPI subjunctives which is patterned on the analyses of NPI indefinites proposed by Chierchia (2013) and Crnić (2019) and which explains their dependence on downward entailing contexts at various levels (implicatures, presuppositions, at-issue content): whereas NPI indefinites serve to activate alternatives to domains of individuals, NPI subjunctives serve to activate alternatives to domains of worlds. I provide a sample derivation of a simple case to show how the presupposition triggered by the covert *even*, but ultimately set off by the subjunctive, is violated in a positive context but satisfied in a negative one. The same logic will apply to all the cases shown in section 2, predicting that the NPI subjunctives are restricted to downward entailing environments, with German and Russian coming slightly apart in regard to the scope of this restriction.

Section 5 sums up the account and briefly addresses the issues it has left open, about how NPI subjunctives relate to ‘other’ subjunctives and how German and Russian NPI subjunctives may relate to polarity subjunctives in other languages.

2 Polarity sensitive subjunctives: The evidence

In this section, I will provide various kinds of evidence in support of the idea that certain uses of subjunctives should be thought of in terms of polarity sensitivity: Positive and negative data, convergent or divergent for German and Russian, in contexts that vary in locality and negativity, data indicating that subjunctives can be sensitive to effects from presuppositions, and evidence that a polarity sensitive interpretation can ‘mask’ a counterfactual interpretation and cause ambiguities.
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2.1 Some preliminary evidence

It will be useful to start by anchoring the phenomenon in a context of European languages, observing, first, a parallel pattern across a palette of them and noting, second, that in contrast to ‘irrealis’ or ‘intensional’ variants, ‘this’ subjunctive has no counterpart (such as a fake past or a modal) in languages without subjunctives.

2.1.1 Across European languages

A sizable number of scholars set a ‘polarity subjunctive’ apart from subjunctives that are, in one way or other, associated with intensionality; with regard to Greek, Giannakidou (1998), with regard to Romance, Stowell (1993), Portner (1997) and Quer (1998), and with regard to Slavic languages, Sočanac (2017), to mention some. In many of the examples these scholars provide, like the Bulgarian sentence (3), the subjunctive occurs in the complement clause of a propositional attitude verb under a negation which cannot be removed if the sentence is to be acceptable.

(3) #(Ne) vjarvam, da ima teč v rezervoara.²
    not believe.1sg subj has leak in reservoir
    ‘I don’t believe there’s a leak in the tank.’

However, another kind of data is still better suited as evidence that subjunctives can be sensitive to negative polarity in German and Russian, because it is more easily reproducible in these two languages (a German version of (3) will not, and a Russian version will not be likely to, feature a subjunctive in the embedded clause): Relative clauses in negative contexts. This is the kind of data that (1) exemplifies, and the following six examples instantiate this paradigm in six more languages.

(4) Il n’y avait personne qui puise informer les autres.³ (French)
    it neg-there had noone who can.subj inform the others.
    ‘There wasn’t anyone there who could inform the others.’

(5) Ich besitze gar nichts, was wertvoll wäre.⁴ (German)
    I own part nothing what valuable was.subj
    ‘I own nothing of value at all.’

(6) Non ho visto un uomo che fosse ricco.⁵ (Italian)
    not have.1sg seen a man that was.subj rich

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² Cited by Smirnova (2011: 253)
⁴ Hueber Wörterbuch Deutsch als Fremdsprache, entry besitzen ‘own’
⁵ Cited by Panzeri (2008: 60)
‘I have not seen any man who was rich.’

(7) În România nu există oameni care să creadă în el.⁶ (Romanian)

In Romania not exist people that subj believe in him

‘In Romania there are no people who believe in him.’

(8) No veía a nadie que conociera.⁷ (Spanish)

not saw.1/3sg acc nobody that knew.1/3sg.subj

‘I didn’t see anybody that I knew.’

(9) Dhen ídha énan ándra pu na forá kákino kapélo.⁸ (Greek)

not saw.1sg a man that subj wear.3sg red cap

‘I didn’t see a man wearing a red hat.’

Note that there is in these cases – save for the Spanish case (8), where indicative is not an option – a next-to-free alternation between subjunctive (whether it is a verbal inflection or, as in Slavic, Romanian, and Greek, a particle) and indicative. Next-to-free – because the subjunctive may disambiguate in favor of a non-specific or narrow-scope reading of the relative clause NP relative to the negative context, in a similar way as familiar NPIs have been shown to mark narrow scope relative to their licensing contexts (see Barker 2018); this will be discussed in section 2.4.2.

2.1.2 No ersatz in subjunctiveless languages

Another notable fact about the subjunctives in the contexts under consideration is that they do not correspond to any surrogate expression in languages which, like English or Mainland Scandinavian, lack a subjunctive/indicative mood distinction: there is no tense transposition as in counterfactuals (‘fake past’, Iatridou 2000) or any futurate modal as under volitionals (non-local ‘modal concord’, Zeijlstra 2007).

The Norwegian sentence corresponding to the Polish counterfactual (10), (11), shows the past perfect in the matrix and in the conditional clause ‘instead of’ the subjunctive particle by in the matrix and as a clitic to the complementizer gdy.

(10) Fajnie bylo, gdyby to była prawda, ale to przecież niemożliwe.⁹

fine subj was c-subj it was true but it yet impossible

‘It would be nice if it were true, but it’s still impossible.’

⁶ Cited by Farkas (1985: 128)
⁷ Cited by Fabregas (2014: 57)
⁸ Cited by Giannakidou (2011)
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(11) Det hadde vært fint hvis det hadde vært sant, men det er umulig.
    it had been fine if it had been true but it is impossible

Further, the closest Swedish version of the Czech sentence (12), (13), displays the
futurate modal skall as a substitute for the subjunctive particle by cliticizing to the
complementizer a under the volitional predicate chtít.

(12) Nový bača v Tatrách chce, aby se neztratila jediná ovce.¹⁰
    new shepherd in Tatras wants C-SUBJ SE NEG-lost single sheep
    ‘The new shepherd in the Tatra wants no sheep to go missing.’

(13) Nya fårarherden vill att inte ett enda får skall komma bort.
    new shepherd.DEF wants that not a single sheep shall come away

However, Norwegian or Swedish translations of (1) and (3)–(9) will not exhibit any
fake past or futurate modal to compensate for the lack of a resource to match the
subjunctive mood marking in those sentences. Thus in a Swedish version of (1), the
relative clause will show the tense to be expected on the basis of the time reference
in evidence, here the present, and also no modal auxiliary:

(14) Jag ser ingen kvinna som står nära utgången.
    I see no woman that stands near exit.DEF
    ‘I don’t see any woman standing next to the exit.’

This accords well with the observations by Fabricius-Hansen et al. (2018: 64) and
Dobrušina (2010: 193) that subjunctive relative clauses as in (1) and (5) alternate
with indicative clauses without a consistent difference in meaning (see, however,
section 2.4 for certain disambiguation effects and a discussion of their significance).
If the subjunctive were systematically to add meaning here, one would expect it to
require a substitute in translations into a subjunctive-less language.

2.2 Zooming in on German and Russian: Common contexts

Let us adopt a working definition of a polarity sensitive subjunctive – a PSS – as a
subjunctive that is possible if and only if it is in a downward-entailing context; a
context which is weakened if the local clause of the subjunctive is strengthened.
This is patterned on the NPI licensing condition stated by Gajewski (2005: 33), and
the remainder of section 2 brings a succession of arguments to support the claim
that in fact, German and Russian have subjunctives that conform to the definition
and thus call for a treatment along similar lines as other NPIs.

¹⁰ Cited by Dočekal & Dotlačil (2016: 97)
The present subsection maps the positive data that German and Russian share – the range of contexts that license a subjunctive because they entail downward, in German or Russian, over and above the relative clauses illustrated in (1) and (5). In 2.3, I turn to one way in which the Russian PSS is evidently more tolerant than the German PSS, and in 2.4, I address a family of negative data, common, again, to both languages: Non-downward-entailing presuppositions anti-licensing the PSS. Throughout sections 2.2–2.4, parallels and divergences between the two PSSs and some familiar NPIs are taken note of. In 2.5, finally, I observe that a subjunctive can be ambiguous between a polarity sensitive use and a counterfactual interpretation, as another piece of evidence that the PSS is a variant of its own.

The above working definition leaves the notion of a downward-entailing (DE) context underspecified in a number of regards – is it local or non-local, or global; is it just DE or anti-additive, or only DE on the assumption that agents are ideally rational; is it or isn’t it DE if scalar implicatures or presuppositions are factored in. We will be able to make the wording more precise as we go along.

First, however, a note on the morphosyntax of the subjunctive is in order. In German, it surfaces as the *umlaut* stem of an auxiliary or main verb, in Russian, as the particle *by*, which can cliticize to the ‘that’ complementizer čto. This marking is accompanied by past tense: in Russian, past verb forms (or infinitives, see (19)) are indiscriminately used for past or present reference, in German, past forms are used for present reference, past perfect forms are used for past reference (thus it is here the so-called ‘second subjunctive’ paradigm which is used as a PSS).

2.2.1 *Negation upstairs, subjunctive downstairs*

In German and Russian alike, the PSS can occur in a complement clause in a negative matrix clause context. (15) and (16) are clear cases in point.

(15) Nicht, dass es jetzt noch einen Unterschied machen würde.\(^{11}\)
not that it now yet a difference make would.subj
‘Not that it matters anymore.’

(16) Ne to, čtoby sejčas ěto imelo kakoe-to značenie.\(^{12}\)
not it C-subj now that had some meaning
‘Not that it matters anymore.’

The negation is crucial in the sense that any similar sentence without it will force a counterfactual or, in German, a reportative interpretation of the subjunctive; the

\(^{11}\) Source: https://www.motor-talk.de/forum/probleme-schwaechen-am-x1-t5146995.html?page=2

\(^{12}\) Source: https://www.litres.ru/galina-mironova-13186093/odnazhdv-v-ofise/chitat-onlayn/page-5/
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subordinate clause in the Russian sentence (17), say, can only be understood as a concealed counterfactual conditional, where the ‘if’ clause is missing.

(17) Ėto pravda, čto ēto imelo by ogromnoe značenie.\(^{13}\)
    that true that that had subj great meaning
    ‘It’s true that that would matter / have mattered a lot.’

Moreover, the relation between the adverb of negation and the subjunctive must be non-local – the two cannot occur in the same clause. (18), say, does have an interpretation, but only as a concealed counterfactual conditional, where the ‘if’ clause is missing, or as a concealed speech report, where the matrix is missing. A corresponding Russian sentence can only have a counterfactual interpretation.

(18) Es würde jetzt keinen Unterschied mehr machen.
    it would subj now no difference more make
    ‘It wouldn’t matter anymore.’/’It didn’t matter anymore (they said).’

Note that the negative element in the matrix clause can be implicit, for example, in words meaning ‘without’ or ‘instead’ (Russian bez, vmesto; German ohne, statt). In this connection, note, too, that in Russian, the PSS clause is not necessarily finite; in (19), the C-cum-subjunctive čtoby introduces an infinitive subordinate clause.

(19) Ona vzjala sebj v ruki, vmesto togo čtoby plkat’ celymi dnjami.\(^{14}\)
    she took self in hand instead that C-subj cry whole days
    ‘She pulled herself together instead of crying all day.’

Recall the relative clause constructions (1) and (5); there, too, the key DE context spans a clause boundary. It may be that many of the relevant relative clauses are ‘pseudo-relative’ clauses (McCawley 1981), in final position in existential sentences. Collins & Postal (2014: 96) argue that NPIs can be raised from such relative clauses to become clausemates with their upstairs licensors. But not all the relevant cases involve pseudo-relative clauses; the German (20), say, is a different sort of case.

(20) ... ist ... noch keiner gestorben den ich besonders kennen würde.\(^{15}\)
    ... is ... still noone died whom I especially know would subj
    ‘So far, nobody has died that I have known well.’

\(^{13}\) Constructed; judgment validated by Solomeja Bagautdinova
\(^{14}\) Source: http://www.sega.la-fa.ru/ru8883.html
\(^{15}\) Source: https://forum.worldofplayers.de/forum/threads/94094
To be sure, the relative clause DP will not be definite, but as we will see in section 2.4, that follows from a sensitivity to positive presuppositions; definiteness will have a clear effect of this kind, at least in German.

That the negative item and the subjunctive cannot be clausemates is noted by Portner (2018: 111) in his discussion of Greek and Romance subjunctives licensed by negation — “…negation cannot trigger the subjunctive in its own clause.” He suggests that negation may not be in the right structural position to do so, and it seems, indeed, reasonable to assume that the mood is merged in a higher position in the clause than negative elements can be. I will return to this in section 4.2.

As noted above, the working definition of a PSS left the notion of a downward entailing (DE) context underspecified in a number of regards, not least structurally. But now, we can specify some more: To the extent that negative items create the DE context, this context must be non-local, containing the local clause of the PSS. As more facts are taken into account, the definition can be narrowed further.

### 2.2.2 Predicates between negation and ‘that’ clause

Next, we may note that both in German and in Russian, a variety of predicates can stand between a negation and a ‘that’ clause with a PSS: Impersonal predicates meaning ’come to pass’, as in (21)/(22), personal predicates meaning ‘experience’, perception verbs, as in (23)/(24), and more.

(21) Mir ist es … noch nie passiert, dass sie nicht gewirkt hätte. 

‘To this day, my pill has never malfunctioned.’

(22) So mnoj ne slučalos’, čtoby sny čto-to predugadyvali.

‘It has never happened to me that a dream predicted anything.’

(23) Ich habe noch nie gehört, dass jemand daran gestorben wäre, ...

‘I never heard of anyone dying from it, . . .’

(24) Lično ja nikogda ne slyšal, čtoby kto-nibud’ umer . . . ot . . .

‘Personally, I never heard of anyone dying from . . .’

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16 Source: https://www.gutefrage.net/frage/pille-20-min-zu-spae-genommen
17 Source: https://www.sv-nn.ru/forum/theme/10968
18 Source: https://www.gruene-smoothies.info/gruene-smoothies-rezepte/
19 Source: http://referat-news.ru/Ehnciklopediya-polovoyj-zhizni.html
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The wider field includes clause embedding predicates meaning ‘indicate’, ‘mean’ (heissen, značit’), ‘there is (no) sign’, ‘there is (no) indication’ (Hinweis, ukazanie). All these predicates create upward entailing contexts for the clauses they embed, hence negative elements over them create DE contexts for the same clauses.

But not all predicates that license known NPIs like German jemals or Russian kogda-libo (‘ever’) when negated also license the PSS when negated. It was noted in section 2.1.1 that the Bulgarian sentence (3), with a belief verb under negation, is not representative of the use of the polarity subjunctive in German or Russian. In fact, polarity subjunctives in clauses under verbs of thought or verbs of speech are scarcely attested in German and relatively rare in present-day Russian unless the verb is in the first person singular present form (see Dobrušina 2016: 292ff.). Apparent cases of this sort, such as (25) and (26), typically have a counterfactual, ‘would’ interpretation where a more or less definite conditional antecedent can be inferred from the context and the negation (implicit in (26)) is not essential.

(25) Dr. Höngesberg glaubt nicht, dass das Landratsamt ein Veto eingelegt hätte. 20
Dr. Höngesberg thinks not that the Landratsamt a veto entered had.SBJ
‘Höngesberg doesn’t think the district authority would have vetoed the plan.’

(26) Demid Momot ocenivaet obšcie zatraty investora ν 100-120 mln dollarov i
Demid Momot estimates total costs investor’s to 100-120 m dollars and
somnevaetsja, čtoby na takoe soglasilas’ odna firma. 21
doubts that.SBJ on such agreed lone firm
‘Damid Momot doubts that one company would agree to anything like that.’

At first sight, this may seem to challenge a view of the PSS as an NPI; after all, known NPIs like jemals or kogda-libo (‘ever’) are unproblematic in these contexts. But note that the contexts created by negation, a personal subject and a predicate like glauben, dumat’, verit’ ‘believe’, ‘think’, uverennyj ‘sure’, or (without negation) bezweifeln or somnevat’sja ‘doubt’ are not in fact downward entailing (DE) in the strict sense but only on the assumption that the subject is an ideally rational agent. The reason is that only on this assumption can positive belief contexts count as upward entailing (UE): that ‘a believes p’ entails ‘a believes q’ whenever p entails q rests on the premiss that a is ‘logically omniscient’. 22 23

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20 Source: https://www.obermain.de/lokal/obermain/art2414,875381
21 Source: https://spb.aif.ru/archive/1797575
22 The textbook semantics for verbs like believe does embody this premiss, but Hintikka (1962: 36f.), Partee (1973), Soames (1987) and others have accentuated that it is an unrealistic idealization.
23 Note that the negated attitude contexts are strictly non-DE regardless of whether or not they have a ‘neg-raising’ reading, as neither ‘a does not believe that…’ in the sense of ‘a believes that not…’ (neg-raising reading) nor, say, ‘a is not sure that…’ (no neg-raising reading) is strictly DE.
Moltmann (1994) discusses the fact that many NPIs are felicitous in contexts like ‘a does not believe … ’ even though they are not stricto sensu DE and suggests that this is evidence that a conception of belief as UE can be semantically relevant. It might now be that such a loose conception is relevant for many but not all NPIs and that the German or, to a lesser degree, Russian PSS is more sensitive than most to the subjective element present in personal attitude ascriptions.

It is in any case interesting to note that once this subjective element is removed, as in the impersonal constructions (27) and (28), a PSS becomes unproblematic:

(27) Es gibt keinen Grund zu glauben, dass er je der Ideologie verfallen wäre.24

‘There is no reason to believe that he ever succumbed to the ideology.’

(28) Somnitel’no, čtoby škol’niki massovo hoteli stat’ svarščikami …

doubtful that subj students massively wanted become welders …

‘It is doubtful that hordes of students will queue up to become welders …’

The difference between somebody believing something and there being reason to believe it, or that between somebody doubting something and it being doubtful, is evidently significant. The contexts in (27) and (28) are arguably DE not just modulo a rationality proviso about the beliefs of a person but unconditionally, because the proviso is, as it were, built into the impersonal constructions.

2.2.3 DE contexts one or more storeys high

In every case so far, the non-local DE context licensing the PSS has coincided with the global context, hence the whole sentence has been DE for the PSS clause. This is no necessity, though; the global context may not be DE for the PSS clause as long as an intermediate context is; typically, a non-local but non-global clause as in the Russian sentence (29).

(29) Vrjad li est’ ženščina, kotoroj ne prihodilos’ ispytyvat’, čtoby k

hardly if is woman whom not came-refl experience that-subj to

her accosted man

‘Hardly a woman has not experienced being harassed by a man.’

26 Constructed; judgment validated by Sergej Minor and Natalia Mitrofanova
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Globally, this sentence is in fact upward entailing with respect to the PSS clause, but that does not matter. The intermediate DE context can even be a phrase within the matrix clause, as in the German sentence (30).

(30) Nur sehr wenige haben nie etwas getan, was sie nachher bereut hätten.27

‘Very few have never done anything they regretted afterwards.’

What this shows is that no full clause needs to be a DE context for the PSS clause, a part of a clause can suffice.

Discussing the French NPI quoi que ce soit, Homer (2021: 10f.) considers cases which are structurally similar to (30) and identifies the part which is crucially DE as the polarity phrase. Following this, I will assume the polarity phrase to be the relevant level containing the negative adverb ‘never’ but not the subject DP ‘very few’, which Homer would locate in Spec, TP. The main thing, though, is that there is a relevant level between the two.

There is thus no single context, such as the maximal clause, or any full clause, which needs to be DE for a PSS to be licensed. The emerging picture so far is that the ‘domains’ for a PSS – the term used by Homer (2021) to refer to the contexts one of which needs to be DE with respect to an NPI – include the minimally non-local, immediately superordinate clause and its polarity phrase.

Note, though, that the DE context containing the PSS clause is not necessarily (in) the immediate matrix clause. Provided that the intermediate clause context is strictly UE, it can be two clauses removed, as in (31) and (32):

(31) Nicht, dass es jemanden gäbe, der mir eine Antwort schuldig wäre.28

‘Not that anybody owes me an answer.’

(32) Net ničego, čto ukazyvalo by na to, čtoby Putin ob ětom voobšče dunal.29

‘There is nothing to indicate that Putin is thinking about this at all.’

27 Constructed; judgment validated by Anneliese Pitz, Heinz-Peter Prell and Alexandra Spalek
28 Source: http://www.wolfgang-louis.de/Erzählungen.html
29 Source: https://republic.ru/posts/email/95083
There is a possible confound here, in that there is a PSS in the matrix already, so that the lower one could be described in concord or harmony terms, as a parallel to sequence-of-tense. But taken at face value, the data are consistent with a tentative characterization of the downward entailing environment that the PSS must be in as some, any, polarity phrase or full clause containing the local PSS clause.

2.3 A German – Russian difference: Sensitivity to SIs

One difference between German and Russian regarding the distribution of the PSS is that the Russian PSS is more tolerant of contexts that are not ‘anti-additive’ but just DE. As we will see, another way to describe the facts is that the PSS is less sensitive in Russian than in German to polarity at the level of scalar implicatures.

2.3.1 Anti-additivity or plain DEness

In all examples so far, there is a context which is not just downward entailing but anti-additive. While a clause is in a downward entailing (DE) context just in case the context entails the result of replacing the clause with a clause that entails it, for the context to be anti-additive (AA), it must in addition be the case that the conjunction of the context and the result of substituting another clause entails the result of substituting the disjunction of the two clauses – schematically:

$$\gamma[\alpha] \land \gamma[\alpha/\beta] \iff \gamma[\alpha/\alpha \lor \beta].$$

For example, ‘it is improbable that…’ – German *es ist unwahrscheinlich, dass...*, Russian *maloverojatno, čto...* – makes a context which is DE but not AA: $\alpha$ and $\beta$ may both be unlikely but that does not make it unlikely that $\alpha$ or $\beta$ is the case.

A natural question is whether the PSS requires an AA context, and it turns out that for German, the answer seems to be yes, whereas for Russian, it is no. As NPIs are traditionally sorted into strong and weak ones according to whether they need an antiadditive or just a DE context, another way to phrase this is that the German PSS would seem to be a relatively strong item.

In the two Russian DE but not AA contexts (33) and (34), with the determiner *malo* ‘few’ and the adverb *redko* ‘rarely’, the subjunctive is unproblematic:

(33) …sovsem malo ljudej, kotorye byli bu dovol’ny svoim telom.\(^{30}\)
    …quite little people who were s\_subj satisfied their body
    ‘Very few people are satisfied with their body.’

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\(^{30}\) Source: http://lenta.te.ua/other/2016/11/30/61390.html
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(34) Redko vstretiš’, čtoby hudožnik narisoval sam sebja vot tak.31 rarely meets-self that-subj artist painted self as such
‘Artists rarely paint themselves this way.’

The German counterparts with subjunctives in the subordinate clauses, like (35),
are only marginally possible, and since corresponding sentences with the negative
determiner keine ‘no’ or adverb nie ‘never’ are felicitous, it would seem as though
the German PSS needs to be in an anti-additive context.

(35) Es gibt nur ganz wenige Menschen, die mit ihrem Körper zufrieden sind.31
it gives only quite few humans who with their body satisfied are / were.subj ‘Very few people are satisfied with their body.’

2.3.2 Scalar implicatures

There is another reading of these facts, however: According to Gajewski (2011),
the need for strong NPIs to be in an anti-additive context and their need to “be
in a downward-entailing context at all levels of meaning – be it truth conditions,
presuppositions or implicatures” (Penka 2020: 649) amount to much the same thing
as far as the descriptive facts go, the latter property being as precise a strong NPI
predictor as the former (for nuances, see Penka 2020 and Homer 2020).

More precisely, the reason that a German subjunctive is dubious in cases like
(35) might have less to do with the DE context not being anti-additive than with a
scalar implicature arising in it, namely, that some, if only very few, are satisfied
with their body, or that it does happen that artists portray themselves like that –
non-DE implicatures, that is. From the point of view of a grammatical theory of
scalar implicatures, being in a DE context at the level of scalar implicatures means
being in a DE context after exhaustification has served to factor scalar implicatures
into the truth conditions. In this perspective, the German PSS would seem to need
a context which stays DE when any such implicature is added to the content.

Even on a grammatical theory, scalar implicatures do not arise automatically
from grammatical sources but are sensitive to features of the utterance situation
(Chierchia et al. 2012: 2317), hence it is to be expected that the facts concerning
NPI anti-licensing are subtle and unstable. This expectation is borne out: Instances
like (36) do occur, but what they all have in common is that a potential non-DE
scalar implicature is not actualized. Thus the author of (36) means that as far as
she knows, no other Leipzig street may be more beloved than Gottschedstraße, in
other words, she does not implicate that some streets are more beloved.

31 Source: https://amak-190.livejournal.com/276819.html
(36)   Es gibt schönere Straßen in Leipzig, aber wenige, die beliebter wären.  
        it gives beautiful-er streets in Leipzig but few who beloved-er were.SUBJ
        ‘There are nicer streets in Leipzig but few more beloved.’

Summing up, it seems evident that scalar implicatures originating in lexemes
meaning ‘few’ or ‘rarely’ (or in words meaning ‘many’ or ‘often’ under negation),
or the like, have a potential to anti-license the German, but not the Russian, PSS.
This potential seems to mirror the way such implicatures can constrain more
familiar German NPIs which Zwarts (1998) a.o. have classified as strong, such as
the adverbs nennenswert (mention-worth) and sonderlich (especially).

2.3.3  Strength and locality

There is a possible issue, though, with viewing the German PSS as a strong NPI: it
would seem to conflict with the common assumption that strong NPI licensing is
clause-bounded (see Lakoff 1969, Giannakidou & Quer 1997: 100f., Collins & Postal
2014: 93ff.); as we have seen, PSS licensing cannot be clause-internal.
That assumption has been disputed, however. Some of the counterevidence is
based on strong NPIs in complement clauses of Neg-raising predicates like believe,
where the meaning is the same as if the negation were not upstairs but downstairs,
so that the licensor is arguably local after all (see, again, Lakoff 1969 and Collins & Postal
But other counterexamples are less easily dismissed. Horn (2014: 190ff.), citing
Lindholm (1969), Baker (1970) and Horn (1978: 148), shows that a superordinate
negation can license strong NPIs even if a neg-raising analysis is unavailable, if
only speakers implicate that they disbelieve the content of the subordinate clause.
(37) is one of his many attested examples: in weeks/months is a known strong NPI,
yet it is licensed by a negation that cannot be analyzed as belonging in its clause.

(37) I can’t say I’ve cooked myself a full meal in weeks, if not months.

More to the point, Obrembalski (2008) notes that German strong NP verbs are not
always licensed within their own clause, despite an unavailability of neg-raising.
And in three of the seven examples of the adverb sonderlich given by the resource
CoDII: Negative Polarity Items in German 33, its licensor is in a superordinate clause.
In fact, co-occurrences of the PSS and this adverb are well attested in corpora, for
instance the Die Zeit (1946–2018) weekly newspaper corpus.34 Here is one case.

33 https://www.english-linguistics.de/codii/
34 DWDS corpora URL: https://www.dwds.de/r
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(38) Es ist nicht so, dass ich ein sonderlich aggressiver Fahrer wäre.35
    it is not so that I am especially aggressive driver
    ‘It’s not the case that I’m a particularly aggressive driver.’

What this shows is that to the extent that the cooccurrence of non-local licensing and strength presents a problem, it is one that must be addressed on a broad front, irrespectively of whether the PSS is in fact treated as an NPI.

2.4 Disruptive presuppositions

One class of contexts form negative evidence for the German and the Russian PSS alike: contexts that are DE as far as the descriptive, at-issue content is concerned but have presuppositions that are not DE. More particularly, regarding German, a range of words which are commonly assumed to introduce such presuppositions and which license ‘weak’ NPIs like jemals ‘ever’ fail to license the PSS – emotive factives, exclusives, and more. Russian may seem to present a more mixed picture; in fact, Bondarenko (2021), who considers Russian polarity subjunctives as NPIs, claims that these items are insensitive to upward-entailing presuppositions, citing contexts created by tol’ko ‘only’.

However, other contexts with DE entailments and UE presuppositions fail to license the Russian PSS; moreover, in contexts where a UE presupposition may or may not come into play, the PSS has a disambiguating effect. My conclusion will be that the Russian as well as the German PSS is sensitive to presuppositions.

2.4.1 Disruption

As shown by Homer (2008), who references English, French and Italian, whereas NPIs labeled as strong are generally affected by upward entailing presuppositions, items classified as weak are only affected by some such presuppositions. In this perspective, the German and the Russian PSS both emerge as strong, though their counterpart in French appears to align with weak items.

The relevant presupposition triggers include ‘emotive factive’ predicates which mean ‘regret’ or ‘sorry’, which are held to create DE contexts in regard to their truth conditions and which do license NPIs like French quoi que ce soit ‘anything’, German jemals ‘ever’, or Russian -libo series adverbs, pronouns and determiners (see Padučeva 2015: 148); in French, such contexts license a subjunctive, in German or Russian, they do not.

(39) a. Ich bedauere, dass ich Herrn Gloor jemals Geld gegeben habe.\(^{36}\)
I regret that I Mr. Gloor ever money given have
‘I regret I’ve ever given money to Mr. Gloor.’ presupposition: I have.

b. #Ich bedauere, dass ich Herrn Gloor jemals Geld gegeben hätte.
I regret that I Mr. Gloor ever money given had.subj

(40) a. Ona sožaleet, čto malo gastrolirovala po Rossii.\(^{37}\)
she regrets that little toured on Russia
‘She regrets she has rarely toured in Russia.’ presupposition: she has.

b. #Ona sožaleet, čtoby malo gastrolirovala po Rossii.\(^{38}\)
she regrets that-subj little toured on Russia

A natural conclusion is that the PSS is sensitive to the factivity of emotive factives in German and in Russian, but not in French; more generally, that while the French PSS (to some extent, but see section 2.4.2 on verbs meaning ‘recall’) only depends on partial, so-called Strawson DE-ness, counting presuppositions out, the German-Russian PSS depends on total DE-ness, counting presuppositions in.

But a split appears between German and Russian once we consider exclusive particles, German nur or Russian tol’ko ‘only’, or adjectives like einzig- in German, as in (41), or edinstvenn- in Russian (‘(the) only’), as in (42):

(41) a. Musik ist die einzige Sprache, die jeder versteht.\(^{39}\)
music is the only language which everyone understands
‘Music is the only language that everyone understands.’

b. #Musik ist die einzige Sprache, die jeder verstehen würde.
music is the only language which every understand would.subj

(42) a. Ona edinstvennaja, kto ponimaet Raskol’nikova, … \(^{40}\)
she only who understands Raskolnikov
‘She is the only one who understands Raskolnikov.’

b. Ona edinstvennaja, kto ponimal by Raskol’nikova, … \(^{41}\)
she only who understood subj Raskolnikov
‘She is the only one who understands Raskolnikov.’

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\(^{36}\) Source: https://www.handelszeitung.ch/politik/daniel-gloor-ich-bedauere-mein-verhalten-625431

\(^{37}\) Source: https://saratov.aif.ru/culture/prima-balerina_v_saratove_ona_sozhaleet_chto_malo_gastrolirovala_po_rossii

\(^{38}\) Judgment validated by Solomeja Bagautdinova

\(^{39}\) Source: https://www.soundskills.de/community/

\(^{40}\) Source: https://vashurok.ru/questions/

\(^{41}\) Judgment validated by Solomeja Bagautdinova and Sergej Minor
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Like the English adjective or particle only, these adjectives are commonly described as introducing a descriptive content which is DE, but also a presupposition which is not – in (41), that music is a language everybody understands, in (42), that she’s one who understands Raskolnikov. The subjunctive is infelicitous in German but felicitous in Russian, which we might, with Bondarenko (2021), take as evidence that the Russian polarity subjunctive is insensitive to presuppositions after all.

There is, however, another possible explanation for this split. The theoretical status of the inference to the prejacent of exclusives has remained controversial; while most theoreticians assume that it is a presupposition, some, like van Rooij & Schulz (2007), building on McCawley (1980: 226f.), argue that it is a conversational implicature. Without going into the argument, we may note that if this latter view is accepted, data like (42) do not show that the Russian PSS is insensitive to non-DE presuppositions, only that it is insensitive to non-DE implicatures, which was already established in section 2.3.

German and Russian are parallel again in relation to another generic context where weak NPIs like jemals and kogda-libo ‘ever’ are licensed but the PSS is not: Restrictors of universal determiners, such as the relative clauses in (43-a) and (44-a).

(43) a. Jeder, der jemals in Bhutan war, war von dem Land beeindruckt.\(^{42}\)
   every who ever in Bhutan was was of the land impressed
   ‘Everyone who has ever been to Bhutan has been impressed.’
   b. #Jeder, der jemals in Bhutan gewesen wäre, war von dem
   every who ever in Bhutan been was was SUBJ of the Land
   country impressed

(44) a. Vse, u kogo deti idut v školu, posadjat derevce.\(^{43}\)
   all at who.GEN children go in school plants.PF tree
   ‘Everyone with children going to school will plant a tree.’
   b. #Vse, u kogo deti šli by v školu, posadjat derevce.\(^{44}\)
   all at who.GEN children went SUBJ in school plants.PF tree

According to the textbook semantics of jeder ‘everyone’ and vse ‘all’, this context is actually anti-additive, but there is also an inference of ‘existential import’, that the restrictor denotes a nonempty set. Thus from (43-a) one can infer that some have been to Bhutan, and from (44-a) one can infer that some have schoolchildren.

\(^{42}\) Source: http://www.sfs.uni-tuebingen.de/~gjaeger/lehre/ss07/semantikPragmatik/Pragmatik_05_SkalareImplikaturen.pdf
\(^{43}\) Source: https://obozrenie-chita.ru/article/ukrashenie-i-blagoustrojstvo-dvora
\(^{44}\) Judgment validated by Solomeja Bagautdinova and Sergej Minor
While the status of this non-at-issue inference may not be clear (see Geurts 2007), there are good reasons to treat it as a presupposition (see, e.g., Morzycki 2021: 88), and then, its effect on PSS licensing tunes in with what we have seen in connection with emotive factives above.

Finally, the existence presupposition associated with definiteness can also be an anti-licensor. This is more pronounced in German than in Russian. Specifically, the German PSS is not felicitous in relative clauses in definite DPs under negation. (45) is a case in point: the relative clause is part of a partitive construction with a demonstrative pronoun ‘that’. The subjunctive version (45-b) is infelicitous.

(45) a. Hier ist noch nichts von dem geschehen, was uns zugesagt wurde.45

here is yet nothing of that happened what us promised was

‘Nothing of what was promised to us here has been accomplished.’

b. #… nichts von dem geschehen, was uns zugesagt worden wäre.

… nothing of that happened what us promised been was.SUBJ

(46) provides a subjunctive control case where most factors are held equal but the DP containing the relative clause is indefinite, thus while (45-a) presupposes that something was promised, (46) does not presuppose that anything is beyond repair.

(46) . . . , zum Glück ist nichts geschehen, was irreparabel wäre.46

…, to luck is nothing happened what irreparable was.SUBJ

‘Fortunately, nothing has occurred which cannot be remedied.’

2.4.2 Disambiguation

Across many languages, verbs meaning ‘remember’, which are ordinarily factive, can also be meant and read in a non-factive sense and are mostly meant and read in that sense when they are negated and the complement clause contains an NPI. Thus neither the German sentence (47) nor the Russian sentence (48), with jemals / kogda-libo ‘ever’ in the complement clause, presupposes the content of that clause.

(47) Allerdings kann sich keiner der 3500 Besucher auf dem Killesberg erinnern, dass sie jemals hier aufgetreten ist.47

however can refl none the.gen 3500 visitors on the Killesberg recall that she ever here appeared is

‘But nobody in the audience remembers her ever performing there.’

45 Source: http://blog.mp-p.info/2019/09/
47 Source: https://www.stuttgarter-nachrichten.de/inhalt.patti-smith.73a972f6-080b-457d-915c-706d6b59c431.html
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(48) Ona ne pomnit, čto kogda-libo zdes’ byla … rabota s postojannoj oplatoj.48
she not recalls that when-ever here was … work with constant payment

‘She cannot remember ever having a job with a steady income.’

The same effect can be observed in sentences with PSS complement clauses, with or without other NPIs, as in the German sentence (49) or the Russian sentence (50): the factive presupposition is missing. Homer (2008: 432), Hedin (2016: 158ff.), and B-Violette (2019: 19) illustrate the same pattern in French, Greek, and Portuguese.

(49) Beatrix Zurbrügg kann sich aber nicht erinnern, dass Helga einmal länger nicht gekalbt hätte.49
Beatrix Zurbrügg can refl but not recall that Helga once longer not calfed had

‘But Beatrix Zurbrügg cannot recall Helga once not calving for long.’

(50) Papa ne pomnit, čtoby kogda-libo on otkazyvalsja govorit’ s quem-ever he refused speak with
kem-libo.50

‘The Pope cannot recall ever refusing to speak to anyone.’

Here is a case, then, where the PSS does make a difference for the interpretation, disambiguating a verb which is only potentially factive to its non-factive reading.

Another case can be observed in connection with existence presuppositions. Recall the partitive construction in (45), where such a presupposition was seen to anti-license the German PSS. Now a parallel presupposition can in fact arise pragmatically, without overt partitivity, if only the context supports the inference that an indefinite is partitive; then a negative indefinite heading a relative clause, say, ‘nothing which…’, is in reality a negative definite, ‘nothing of that which…’. And when such a presupposition may or may not be implied, the subjunctive can serve to disambiguate in favor of the non-presuppositional reading. This is noted by Zifonun et al. (1997: 1751):

48 Source: https://kazakh-zerno.net/131302-kak-menyaetsya-zhizn-selchan-tadzhikistana-pri-podderzhke-proon-i-rossii/
50 Source: https://fjp2.com/ru/
“In Relativsätzen zu negierten Obersätzen kann der Konjunktiv… distinktiv eingesetzt werden, um anzuzeigen, dass der Relativsatz sich im Negationsskopus befindet.”

‘In relative clauses in negated matrix clauses, the subjunctive can be used in a distinctive way, to indicate that the relative clause is in the scope of the negation.’

That the relative clause is in the scope of a matrix negation means that it does not project past it, in other words, it is not presupposed to denote a nonempty set. To see how this works, consider the German sentence pair (51):

\[(51) \ a. \ Ich \ habe \ nichts \ gefunden, \ was \ ich \ verloren \ habe.\]
\[I \ have \ nothing \ found, \ what \ I \ lost \ have.\]
\[\text{‘I haven’t found anything of what I’ve lost.’ or ‘I haven’t lost anything of what I’ve found.’}\]

\[b. \ Ich \ habe \ nichts \ gefunden, \ was \ ich \ verloren \ hätte.\]
\[I \ have \ nothing \ found, \ what \ I \ lost \ had.\]
\[\text{‘I haven’t lost anything of what I’ve found’, ‘None of the things I’ve found are things that I’d lost.’}\]

In principle, nothing needs to be presupposed here, as either version could simply mean that the intersection between the set of things I’ve found and the set of things I’ve lost is empty, but in practice, one set will be presupposed to be nonempty, and (51-b) is only compatible with the reading where the former set is. More generally, the subjunctive bars a reading where it is common ground that the set denoted by the relative clause is nonempty.

So here is another case where the PSS makes a semantic difference vis-à-vis the indicative. Note that the indicative version is neutral and compatible with both the presuppositional and the non-presuppositional reading – hence the indicative does not seem to be, as English some- is, a positive polarity item, which would be likely to favor the presuppositional reading so as to escape the negative context.

Generally, favoring non-presuppositional readings seems to be the difference the PSS can make; whenever presuppositional readings are not on the table, it is interchangeable with the indicative once it is licensed. This is as is to be expected from grammatical morphemes like subjunctives, lacking a ‘minimizing’ meaning (like the meaning of German im Geringsten ‘in the least’ or Russian hot’ na kaplju ‘even one bit’) and also the option of an ‘emphatic use’; see, e.g., Eckardt (2012) on these two typical attributes of lexical or phrasal NPIs which can add meaning.

51 Constructed, judgment validated by Alexander Pfaff and Alexandra Anna Spalek
2.5 **Polarity and irrealis subjunctives can eclipse each other**

We have seen evidence that subjunctives can behave like negative polarity items. If they are in fact subjected to a treatment as negative polarity items, this will have the prima facie unattractive consequence that in some sense and to some degree, the subjunctive is ambiguous. However, there is evidence of a relatively direct sort that an ambiguity is in fact detectable. This evidence consists in contexts where a subjunctive may signal a counterfactuality, such as in a concealed conditional, but where that interpretation may be masked by an extensional interpretation where the subjunctive only reflects a higher negation.

Consider as a clear case in point the ambiguous German sentence (52):

(52) Es gibt keinen Kämpfer, der dieses Angebot abgelehnt hätte, …

‘No fighter would have declined this offer / has ever declined this offer.’

One of the two readings of (52) is based on a counterfactual conditional with an implicit antecedent: there is no fighter who, were this offer made to them, would have declined it. This reading is independent of the negation in the matrix clause. The other reading coincides with the meaning of the version with the indicative; here, what you see is what you get. This reading of the original sentence with the subjunctive is dependent on the negation in the matrix clause.

(52) could be reproduced in Russian. A slightly different Russian example, (53) (which could, in turn, be reproduced in German), shows the same point:

(53) Ne to čtoby ja skučal’ po nemu, …

‘Not that I miss(ed) him, …’ / ‘Not that I’d (have) miss(ed) him, …’

On one reading, this sentence simply means that the speaker doesn’t mean to say that he misses (or missed) the person – and then -by is a PSS; on the other reading, the sentence is a conditional, and -by is a counterfactual subjunctive: The speaker doesn’t mean to say that he would miss the person if that person were gone.

Summing up, the hypothesis that there is a separate variant of the subjunctive in the languages under consideration, alongside variants which in some way mark counterfactuality or intentionality, receives support from the fact that in a context which is DE and compatible with a counterfactual interpretation, a subjunctive can lead to an ambiguity: it may or it may not induce that counterfactual interpretation.

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52 Source: https://kr.ufc.com/node/69658

53 Source: https://vk.com/@skazki_primus_julia-stranavozmognosti; judgments validated by Margarita Aslanova Kapstad
2.6 Summary

This section has provided a variety of evidence that German and Russian display a variant of subjunctive behaving like an NPI. The facts that have been uncovered about this variant – the PSS – can be summarized thus:

- Some clause or subclausal phrase must be DE for the local clause (2.2).
- In German, this context must be DE even when scalar implicatures are counted in; in Russian, this condition is relaxed (2.3).
- Both in German and in Russian, the relevant context must be DE even when presuppositions are counted in (2.4).

The aim of section 4 is to outline an analysis from which these facts fall out. First, however, I will review two previous approaches to some of the facts as pertaining to Russian, and show that a treatment with higher precision is called for.

3 Polarity sensitive subjunctive: Previous proposals

Descriptively oriented work on the subjunctive in German or Russian like the two monographs by Dobrušina (2016) and Fabricius-Hansen et al. (2018) offers comprehensive characterizations of polarity sensitive uses (see Dobrušina 2016: 242ff. and Fabricius-Hansen et al. 2018: 62ff.). Theoretical approaches are scarce, though; what proposals there are owe to three authors, all of whom treat the Russian PSS, Kagan (2013), Partee (2008), and Bondarenko (2021).

The first two follow opposite strategies. On the one hand, in line with proposed theories about subjunctives in Greek or in Romance, Kagan (2013) concedes that the contexts in question are extensional but postulates a common denominator between these contexts and the intensional, counterfactual or volitional, contexts. On the other hand, Partee (2008) takes the critical negative element to enable or interact with a covert or overt intensional operator, making the polarity sensitive subjunctives intensional subjunctives in disguise. Bondarenko (2021) does not cite Kagan (2013) or Partee (2008), but is the only one to openly consider an NPI status for Russian polarity subjunctives.

3.1 The non-commitment approach

The key idea of this approach, taken by Kagan (2013), who builds on Farkas (2003) and shares a common core with Giannakidou (1995, 2011), is that for a subjunctive to be licensed in a clause, the truth of that clause must not follow from a relevant context – as the case may be, a global context or an embedded context; the root clause proposition or a relevant epistemic state.
Polarity subjunctives

More specifically, Kagan draws on the constraint that Farkas (2003) subjects the Romance subjunctive to, that the content of its clause must not be decided. With decidedness defined as in (54), the felicity of the version of the Romanian (55) with *nu* and the infelicity of that without it are accounted for:

(54) **Decidedness** A sentence is +Decided iff its content is decided in the output context to which it is added.

(55) ... but she _not_ believes *subj is.subj a problem with milk.def* `...but she doesn’t think there’s any problem with the milk...`

The key point is that without *nu*, the content of the embedded clause is not added to the main output context but to the embedded epistemic context of *ea*, and here, relative to her ‘worldview’, it is decided (positively) – she is committed to its truth. With *nu*, by contrast, it is not added to any output context, or if it is, the addition fails to decide it, hence the subjunctive is felicitous.

Kagan (2013) builds on this when analyzing the subjunctive in relative clauses under negation in Russian, as in (1) or, one of her examples, (56).

(56) *Ja not saw man who subj considered differently* ‘I haven’t seen a man with a different opinion.’

The core idea remains that negation, like many intensional verbs, cancels some commitment conflicting with the subjunctive, but while with complement clauses, the commitment is to the truth of the clause, with relative clauses it is to the existence of individuals in the denotation of the mother NP (Kagan 2013: 137):

Sentences in which subjunctive relatives are licensed neither entail nor presuppose that the intersection of the set denoted by the head noun and the set contributed by the relative clause is not empty.

(56) – with *ne* – thus neither entails nor presupposes that there has been a man who has had a different opinion. Kagan (2013: 138) derives this from Decidedness as follows (REC = relative existential commitment):

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54 A proposition *p* is decided in a set of worlds *W* iff *W* ⊆ *p* or *W* ∩ *p* = ∅.


56 Note that according to Farkas (1992: 71), there is no ‘neg-raising’ effect in the version with negation and the subjunctive, as there would be with negation and the indicative; the sentence does not express a negative epistemic commitment but an uncertain epistemic attitude.
The association of subjunctive relative clauses with lack of REC is, in fact, predicted on the basis of the approach to subjunctive mood developed by Farkas (2003). According to this approach, subjunctive mood is normally found in the absence of a commitment to the truth or falsity of a clause in any given set of worlds. However, a relative clause does not denote a truth value to begin with. Rather, it denotes a property—the non-commitment to truth associated with subjunctive mood is likely, in the case of relative clauses, to shift to a non-commitment to existence.

According to Kagan (2013), then, the subjunctive can be used in a relative clause iff there is no commitment in any relevant context to the existence of an entity with the property expressed by the mother NP. But this constraint is clearly too weak not to overgenerate. Epistemic possibility modals, say, such as moč’ ‘may’, create contexts without any implication that the denotation of the NP is nonempty, but that does not suffice to license the subjunctive:

(57) a. Kak znat’, možet byt’, on vstretil ženščinu, kotoraya how know, may be, he met woman, who prednaznačena dlya nego samoj sud’boj? predestined for him self.instr fate.instr ‘Who knows, maybe he’s met a woman who’s fated for him?’

b. #Kak znat’, možet byt’, on vstretil ženščinu, kotoraya byla by by how know, may be, he met woman, who was subj prednaznačena dlya nego samoj sud’boj? predestined for him self.instr fate.instr

3.2 The hidden intensionality approach

Partee (2008) locates the key factor licensing the subjunctive in cases like (56) not in the negative element as such but in an implicit intensional element enabled by it. Insofar, her proposal has similarity with proposals about polarity subjunctives in Romance languages made by Portner (1997: 200) and Quer (2001: 91).

“If…we want a unified account of the distribution of subjunctive,” she writes, “there seem to be two options”:

Either there is some common feature shared by negation and intensional verbs such as non-veridicality that is responsible for licensing

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57 Source: https://thelib.ru/books/neznanskiy_fridrih_evseevich/proschenie_slavyanki-read.html
58 Judgment validated by Margarita Aslanova Kapstad
Polarity subjunctives

subjunctive \[i.e., \text{the non-commitment approach, } a.c.,\] or negative sentences are more able than affirmative ones to accommodate the addition of a silent modal operator that in turn licenses subjunctive. I am inclined to favor the second alternative, in part because not all negative sentences allow NPs with subjunctive relative clauses, and there seems to be a difference in potential modality between those that do and those that do not. \cite{Partee2008:302}

As a case in point, that is, a negative sentence where a subjunctive relative clause is not supposed to be allowed, Partee cites \eqref{58} and compares it to \eqref{59}:

\begin{align*}
\text{(58) } & \text{#Kakoj-to gost’ ne vidal devočki kotoraja by nosila krasnoe plat’e.} \text{\cite{Partee2008:303}, attributed to Igor Yanovich} \\
& \text{some guest not saw girl.GEN who subj wear red dress intended: ‘Some guest didn’t see a girl who wore a red dress.’} \\
\text{(59) } & \text{Ja ne videl čeloveka, kotoryj by sčital inače. } \text{\cite{Dobrušina2010:192}, attributed to Elena Padučeva} \\
& \text{I not saw man who subj considered differently} \\
& \text{‘I haven’t seen a man with a different opinion.’}
\end{align*}

She draws a distinction between ‘accidental’ and ‘generic’ negation: in \eqref{58}, we are talking about a narrowly constrained situation; sentence \eqref{59}, on the other hand, is not about a single occasion but “quantifies over all past situations, and in a sense over all the men I’ve ever seen” \cite{Partee2008:304}.

\begin{align*}
\text{Hence it seems that negation in } \text{\cite{59}} \text{ is helping to license some modality, in comparison with …the single-episode negative } \text{\cite{58}.} \\
\text{…\cite{59} seems to suggest a characterization of a ‘kind’ of man I have never seen, and to be considering not just accidental properties like wearing a red dress, but dispositional properties …}
\end{align*}

Though Partee adds that this characterization is rather vague and intuitive and that more work will be needed to sharpen it up, the idea is certainly intriguing. But the problem is that \eqref{58} is parallel to \eqref{60} in most regards, including those that Partee puts the dispreference for the subjunctive in \eqref{58} down to.

\begin{align*}
\text{(60) } & \text{Ne vižu ženščiny, kotoraja stojala by nedaleko ot vyhoda.} \text{\cite{Dobrušina2010:192}, attributed to Elena Padučeva} \\
& \text{not see woman.GEN who stood subj near to exit} \\
& \text{‘I don’t see any woman standing next to the exit.’}
\end{align*}

\text{59 Cited by Partee (2008: 303), attributed to Igor Yanovich} \\
\text{60 Cited by Dobrušina (2010: 192), attributed to Elena Padučeva}
This sentence is about a single occasion and a constrained situation, and we do not seem to quantify over non-actual situations or to consider dispositional properties; standing next to the exit is just as accidental a property as wearing a red dress.

(58) contrasts with (60) in other regards, however, two of them decisive for its infelicity.\(^{61}\) For one thing, the specific indefinite subject DP *kakoj-to gost’* suggests that somebody else did see a woman wearing a red dress. Secondly, the imperfective verb forms *vidal* and *nosila* invite an experiential or habitual interpretation which interferes with the episodicity of the described scene; this reason for the infelicity of (58) is independent of the subjunctive. In fact, if those two verb forms and the subject DP are suitably replaced, the subjunctive becomes fully felicitous:

(61) On ne videl devočki u kotoroj bylo krasnoe plat’e.

>'He didn’t see any girl wearing a red dress.'

It is important to note that this is not due to any silent source of modality – the sentence is purely extensional and episodic – and also, as demonstrated by several attested cases offered by Dobrušina (2010) and Dobrušina (2016: 242ff.) as well as by ??, that it is not an isolated instance.

The hidden intensionality approach to cases like (59), (60) or (61) is therefore faced with the opposite problem from that facing the non-commitment approach: Under-generation, predicting subjunctives to be infelicitous when they are in fact felicitous, as in relative clauses under negation in episodic, extensional contexts.

### 3.3 The DE-ness, NPI approach

Noting that entailment reversal seems to hold a key to determining the distribution of the Russian polarity subjunctive, Bondarenko (2021), as the first to do so, formulates an NPI perspective on it.

She shows that a row of clause embedding verbs can only embed subjunctive, *čtoby* clauses in downward entailing contexts, and argues, more specifically, that they can only embed such clauses in environments that are known to license weak NPIs, ‘Strawson downward entailing’ environments: “Subjunctive clauses are weak NPIs and need to occur in Strawson Entailment-Reversing environments.”

Although Bondarenko thus refers to subjunctive *clauses* as NPIs, it is clear that the subjunctive itself, represented by the particle *by*, is considered as a morpheme which combines with a proposition-expressing constituent – more exactly, a TP. And even though she argues that Strawson entailment reversal, where a possible entailment preserving presupposition is not counted, is the determinant, we have

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\(^{61}\) I am grateful to Sergej Minor for careful judgments about (58) and (61).
Polarity subjunctives

seen, in section 2.4, that general entailment reversal, where a possible entailment preserving presupposition is counted, seems to be the key factor.

The central generalization developed by Bondarenko is (Bondarenko 2021: 15):

**Condition for licensing polarity subjunctive**

By inside a complement clause is acceptable only if it is dominated by a constituent that is Strawson Entailment-Reversing with respect to the domain of the proposition that by combines with.

In the next section, I will take this generalization as a starting point for an explicit semantic treatment of the Russian, and the German, polarity sensitive subjunctive morpheme.

### 3.4 Summary

Both the two approaches that have been reviewed have empirical shortcomings – one tends to over-generate and the other tends to under-generate.

Note also a more theoretical concern with the two proposals that have been put forward: None provides an explicit definition of the meaning of the subjunctive, answering the question what causes the infelicity when the mood is not licensed. As observed by Chierchia (2013: 146) in connection with negative polarity items, ‘Licensing generalizations’ are inherently descriptive; “we should try to do better.”

Recall that Partee (2008: 302), when outlining the two main approaches, made this proviso: “If…we want a unified account of the distribution of subjunctive, …” In a similarly open spirit, Quer (2009: 1781), referring to the polarity/intensional subjunctive split, asks: “Can we really talk about two different sorts of subjunctive? Is it advisable to reduce both sorts of triggers to a single licensing factor?”

In fact, in consideration of the problems facing attempts at a unified account, it might be worth a try to pursue a unilateral approach to polarity subjunctives. Section 2 provided evidence that a focus on these subjunctives in their own right promises a descriptively more accurate analysis, and Bondarenko (2021) takes an approach in this spirit, preparing the ground for a theoretically attractive analysis. In section 4, such an analysis will be proposed.

### 4 Polarity subjunctives activate domain alternatives

The goal of this paper is not just to build a strong case that German and Russian subjunctives have meaning variants which could and should be classified as NPIs. It is also an important objective to show how these variants are well-suited as NPIs, by providing a semantic analysis which accounts for their licensing conditions.
Authors

One key ingredient in this analysis is the idea developed by Chierchia (2013) that NPIs activate alternatives in view of which their contexts are exhaustified by a covert operator, a counterpart of *only* or a counterpart of *even*. Another ingredient is the proposal by Crnič (2019) that the operator associating with NPI alternatives is always a covert *even*.

The third and innovative keystone of the analysis is the natural assumption that in connection with subjunctives as NPIs, the relevant (sub)domains are not sets of objects, as with determiners like *any*, or of times, as with adverbs like *ever*, but sets of worlds. The upshot is a presupposition which, generally speaking, fails unless the scope of the operator is a DE context for the scope of the subjunctive – concerning at-issue and presuppositional content. This accounts for the licensing conditions which the German and Russian PSSs share. Their distinctive licensing conditions are accounted for by further assuming that the German PSS selects for an operator which also takes scalar implicatures into account.

Before going into the specific analyses of the two polarity sensitive subjunctives, the German and the Russian PSS, it is necessary to review the more general theory of NPIs in terms of alternatives as developed in work by Chierchia (2013) and Crnič (2014, 2019), on which those analyses are going to be patterned.

4.1 Subdomain alternatives and ‘all alternatives are weaker’

Rather than just stating licensing conditions for NPIs, Chierchia (2013: 143ff.) aims to explain their distribution by way of a lexical semantics from which it falls out. His proposal is couched in an alternative-based framework where meanings have two separate dimensions: The ordinary semantic value and an alternative semantic value, a set of alternatives to the former. The NPI determiner *any* has the same two values as any indefinite article or determiner, say, *a* or *some*: The ordinary value is (62), and the alternative value is (63), the set of things coming from the ordinary semantic value by replacing the covert domain argument $D$ by a subset.\(^\text{62}\)

\[
(62) \quad \| \text{any} \| = \lambda P \lambda Q \lambda w D \cap P_w \cap Q_w \neq \emptyset
\]

\[
(63) \quad \| \text{any} \|^A = \{ \mathcal{D}(s(e(r)))((s(e(r))(s(t))) \mid \text{there is a } D' \subseteq D \text{ s.t. } \mathcal{D} = \lambda P \lambda Q \lambda w D' \cap P_w \cap Q_w \neq \emptyset \}
\]

However, while in the case of *a* and *some*, the alternatives are only active when they are relevant, so that usually, $\| a \| ^A$ reduces to $\{ \lambda P \lambda Q \lambda w D \cap P_w \cap Q_w \neq \emptyset \}$, *any* activates its distinct alternatives by virtue of its lexical semantics.

\(^{62}\) Here and in the following, I adapt the notation used by Chierchia (2013) slightly.
These alternatives now, once activated, have to be factored into meaning, and this is accomplished by a covert operator attaching at some point above the NPI. The one presented in (64), $E \subseteq \phi$, shares features both with the covert only defined by Chierchia (2013: 139) and with the covert even defined by Crnič (2014: 178), but is also simpler than either of them. This is for perspicuity; the key point is what (64) and a definition of an alternative semantic value like (63) jointly predict, namely, that a sentence with an NPI cannot be true unless one of the contexts the operator can attach to is DE with respect to the NPI.\footnote{In fact, Chierchia’s covert only, which is also used to exhaustify sentences with items that trigger scalar implicatures, requires all true alternatives to be entailed by $\phi$, and requires this as a truth condition, while Crnič’s covert even, which does not do such double duty, does not require $\phi$ to be logically stronger but in any case less likely than its distinct alternatives. I call the operator I define in (64) $E \subseteq$ to reflect that it is like Crnič’s $E$ in that the truth of the alternatives is not a factor and in that the added meaning is a definedness condition, but like Chierchia’s O in that the relevant relation is the subset relation.}

\begin{equation}
\| E \subseteq \phi \|^w = \begin{cases} 
1 & \text{iff } (i) \text{ for all } p \in \| \phi \|^A, \| \phi \| \subseteq p \text{ and } (ii) \| \phi \|^w = 1 \\
0 & \text{iff } (i) \text{ and } \| \phi \|^w = 0
\end{cases}
\end{equation}

In words: a clause $E \subseteq \phi$ is neither true nor false unless all the alternatives to $\phi$ are entailed by $\phi$, that is, unless all distinct alternatives are weaker; if it is true or false, it is true just in case $\phi$ itself is true.

Together with the definition of the alternative semantic value of any in (63), the definition of the $E \subseteq$ operator in (64) makes the prediction that a sentence $E \subseteq \phi$ where $\phi$ contains any can only be true or false if $\phi$ is DE with respect to the any phrase. Let us see how this prediction plays out in a simple case.

\begin{equation}
\text{(65) Not that there are any flies…} \quad \text{\footnote{Source: https://www.tripadvisor.com.au/ShowUserReviews-g528988-d3735605-r55363250.html}}
\end{equation}

The alternative semantic value of there are any flies will consist of the propositions that come from the ordinary semantic value, the proposition that there are flies, by replacing the underlying domain by a subset, effectively narrowing the set of flies. Because all those propositions are stronger than (or as strong as) the proposition that there are flies, a presupposition failure would result if the operator $E \subseteq$ were to attach at the level of there are any flies. At the level of Not that there are any flies, however, the presupposition will be satisfied, as the negation creates a DE context for any flies and turns the entailness around; all the propositions coming from the proposition that there are no flies by narrowing the set of flies are weaker than (or as weak as) it, they are not subsets but supersets.
The analysis of the Russian NPI determiners *kak-* -libo and *kak-* by to *ni bylo*, which parallel the NPI any in most key regards (see Padučeva 2015), will follow the same logic. So will the analysis of NPIs like English *ever*, German *jemals* or Russian *kogda-libo*. The ordinary semantic value could be defined as the identity function over sets of times, and the alternative semantic value would then consist of the functions that come from that by replacing its output by the intersection between its input and some subset of the domain of times $T$; formally:

\[
\| \text{ever} \| = \lambda T(\ii) T
\]

\[
\| \text{ever} \|^A = \{ f(\ii)(\ii) \mid \text{there is a } T' \subseteq T \text{ s.t. } f = \lambda T(\ii) T \cap T' \}
\]

In a nutshell, the logic is: Substitutions of subsets lead to subset propositions as long as the context is UE, while according to the definition of the operator $E_C$, the alternatives to its argument proposition should all instead be supersets. But once the context becomes DE, the alternatives turn into supersets, as required.

### 4.2 From individuals or times to worlds: PSS as a modal ever

On the table is a theory of NPIs like *any* and *ever* saying that these items activate alternatives in the form of subsets of the relevant domains (individuals and times), alternatives that are propagated to the level of a proposition which is presupposed to be stronger than any of its distinct alternatives; a presupposition bound to fail if the context is UE and to succeed if it is DE.

The key idea is now that this theory can carry over to the German or Russian PSS so that the observations made in section 2 can be predicted, once the move is made from individuals (*any*) or times (*ever*) to worlds as the right sort of domain. At a general level, this move is anticipated by Bondarenko (2021: 15), who writes that while for NPIs like *kakoj-libo* ‘any’, entailment reversal is calculated for subdomains of the predicate, for by clauses it is calculated for subdomains of the proposition.

#### 4.2.1 The analysis in outline

I will assume that polarity sensitive subjunctives are situated high in the clause. While there is no need to determine their absolute position, their relative position vis-à-vis negation matters, for if negation cannot scope over them, that can explain

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65 One difference is that negative concord *ni-* series items are strongly preferred over *-libo* series items under clausemate negation.

66 German does not have determiners or pronouns that correspond to *any(-)*.

67 See, e.g., Fabregas (2014: 64): “Most accounts treat subjunctive as the spellout of a head or a head complex which is quite high in the clausal structure and… involves the C node.”
the observation that “negation cannot trigger the subjunctive in its own clause” (Portner 2018: 111). There is also good reason to assume that they are interpreted higher than any functor that may create a DE context within their clause, as the smallest of the contexts one of which must be DE for them to be possible – their minimal domain (see 2.2.3) – seems to be the polarity phrase of the next clause up. This will also be the lowest level for the associated E operator to be adjoined at – more exactly, it will attach to a polarity phrase or at another, higher level whose entailness can be relevant, say, TP, in some superordinate clause.68

Given these syntactic assumptions, the key semantic points of the analysis are:

i. The PSS morpheme, be it the German or the Russian variant, applies to a proposition p and activates all the subsets of p as alternatives.

ii. These alternatives are eventually picked up by a silent operator introducing the presupposition that the proposition it applies to, say q, is stronger than all its distinct alternatives.

iii. Because the alternatives to q come from alternatives to p which are stronger than p, that presupposition will be satisfied just in case any strengthening of p corresponds to a weakening of q – i.e., in case q is a DE context for p.

The licensing condition that the PSS clause must be in a DE context thus follows. This broad-brush picture will now be filled out with detail and differentiation, in three stages:

- Key definitions and the composition of a case of PSS licensing, common to German and Russian (4.2.2),
- a sketch of how the PSS, in German or in Russian, will be anti-licensed by a non-DE presupposition involving it (4.2.3),
- a sketch of how the German, but not the Russian, PSS will be anti-licensed by a non-DE scalar implicature involving it (4.2.4).

4.2.2 Definitions and a standard case derivation

In the framework presented in section 4.1, any meaning has two members, the ordinary semantic value (the OSV) and the alternative semantic value (the ASV). The ordinary semantic value of the PSS, whether the German variant PSSG or the Russian variant PSSR, can be defined as the identity function over propositions:

68 Since there can be more than one potentially DE phrase, a sentence can have two or more readings, one for each E attachment site; for simplicity, though, I will assume that there is one such phrase, and thus one attachment site for the E operator, namely, the polarity phrase of the next clause up. See Homer (2021) for relevant discussion.
(68) \[ \| \text{PSS}_G \| = \| \text{PSS}_R \| = \lambda \phi(\text{st}) \phi \]

Its ASV can be defined as the set of functions from propositions \( \phi \) to intersections between \( \phi \) and some subset \( W' \subseteq W \) of the domain of possible worlds; formally:

(69) \[ \| \text{PSS}_G \|^A = \| \text{PSS}_R \|^A = \{ f_{(\text{st})}(\text{st}) | \text{there is a } W' \subseteq W \text{ s.t. } f = \lambda \phi(\text{st}) \phi \cap W' \} \]

Note the close parallel to the definition of the ASV of \textit{jemals, kogda-libo} or \textit{ever}, (67): the difference is just that sets of worlds are substituted for sets of times.

Let us walk through the composition of the alternative semantic value of (16) from section 2.2.1, repeated here as (70), up to the point where \( E \subseteq \) is adjoined, and then see how this operator factors the alternatives into the ordinary semantic value in the form of a presupposition which is satisfied by virtue of the negation.

(70) Ne to, čtoby sejčas ěto imelo kakeo-to značenie.
not it that-subj now that had some meaning
‘Not that it matters anymore.’

A rudimentary Logical Form is outlined in (71).

(71) \[ [ E \subseteq \text{ne to} \text{[CP čto [by [TP sejčas ěto imelo kakeo-to značenie ]]]]] \]

The subjunctive \textit{by} can be assumed to be interpreted between the complementizer \textit{čto} (that it cliticizes to) and the TP ‘it matters now’. This is in agreement with the structure conjectured by Bondarenko (2021: 15).

Assume further that this TP has no distinct alternatives, so that its ASV only contains its OSV, a proposition, \textit{i.e.}, a set of worlds:

(72) \[ \| \text{sejčas ěto imete kakeo-to značenie} \|^A = \{ \| \text{sejčas ěto imete kakeo-to značenie} \| \} = \{ \lambda w \| \text{it matters now in } w \} \]

Let us identify the subjunctive particle \textit{by} as occurring in (70) with \text{PSS}_R, whose alternative value is defined in (69); we now need to compose (72) with (69), and for that we need the rule of Pointwise Function Application (Chierchia 2013: 138):

(73) \[ \| a(b) \|^A = \{ \gamma | \text{there is a } \alpha \in \| a \|^A \text{ and a } \beta \in \| b \|^A \text{ such that } \gamma = \alpha(\beta) \} \]

This gives us the following alternative semantic value for the full clause (where the semantic values of \textit{čto} are assumed not to make any difference):

(74) \[ \| \text{by (sejčas ěto imete kakeo-to značenie)} \|^A = \| \text{čto (by (sejčas ěto imete kakeo-to značenie))} \|^A = \{ p | \text{there is a } W' \subseteq W \text{ such that } p = W' \cap \lambda w \| \text{it matters now in } w \} \]
Polarity subjunctives

This is now the same as the power set of the argument proposition of the PSSR by, the set of all that proposition’s subsets:

\[(75) \quad \mathcal{P}(\lambda w \text{ it matters now in } w)\]

The next expression in line is the demonstrative pronominal correlate of the čtoby clause, to. Its semantic values can, once again, be assumed not to change anything, resulting in the same ASV as before:

\[(76) \quad \| to (čto \ (by \ (sejčas \ èto \ imeet \ kakoe-to \ značenie))) \|^A = \mathcal{P}(\lambda w \text{ it matters now in } w)\]

Along comes the negative adverb ne, with an ordinary semantic value as in (77), the function mapping a proposition to its complement, and an alternative semantic value as in (78), the set containing just that function:

\[(77) \quad \| ne \|^A = \lambda \phi \ W \setminus \phi\]
\[(78) \quad \| ne \|^A = \{ \lambda \phi \ W \setminus \phi \}\]

The two semantic values of the whole of the overt material in (70) now become:

\[(79) \quad \| ne \ (to \ (čto \ (by \ (sejčas \ èto \ imeet \ kakoe-to \ značenie))) )\|^A = W \setminus \lambda w \text{ it matters now in } w\]
\[(80) \quad \| ne \ (to \ (čto \ (by \ (sejčas \ èto \ imeet \ kakoe-to \ značenie))) )\|^A = \{ p \mid \text{there is a } q \in \mathcal{P}(\lambda w \text{ it matters now in } w) \text{ such that } p = W \setminus q \}\]

Note that before negation was taken into account, the alternatives were stronger than the ordinary semantic value proposition, but now, it is the other way around: The members of the set defined in (80) are all supersets of the set defined in (79).

This is significant for the covert operator $E_\subseteq$, which enters into the semantic composition at this stage. Recall (64), repeated here for convenience:

\[(64) \quad \| E_\subseteq \phi \|^w = \begin{cases} 1 & \text{iff (i) for all } p \in \| \phi \|^A, \| \phi \| \subseteq p \text{ and (ii) } \| \phi \|^w = 1 \\ 0 & \text{iff (i) and } \| \phi \|^w = 0 \end{cases}\]

The essential part is (i), the definedness condition that all distinct alternatives to the argument proposition are (weakly) weaker than it. This is indeed the case here:

\[(81) \quad \| E_\subseteq (ne \ (to \ (čto \ (by \ (sejčas \ èto \ imeet \ kakoe-to \ značenie)))) )\|^w = 1 \text{ or } 0 \iff \forall p \in \{ p \mid \text{there is a } q \in \mathcal{P}(\lambda w \text{ it matters now in } w) \text{ such that } p = W \setminus q \} : (W \setminus \lambda w \text{ it matters now in } w) \subseteq p\]
The definedness condition introduced by \( \text{E} \subseteq \) is thus verified. But if the negation (represented here as \( W \backslash \)) were missing, it would be falsified, for then the sets on the left and the right of \( \subseteq \) would not stand in the subset but in the superset relation.

In this way, the fact that the Russian PSS is licensed in a negative context but not in the corresponding positive context is accounted for in terms of its semantics, and the analogous German case (15) would be accounted for in the same way.

Note that while (70) (= (16)) and (15) are negative contexts, the same logic will extend to all downward entailing environments in the scope of \( \text{E} \subseteq \).

4.2.3 Sensitivity to presuppositions

(64) is underspecified in a key regard: \( \phi \) may have a presupposition, and then \( \| \phi \| \) and its alternatives \( p \) are not sets but partial functions from worlds to truth values, therefore they cannot stand in the \( \subseteq \) relation; they must be reduced to sets.

One way to do this is to focus on the sets of worlds where they are true, and to substitute \( \lambda w \| \phi \| (w) = 1 \subseteq \lambda w' p(w') = 1' \) for \( \| \phi \| \subseteq p \) in the definition of \( \text{E} \subseteq \); the revised definition is (82):

\[
\text{(82)} \quad \| \text{E} \subseteq \phi \| ^w = \begin{cases} 
1 & \text{iff (i) for all } p \in \| \phi \| ^\Lambda, \\
& \lambda w \| \phi \| (w) = 1 \subseteq \lambda w' p(w') = 1 \text{ and (ii) } \| \phi \| ^w = 1 \\
0 & \text{iff (i) and } \| \phi \| ^w = 0
\end{cases}
\]

This amounts to factoring any presupposition into the content, providing suitably strict licensing conditions for presupposition-sensitive NPIs – more exactly, NPIs that are sensitive to presuppositions which are not DE for them, as ‘strong’ NPIs are held to be. The worlds where a sentence carrying a presupposition is true are those where both the presupposition and the carrier sentence are true, therefore according to (82), any presupposition \( \phi \) may have must be DE for any NPI there may be in it. As we saw in section 2.4, the German PSS\(_G\) and the Russian PSS\(_R\) are both sensitive to non-DE presuppositions, which means that the operator defined in (82) is the right kind for them.

The other option, of factoring presuppositions out to provide suitably loose licensing conditions for NPIs that are insensitive to presuppositions, consists in concentrating on the worlds where \( \phi \) and its alternatives are not false. Such NPIs, like German \textit{jemals} ‘ever’ or Russian -\textit{libo} series words, must be assumed to select for an operator as defined in (82) save for \( \lambda w \| \phi \| (w) = 1 \subseteq \lambda w' p(w') = 1' \) being replaced by \( \lambda w \| \phi \| (w) \neq 0 \subseteq \lambda w' p(w') \neq 0' \). Generally, the assumption is that different NPIs can select for operators with slightly different properties.\(^{69}\)

\(^{69}\) This assumption is commonly made in the literature; still, the question how this selection comes about has not been definitively answered (for critical discussion, see, e.g., Zeijlstra (2017)).
4.2.4 Sensitivity to scalar implicatures

As we saw in section 2.3, PSS\textsubscript{R} is not sensitive to non-DE scalar implicatures, but PSS\textsubscript{G} is. (33) and (35) were cases in point: the implicature that there are some who are satisfied with their body is upward entailing with respect to the relative clause, which is unproblematic for PSS\textsubscript{R} but not for PSS\textsubscript{G}.

Therefore, PSS\textsubscript{G} must be assumed to select for an E operator which ‘looks at’ not only at-issue content and presupposition but also any scalar implicature, while PSS\textsubscript{R} selects for an E which only pays attention to the two first levels of meaning. One way to encode this distinction, framed in a ‘grammatical theory’ where scalar implicatures are built into the at-issue content through exhaustification, would be to restrict the operator that PSS\textsubscript{G} selects for to cases where no scalar alternatives are active so any exhaustification must have taken place. In this way, the operator would in fact be looking at any scalar implicature on a par with the other content. No such restriction would be imposed on the operator selected for by PSS\textsubscript{R}.

That the two PSSes part ways regarding sensitivity to scalar implicature while both are sensitive to presuppositions means that they do not conform to a simple dichotomy of strong and weak NPIs where one needs DE-ness at all levels while the other only cares about at-issue content. Insofar, they strengthen the case, as it has been made by Schaebbicke et al. (2021), for a more nuanced picture where different NPIs show different sensitivities in different kinds of contexts.

4.2.5 Summary

Through an analysis of the PSS in German and Russian as an NPI, adapted closely from the treatment of such items developed by Chierchia (2013) and Črnčič (2019), the facts established in section 2, both concerning what PSS\textsubscript{G} and PSS\textsubscript{R} share and in view of their differing sensitivities, have been seen to fall into place.

Regarding the standard case of a globally DE context, it is worth pausing to appreciate the close conceptual parallel to the Chierchia-Črnčič theory of NPIs like any and ever. The common core is the contrast with smaller domains and the insistence on the statement even in view of the full domain. To illustrate, consider the three cases (83)–(85), which feature any, ever, and a hypothesized subjunctive, respectively, but are otherwise very similar:

(83) Not that she has regrets for any decision.
(84) Not that she has ever regretted a decision.
(85) *Not that she were regretful of her decision.
All three sentences – pretending that (85) is a grammatical sentence – presuppose that the proposition expressed by the sentence without the NPI – *any, ever, were* – has more difficulty being true than any proposition that comes from it by replacing the relevant domain – be it one of (here) events, times, or worlds – with a subset. And due to the negation, that is indeed the case. The effect is to say that even the full set of decisions of hers, the full set of past times, or the full set of worlds where she is regretful of her decision fails to contain an event she has regrets for, or a time at which she regretted a decision, or the world of evaluation, respectively.

5 Conclusion and outlook

What has been done in this paper amounts to positing a separate meaning variant of the subjunctive in German and in Russian, a P(olarity)S(ensitive)S(ubjunctive), morphologically inseparable from other meaning variants. A coherent story has been told about this meaning variant, be it PSS$_G$ or PSS$_R$, as an NPI. In a nutshell, the story is that the PSS activates alternative propositions which are all included in its argument proposition; eventually, an operator $E_{\subseteq}$ triggers the presupposition that the alternatives to its argument proposition all include *it*, something which is true just in case the argument of the operator is DE for the argument of the PSS. The argument of $E_{\subseteq}$ includes presuppositions and, for PSS$_G$, scalar implicatures; this makes the two subjunctives comparatively ‘strong’ NPIs, the German one the stronger of the two.

This story is in two regards an isolated story. First, it limits itself to the two languages German and Russian and does not tell anything about, say, Romance, for which the term ‘polarity subjunctive’ was, by Stowell (1993), originally coined. Second, the other meaning variants of the subjunctive in either language are left out, in particular, the gain in positing the PSS has not been weighed against any loss from it. In both regards, something should be said to round the story off.

The first question is whether the same or a similar story can be told about the polarity subjunctives in, say, Romanian, or other Romance languages. The short answer is that it is difficult to know because existing work has tended not to focus on polarity subjunctive as a topic in its own right but to limit attention to one or two constructed examples which are conceived of as typical. That said, the cases reviewed in section 2.1.1 do point in the direction that core licensing contexts are shared across rather a wide array of European languages. On the other hand, we have seen signs that the difference in ‘strength’ that has emerged between the German and the Russian PSS, both being sensitive to presuppositions but only the German PSS being sensitive to implicatures, can be complemented by yet another difference once French is taken into account, where the polarity subjunctive seems to be insensitive to presuppositions as well (see section 2.4.1).
Further, the examples which authors do give of polarity subjunctives in other languages than German and Russian mostly include an example of a complement clause of a belief verb under negation; as we noted in section 2.2.2, however, such contexts do not form a consistent pattern across subject persons in German or in Russian, so here, again, other languages could be more lenient about the contexts that license their polarity subjunctives. In any case, though, further work must be done before safe conclusions can be drawn.

The second question is how NPI subjunctives relate to ‘other’ subjunctives. As was shown in section 3, previous work on this variant in Russian has sought to unify it with ‘intensional’ uses of the subjunctive. Here, I will sum up the challenges that such efforts face and provide thoughts on further reasons for, at least temporarily, maintaining a separation between polarity and intensional subjunctives.

This concept pair originated with Stowell (1993), whose proposal to distinguish polarity subjunctives from intensional subjunctives in Romance, elaborated on by Quer (1997), was motivated by three facts. First, a subjunctive can be enabled by a negation above a matrix predicate which otherwise selects for indicative; second, only such subjunctives can alternate with indicatives; third, such subjunctives do not show the locality or obviation effects that otherwise accompany subjunctives. By and large, corresponding generalizations hold for Slavic languages and Greek. While the importance of the second and third fact for the question of one or two subjunctives may be debatable, the first fact constitutes a genuine challenge to a unitary conception of subjunctives in Romance, Slavic or Greek, because, in the words of Giannakidou (2011), “negation is not an intensional operator”.

Regarding efforts to unify polarity and other uses of the Russian subjunctive, as shown in section 3, Kagan (2013), building on Farkas (2003), retreats to a weak stance, where, as it were, the greatest common divisor is assigned the leading role, while Partee (2008) advances to, so to speak, the least common multiple between negation and intensionality. While Kagan’s non-commitment theory is too weak to accurately delineate the distribution of the subjunctive, Partee’s silent modality theory is too strong. This does not by itself close the case; it may merely show that it is difficult to unify the cases where polarity is what enables the subjunctive and those where intensionality is what enables it, not that it is impossible.

Note, though, that what has proved difficult for Russian promises to be difficult for German too, only differently, because the landscape of non-polarity usage is different here. The subjunctive does have a prominent use as a counterfactual mood, typically in conditionals; an intensional use, however, as typified in ’purpose-like’ complement clauses (see Dobrušina 2016: 263ff.), scarcely exists (anymore) (there is, on the other hand, the clearly separate ’reportive’ use; see Fabricius-Hansen et al. 2018: 105ff.). Efforts to unify the polarity use with the counterfactual use will
have to follow a different route than efforts to unify it with the intensional use, and so, success in one corner would be likely to entail failure in the other.

Reservations about the cost of drawing a line between ‘polarity’ subjunctives and the ‘intensional’ subjunctives found in Romance and Slavic may remain. But I think it is important to bear in mind that this cost is not without a theoretical gain: Polarity subjunctives have been ascribed a meaning which explains their polarity sensitivity. A comparison with NPIs as one has known them may be instructive: Theories about these have mostly been concerned with characterizing the contexts where they can occur and with attributing corresponding licensing conditions to them. As noted by Chierchia (2013: 146), however, such conditions are essentially descriptive generalizations, and “we should try to do better.” His theory and others in its wake do better in the sense that they supply the items with semantic values which explain their polarity sensitivity as a symptom of underlying entailments or presuppositions.

Quite similar considerations carry over to the field of subjunctives: Sensitivity, whether to polarity or to intensionality, is essentially a symptom, and a diagnosis requires a step beyond the identification of licensing conditions, however accurate, into identifying the meaning of the mood itself. Such a step has been taken above, following, in fact, in the steps of explanatory analyses of polarity sensitive items and widening the range of such items in the relevant languages. The benefit of this may clearly be limited by what is yet unknown about the meaning of subjunctives – limited, but hopefully not nullified, since here as elsewhere, it is better to light a candle than to curse the darkness.

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Polarity subjunctives


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