

POLARITY SUBJUNCTIVES IN GERMAN AND RUSSIAN

KJELL JOHAN SÆBØ

University of Oslo

Subjunctives are typically used in intensional, or modal, contexts to talk about possible worlds, but they can also be licensed in negative contexts. While prior work has sought to unify these ‘polarity’ subjunctives with ‘intensional’ subjunctives, in this article I build a case that they represent, in German and Russian at least, a distinct use as negative polarity items (NPIs). This usage fills a gap in the typology of NPIs: unlike known items such as *any* or *ever*, which are taken to activate alternatives consisting of individuals, eventualities, or times, these items activate alternatives consisting of worlds.*

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1. INTRODUCTION. Subjunctives are canonically thought to be used in intensional contexts, contexts that require us to consider possible worlds. In Slavic languages, for instance, they typically appear in purpose or ‘purpose-like’ clauses (Dobrushina 2016:263ff.), for example, under predicates like Russian *hotet* ‘want’, as in 1.¹

- (1) Učenyje hotjat, čto-by vrednyj CO₂ sprjatali pod zemlej.²
scientists want that-SUBJ harmful CO₂ hid.PL under ground
‘Scientists want to hide away harmful CO₂ underground.’

Subjunctives can also be commonly used to mark counterfactuality in conditionals or other modal contexts, as is found in Slavic languages and in German, as seen in the German example in 2.

- (2) ... , obwohl das Land eigentlich reich sein könnte.³
although the country actually rich be can.PST.SUBJ
‘... , although the country could really have been rich.’

The central claim of this article, however, is that there is a distinct use of the subjunctive mood in extensional contexts as a NEGATIVE POLARITY ITEM (an NPI), which is found 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), I propose an analysis that predicts the polarity-sensitivity of these ‘polarity subjunctives’: they activate ‘subdomain alternatives’ to their argument propositions.

The Russian sentence in 3, essentially reproducible in many languages such as French and German, may serve to give a sense of the facts at issue.

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¹ The following abbreviations are used in glosses: ACC: accusative, C: complementizer, DEF: definite, GEN: genitive, IND: indicative, INF: infinitive, INS: instrumental, NEG: negation, PART: particle, PFV: perfective, PL: plural, PST: past, REFL: reflexive, SG: singular, SUBJ: subjunctive.

² Source: <https://hi-tech.news/science/1958-uchenye-hotjat-čtoby-vrednyj-co2-sprjatali-pod-zemlej.html>

³ Source: <https://religion.orf.at/v3/radio/stories/3006043/>

- (3) Ne vižu ženščiny, kotoraja stojala **by** nedaleko ot vyhoda.
 not see woman.GEN who stood SUBJ near from exit
 ‘I don’t see any woman standing next to the exit.’

(Dobrushina 2010:192, 2016:242; attributed to Elena Paducheva)

Here the subjunctive particle *by* in the relative clause depends on the negation *ne* in the matrix: the corresponding sentence without the negation, 4a (where the accusative replaces the ‘genitive of negation’; see e.g. Paducheva 2006), is not felicitous.

- (4) a. #Vižu ženščinu, kotoraja stojala **by** nedaleko ot vyhoda.
 see woman.ACC who stood SUBJ near from exit
 b. Vižu ženščinu, kotoraja stoit nedaleko ot vyhoda.
 see woman.ACC who stands near from exit
 ‘I see a/the woman standing next to the exit.’

Note that 3 is, by all appearances, an extensional context: the fact that it is felicitous while 4a is not is evidently not due to any form of intensionality. It has been suggested by Partee (2008) that negation can facilitate an intensional interpretation of a sentence, but I argue in §3.2 that this line of reasoning is not tenable. The felicity of 3 is instead argued to result from the fact that *by* is in a downward-entailing context. In fact, the argument is that the subjunctive here acts like, and is, an NPI, similar to determiners such as *kakoj-libo* ‘any’ or adverbs like *kogda-libo* ‘ever’ in Russian.

- (5) a. Ivan ne videl tam kakih-libo studentov.
 Ivan not saw there who-*libo* students
 ‘Ivan didn’t see any students there.’ (Paducheva 2015:143)
 b. #Ivan videl tam kakih-libo studentov.
 Ivan saw there who-*libo* students
 (6) a. Boga nikto ne videl kogda-libo.
 God no.one not saw when-*libo*
 ‘Nobody has ever seen God.’ (The Gospel according to John 1:18)
 b. #Boga kto-to videl kogda-libo.
 God someone saw when-*libo*

Examples 5b and 6b are infelicitous because they are upward-entailing contexts for the NPI: for example, ‘Ivan saw students there’ entails ‘Ivan saw people there’; by contrast, 5a and 6a are felicitous because they are downward-entailing contexts for the NPI: ‘Ivan didn’t see people there’ entails ‘Ivan didn’t see students there’ (see §2.2 for more on these notions).

I try to show that the subjunctive in Russian and the past or past perfect subjunctive in German have a use that largely mirrors such canonical NPIs (one notable exception being that the downward-entailing context must be nonlocal; see §2.2) and that this use is distinct from intensional uses of the subjunctive. This motivates treating it as an NPI, but crucially an NPI of a novel type: whereas NPI determiners like *kak- -libo* activate alternatives to domains of individuals and NPIs like *kogda-libo* activate alternatives to domains of times, NPI subjunctives activate alternatives to domains of worlds.

Concerning Russian, that a particular subjunctive use behaves like and should be thought of as an NPI is not an entirely new idea: Bondarenko (2021) considers the distribution of certain classes of subjunctive clauses through the lens of NPI licensing and characterizes them as weak NPIs. I return to Bondarenko’s work in §2.4, §3.3, and §4.2. In fact, the Russian NPI subjunctive and the German NPI subjunctive turn out to behave

in ways that set them apart slightly from well-studied NPIs, whether ‘weak’ or ‘strong’, and from each other (see §2.2, §2.3, and §2.4). They thus lend support to a nuanced view of the NPI landscape, as advocated by Schaebbicke et al. (2021), where different NPIs show different sensitivities in different kinds of contexts.

In §2, I present the evidence for there being separate NPI subjunctives to be accounted for 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 that may interfere with them. Section 3 reviews two approaches to cases like 3 above, both of which seek to unify them with ‘intensional’ cases; one, I argue, is too weak and overgenerates, while the other is too strong and undergenerates. I then review Bondarenko’s (2021) hypothesis that the Russian subjunctive has a life as a ‘weak’ NPI.

In §4, I develop an analysis of NPI subjunctives that is patterned on the analyses of NPI indefinites proposed by Chierchia (2013) and Crnić (2019) and that predicts their dependence on downward-entailing contexts at various levels (implicatures, presuppositions, at-issue content). 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 applies to all of the cases shown in §2, predicting that NPI subjunctives are restricted to downward-entailing environments, with German and Russian coming apart slightly 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 provide various kinds of evidence in support of the idea that certain uses of the subjunctive 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 compete with a counterfactual interpretation and cause ambiguities.

2.1. SOME PRELIMINARY EVIDENCE. It is useful to start by anchoring the phenomenon in a context of European languages: first, observing a parallel pattern across a range of them, and second, noting that in contrast to ‘counterfactual’ or ‘intensional’ variants, the subjunctive under investigation has no counterpart (such as a fake past or a modal auxiliary) in languages without subjunctives.

ACROSS EUROPEAN LANGUAGES. A sizable number of scholars set a ‘polarity subjunctive’ apart from subjunctives that are, in one way or another, associated with intensionality: for Greek, Giannakidou (1998); for Romance, Stowell (1993), Portner (1997), and Quer (1998); and for Slavic languages, Sočanac (2017), to mention a few. In many of the examples these scholars provide, like the Bulgarian sentence in 7, the subjunctive occurs in the complement clause of a propositional attitude verb under a negation that cannot be removed if the sentence is to be acceptable.

- (7) #(Ne) vjarvam, **da** ima teč v rezervoara.
not believe.1SG SUBJ has leak in reservoir
‘I don’t believe there’s a leak in the tank.’

(Smirnova 2011:253)

However, another kind of data is even 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 7 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 3 exemplifies, and the following examples show this in six other languages.

- (8) Il n'y avait personne qui **puisse** informer les autres. (French)
 it NEG-there had no.one who can.SUBJ inform the others
 'There wasn't anyone there who could inform the others.' (Čermáková 2007:33)
- (9) Ich besitze gar nichts, was wertvoll **wäre**. (German)
 I own PART nothing what valuable was.SUBJ
 'I own nothing at all which is valuable.' (Forßmann 2009:92)
- (10) Non ho visto un uomo che **fosse** ricco. (Italian)
 not have.1SG seen a man that was.SUBJ rich
 'I have not seen any man who was rich.' (Panzeri 2008:60)
- (11) În România nu există oameni care **să** creadă în el. (Romanian)
 in Romania not exist people that SUBJ believe in him
 'In Romania there are no people who believe in him.' (Farkas 1985:128)
- (12) No veía a nadie que **conociera**. (Spanish)
 not saw.1/3SG ACC nobody that knew.1/3SG.SUBJ
 'I didn't see anybody that I knew.' (Fabregas 2014:57)
- (13) Dhen ídha énan ándra pu **na** forái kókinu kapélo. (Greek)
 not saw.1SG a man that SUBJ wear.3SG red cap
 'I didn't see a man wearing a red hat.' (Giannakidou 2011)

Note that there is in these cases—save for the Spanish case in 12, 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. The alternation is next-to-free, because the subjunctive may disambiguate in favor of a nonspecific or narrow-scope reading of the relative clause NP relative to the negative context, in a way similar to how familiar NPIs have been shown to mark narrow scope relative to their licensing contexts (see Barker 2018); this is discussed in §2.4.

NO ERSATZ IN SUBJUNCTIVELESS LANGUAGES. Another notable fact about the subjunctives in the contexts under consideration is that they do not correspond to any substitute expression in languages that, 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 (nonlocal 'modal concord'; Zeijlstra 2007).

As an example, in the Polish counterfactual in 14 the subjunctive particle *by* appears both in the matrix clause and as a clitic to the complementizer *gdy*; the corresponding Norwegian sentence in 15 instead shows the past perfect in the matrix and in the conditional clause.

- (14) Fajnie by było, gdyby to była prawda, ale to przecież niemożliwe.⁴
 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.'

⁴ Source: <https://www.granice.pl/news/to-co-wlasnie-zobaczylam-nie-moglo-byc-prawda/7584>

- (15) 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, in the Czech example 16, the subjunctive particle *by* cliticizes to the complementizer *a* under the volitional predicate *chtít*, while example 17, the closest Swedish version, displays the futurate modal *skall* as a substitute for the subjunctive.

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

(Dočekal & Dotlačil 2016:97)

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

Norwegian or Swedish translations of 3 and 7–13, however, will not use a fake past or futurate modal to compensate for their inability to match the subjunctive mood marking in those sentences. Thus in a Swedish version of 3, the relative clause will show the tense expected on the basis of the time reference, here the present, and no modal auxiliary.

- (18) 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 observations by Fabricius-Hansen et al. (2018:64) and Dobrushina (2010:193) that subjunctive relative clauses (as in 3 and 9) alternate with indicative clauses without a consistent difference in meaning (but see §2.4 for certain disambiguation effects and a discussion of their significance). If the subjunctive were making a systematic semantic contribution here, one would expect it to require a substitute in translations into a subjunctiveless 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—more precisely, if and only if its local clause is in a downward-entailing context.

A downward-entailing context for a clause is one that is weakened if the clause is strengthened, represented schematically as in 19.

- (19) A context γ is downward-entailing for the clause α just in case for any clause β such that $\beta \Rightarrow \alpha$, $\gamma [\alpha] \Rightarrow \gamma [\alpha/\beta]$.

For example, the German example sentence 9, ‘I own nothing at all which is valuable’, entails any sentence that derives from it by a strengthening of the relative clause, such as ‘I own nothing at all which is very valuable’.

This working definition is patterned on the NPI-licensing condition stated by Gajewski (2005:33), and the remainder of §2 presents arguments supporting 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.

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 these languages, over and above the relative clauses illustrated in 3 and 9. 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 §§2.2–2.4, parallels and divergences between the two PSSs and some familiar NPIs are noted. 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 its own variant.

The working definition above leaves the notion of a downward-entailing context underspecified in a number of ways. The wording will be made 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, and in Russian as the particle *by*, which can cliticize to the ‘that’ complementizer *čto*. This marking is accompanied by past tense: in Russian subjunctive clauses, past verb forms (or infinitives; see 24) are indiscriminately used for past or present reference; in German PSS clauses, past forms are used for present reference and past perfect forms for past reference (thus here it is the so-called ‘second subjunctive’ paradigm that is used as a PSS).

NEGATION UPSTAIRS, SUBJUNCTIVE DOWNSTAIRS. In German and Russian alike, the PSS can occur in a complement clause in a negative matrix clause context. Examples 20 and 21, respectively, are clear cases in point.

(20) Nicht, dass es jetzt noch einen Unterschied machen würde.⁵
 not that it now yet a difference make would.SUBJ
 ‘Not that it matters anymore.’

(21) Ne to, čtoby sejčas èto imelo kakoe-to značenie.⁶
 not it that.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 subordinate clause in the Russian sentence 22, for example, can only be understood as a concealed counterfactual conditional, where the ‘if’ clause is missing.

(22) Èto pravda, čto èto imelo by ogromnoe značenie.⁷
 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 nonlocal—the two cannot occur in the same clause. The German example in 23 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 have only a counterfactual interpretation.

(23) 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 24, the complementizer-cum-subjunctive *čtoby* introduces an infinitive subordinate clause.

(24) Ona vzjala sebja v ruki, vmesto togo čtoby plakat’ celymi dnjami.⁸
 she took self in hand instead that that.SUBJ cry.INF whole days
 ‘She pulled herself together instead of crying all day.’

⁵ Source: <https://www.motor-talk.de/forum/probleme-schwaechen-am-x1-t5146995.html?page=2>

⁶ Source: <https://www.litres.ru/galina-mironova-13186093/odnazhdy-v-ofise/chitat-onlayn/page-5/>

⁷ Constructed; judgment validated by Solomeia Bagautdinova.

⁸ Source: <http://www.sega.la-fa.ru/ru8883.html> (no longer available)

Recall the relative clause constructions 3 and 9; there, too, the key downward-entailing 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 and Postal (2014:96) argue that NPIs can be raised from such relative clauses to become clausemates with their upstairs licensors. But not all relevant cases involve pseudo-relative clauses; the German example 25, for example, is a different sort of case.

- (25) ... ist ... noch keiner gestorben den ich besonders kennen würde.⁹
 is still no.one died whom I especially know would.SUBJ
 ‘... so far, nobody has died that I have known well.’

To be sure, the relative clause DP will not be definite, but as we will see in §2.4, this 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 indeed seems reasonable to assume that the mood is merged in a higher position in the clause than negative elements can be. I return to this in §4.2.

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

PREDICATES BETWEEN NEGATION AND A ‘THAT’ CLAUSE. Next, we may note that in both German and Russian, a variety of predicates can embed a ‘that’ clause with a PSS while in the scope of a negation: impersonal predicates meaning ‘come to pass’, as in 26–27, personal predicates meaning ‘experience’, perception verbs, as in 28–29, and more.

- (26) Mir ist es ... noch nie passiert, dass sie nicht gewirkt hätte.¹⁰
 me is it yet never passed that it not worked had.SUBJ
 ‘To this day, my pill has never malfunctioned.’
- (27) So mnoj ne slučalos’, čtoby sny čto-to predugadyvali.¹¹
 with me not happened that.SUBJ dreams something predicted
 ‘It has never happened to me that a dream predicted anything.’
- (28) Ich habe noch nie gehört, dass jemand daran gestorben wäre, ...¹²
 I have yet not heard that someone thereon died was.SUBJ
 ‘I never heard of anyone dying from it, ...’
- (29) Lično ja nikogda ne slyšal, čtoby kto-nibud’ umer ... ot ...¹³
 personally I never not heard that.SUBJ anybody died from
 ‘Personally, I never heard of anyone dying ... from ...’

⁹ Source: <https://forum.worldofplayers.de/forum/threads/94094>

¹⁰ Source: <https://www.gutefrage.net/frage/pille-20-min-zu-spaet-genommen>

¹¹ Source: <https://www.sv-nn.ru/forum/theme/10968>

¹² Source: <https://www.gruene-smoothies.info/gruene-smoothies-rezepte/>

¹³ Source: <http://referat-news.ru/Ehnciklopediya-polovoj-zhizni.html>

The wider field includes clause-embedding predicates meaning ‘indicate’, ‘mean’ (*heißen*, *značit*), ‘there is (no) sign’, and ‘there is (no) indication’ (*Hinweis*, *ukazanie*). All of these predicates create upward-entailing contexts for the clauses they embed; hence negative elements over them create downward-entailing 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 §2.1 that the Bulgarian example 7, 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 Dobrushina 2016:292ff.). Apparent cases of this sort, such as 30 and 31, 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 31) is not essential.

- (30) Dr. Höngesberg glaubt nicht, dass das Landratsamt ein Veto eingelegt
 Dr. Höngesberg thinks not that the Landratsamt a veto entered
 hätte.¹⁴
 had.SUBJ
 ‘Dr. Höngesberg doesn’t think the district authority would have vetoed
 the plan.’
- (31) Demid Momot ... somnevaetsja, čtoby na takoe soglasilas’ odna firma.¹⁵
 Demid Momot doubts that.SUBJ on such agreed lone firm
 ‘Demid Momot ... doubts that any one company would agree to anything
 like that.’

At first sight, this may seem to challenge a view of the mood 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*, *somnevat’sja* ‘doubt’ are not in fact downward-entailing 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: that ‘*a* believes *p*’ entails ‘*a* believes *q*’ whenever *p* entails *q* rests on the premise that *a* is ‘logically omniscient’.¹⁶

Moltmann (1994) discusses the fact that many NPIs are felicitous in contexts like ‘*a* does not believe ...’ even though they are not *stricto sensu* downward-entailing, and suggests this as evidence that a conception of belief as upward-entailing can be semantically relevant. It may be that such a loose conception is relevant for many but not all NPIs and that the German or, to a lesser degree, the Russian PSS is more sensitive than most to the subjective element present in personal attitude ascriptions.

¹⁴ Source: <https://www.obermain.de/lokal/obermain/art2414,875381>

¹⁵ Source: <https://spb.aif.ru/archive/1797575>

¹⁶ The textbook semantics for verbs like *believe* does embody this premise, but Hintikka (1962:36f.), Partee (1973), Soames (1987), and others have noted that this is an unrealistic idealization.

Note that the negated attitude contexts are strictly non-downward-entailing regardless of whether they have a ‘neg-raising’ reading, as neither reading of ‘*a* does not believe that ...’—in the sense of ‘*a* believes that not ...’ (a neg-raising reading) or in the sense of ‘*a* is not sure that ...’ (no neg-raising reading)—is strictly downward-entailing.

It is in any case interesting to note that in both German and Russian, once this subjective element is removed, as in the impersonal constructions in 32 and 33, respectively, a subjunctive becomes unproblematic.

- (32) Es gibt keinen Grund zu glauben, dass er je der Ideologie verfallen
it gives no reason to believe that he ever the ideology fallen
wäre.¹⁷
was.SUBJ

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

- (33) Somnitel’no, čtoby škol’niki massovo hoteli stat’ svarščikami ...¹⁸
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 32 and 33 are arguably downward-entailing not just modulo a rationality proviso about the beliefs of a person but also unconditionally, because the proviso is, as it were, built into the impersonal constructions.

DOWNWARD-ENTAILING CONTEXTS ONE OR MORE STORIES HIGH. In every case so far, the nonlocal downward-entailing context licensing the PSS has coincided with the global context; hence the whole sentence has been downward-entailing for the PSS clause. This is not a necessity, though; the global context may not be downward-entailing for the PSS clause as long as an intermediate context is: typically, a nonlocal but nonglobal clause, as in the Russian sentence 34.

- (34) Vrjad li est’ ženščina, kotoroj ne prihodilos’ ispytyvat’, čtoby k nej
hardly if is woman whom not came.REFL experience that.SUBJ to her
pristaval mužčina.¹⁹
accosted man

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

Globally, this sentence is in fact upward-entailing with respect to the PSS clause, but this does not matter. The intermediate downward-entailing context can even be a phrase within the matrix clause, as in the German sentence 35.

- (35) Nur sehr wenige haben nie etwas getan, was sie nachher bereut
only very few have never -thing done what they afterward regretted
hätten.²⁰
had.SUBJ

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

What this shows is that a downward-entailing context for the PSS clause does not need to be a full clause; a part of a clause can suffice.

Discussing the French NPI *quoi que ce soit*, Homer (2021:10f.) considers cases that are structurally similar to 35 and identifies the part that is crucially downward-entailing as the polarity phrase. Following this, I assume the polarity phrase to be the relevant

¹⁷ Source: <https://www.zeit.de/kultur/film/2015-11/luis-trenker-ard-moretti>

¹⁸ Source: <https://philanthropy.ru/blogs/2015/11/17/30923/>

¹⁹ Constructed; judgment validated by Serge Minor and Natalia Mitrofanova.

²⁰ Constructed; judgment validated by Anneliese Pitz, Heinz-Peter Prell, and Alexandra Spalek.

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 a full clause, that needs to be downward-entailing 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 of which one needs to be downward-entailing with respect to an NPI—include the minimally nonlocal, immediately superordinate clause and its polarity phrase.

Note, though, that the downward-entailing context containing the PSS clause is not necessarily (in) the immediate matrix clause. Provided that the intermediate clause context is strictly upward-entailing, it can be two clauses removed, as in the German 36 and Russian 37.

- (36) Nicht, dass es jemanden gäbe, der mir eine Antwort schuldig wäre.²¹
 not that it someone gave who me an answer owing was.SUBJ
 ‘Not that anybody owes me an answer.’
- (37) Net ničego, čo ukazyvalo by na to, čoby Putin ob ètom
 not nothing that indicated SUBJ at it that.SUBJ Putin about this
 voobščè dumal.²²
 in.general thought
 ‘There is nothing to indicate that Putin is thinking about this at all.’

A possible confound here is that there already is a PSS in the matrix, so 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 in which the PSS must occur as some—any—polarity phrase or full clause containing the local PSS clause.

2.3. A GERMAN–RUSSIAN DIFFERENCE: SENSITIVITY TO SCALAR IMPLICATURES. 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 downward-entailing. As we will see, another way to describe the facts is that the PSS is less sensitive to polarity at the level of scalar implicatures in Russian than it is in German.

ANTI-ADDITIVITY OR PLAIN DOWNWARD-ENTAILINGNESS. All examples so far have a context that is not just downward-entailing but anti-additive (see Zwarts 1998 for a locus classicus of this distinction as applied to NPIs). While a clause is in a downward-entailing 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, 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, represented schematically as follows.

- (38) A context γ is anti-additive for the clause α just in case for any clause β ,
 $\gamma [\alpha] \wedge \gamma [\alpha/\beta] \Leftrightarrow \gamma [\alpha/\alpha \vee \beta]$.

For example, ‘it is improbable that ...’—German *es ist unwahrscheinlich, dass ...*, Russian *maloverojatno, čto ...*—makes a context that is downward-entailing but not anti-additive: α and β may both be unlikely, but that does not make it unlikely that α or β is the case. You may be unlikely, say, to spot a heron, and also unlikely to spot a crane,

²¹ Source: <http://www.wolfgang-louis.de/Erzählungen.html> (no longer available)

²² Source: <https://republic.ru/posts/email/95083>

but that does not strictly mean that you are unlikely to spot one or the other. A negative word like ‘never’, however, is anti-additive: if you have never spotted a heron and never spotted a crane, then you have also never spotted one or the other.

A natural question is whether the PSS requires an anti-additive 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 according to whether they need an anti-additive or just a downward-entailing context, another way to phrase this is that the German PSS would seem to be a relatively strong item.

In the two Russian downward-entailing but not anti-additive contexts in 39 and 40, with the determiner *malo* ‘few’ and the adverb *redko* ‘rarely’, respectively, the subjunctive is unproblematic.

(39) ... sovsem malo ljudej, kotorye byli by dovol’ny svoim telom.²³
quite little people who were SUBJ satisfied their body
‘... very few people are satisfied with their body.’

(40) Redko vstreliš’, čtoby hudožnik narisoval sam sebja vot tak.²⁴
rarely meets.REFL that.SUBJ artist painted REFL self as such
‘Artists rarely paint themselves this way.’

German counterparts with subjunctives in the subordinate clauses are only marginally possible, as seen in 41, and since corresponding sentences with the negative determiner *keine* ‘no’ or adverb *nie* ‘never’ are felicitous, it would seem that the German PSS needs to be in an anti-additive context.

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

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 Homer 2020 and Penka 2020).

More precisely, the reason that a German subjunctive is dubious in cases like 41 might have less to do with the downward-entailing 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-downward-entailing implicatures, that is. From the point of view of a grammatical theory of scalar implicatures, being in a downward-entailing context at the level of scalar implicatures means being in such a 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 that stays downward-entailing when any such implicature is added to the content.

²³ Source: <http://lenta.te.ua/other/2016/11/30/61390.html>

²⁴ Source: <https://amak-190.livejournal.com/276819.html>

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 42 do occur, but what they all have in common is that a potential non-downward-entailing scalar implicature is not actualized. Thus the author of 42 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.

- (42) Es gibt schönere Straßen in Leipzig, aber wenige, die beliebter
 it gives more.beautiful streets in Leipzig but few who more.beloved
 wären.²⁵
 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 the 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 that Zwarts (1998), among others, has classified as strong, such as the adverbs *nennenswert* ‘mention-worthy’ and *sonderlich* ‘especially’. Example 43 is one of his: the latter adverb is judged to be deviant in the context of ‘few’, implicating ‘some’.²⁶

- (43) Nur wenige Kaufleute sind (*sonderlich) zufrieden gewesen.
 only few merchants are especially content been
 ‘Few merchants were content.’

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.

This 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 2014:93ff., and also Richter & Radó 2014:54ff. and Klapheke & Davidson 2019:88ff.).

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. One of his many attested examples is 44: *in weeks/months* is a known strong NPI, yet it is licensed by a negation that cannot be analyzed as belonging in its clause.

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

²⁵ Source: <https://www.karo-architekten.de/cms/wp-content/uploads/2010/01/polis-all.pdf>

²⁶ Zwarts marks the deviance with an asterisk, but a question mark would seem to be more appropriate.

More to the point, Obrebalski (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 in the CoDII-NPI.de resource ('Collection of distributionally idiosyncratic items: Negative polarity items in German'),²⁷ its licenser is in a superordinate clause. In fact, cooccurrences of the PSS and this adverb are well attested in corpora, for instance the *Die Zeit* (1946–2018) weekly newspaper corpus.²⁸ Here is one case.

- (45) Es ist nicht so, dass ich ein **sonderlich** aggressiver Fahrer **wäre**.
 it is not so that I an especially aggressive driver was.SUBJ
 'It's not the case that I'm a particularly aggressive driver.'

(*ZeitMagazin*, 17 December 2009)

What this shows is that to the extent that the cooccurrence of nonlocal licensing and strength presents a problem, it is one that must be addressed on a broad front, irrespective 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 downward-entailing as far as the descriptive, at-issue content is concerned but have presuppositions that are not downward-entailing. More particularly, regarding German, a range of words that are commonly assumed to introduce such presuppositions and that 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 to be NPIs, claims that these items are insensitive to upward-entailing presuppositions, citing contexts created by *tol'ko* 'only'.

However, other contexts with downward-entailing entailments and upward-entailing presuppositions fail to license the Russian PSS; moreover, the Russian and the German PSS can both have a disambiguating effect in contexts where an upward-entailing presupposition may or may not come into play. My conclusion is that the Russian as well as the German PSS is sensitive to presuppositions.

DISRUPTION. As shown by Homer (2008), who references English, French, and Italian, whereas NPIs labeled as strong are generally affected by upward-entailing presuppositions, those classified as weak are affected by only 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 that mean 'regret' or 'sorry', which are held to create downward-entailing contexts in regard to their truth conditions but also to induce upward-entailing contexts at a presuppositional level. To illustrate: if you are sorry you left your landing net at home, you (i) believe you did leave your landing net at home (upward-entailing presupposition) and you (ii) wish it were not the case that you left your landing net at home (downward-entailing assertion) (see von Stechow 1999:125).

These predicates do license NPIs like French *quoi que ce soit* 'anything', German *jemals* 'ever' (46a), and Russian *-libo* or *by to ni bylo* series adverbs, pronouns, and determiners (47a; see Paduceva 2015:148); in French such contexts license a subjunctive, while in German or Russian they do not.

²⁷ <https://www.english-linguistics.de/codii/>

²⁸ DWDS corpora URL: <https://www.dwds.de/r>

- (46) a. Ich bedauere, dass ich Herrn Gloor jemals Geld gegeben habe.²⁹
 I regret that I Mr. Gloor ever money given have
 ‘I regret I’ve ever given money to Mr. Gloor.’
presupposition: I have given money to Mr. Gloor
- b. #Ich bedauere, dass ich Herrn Gloor jemals Geld gegeben hätte.
 I regret that I Mr. Gloor ever money given had.SUBJ
- (47) a. Ona sožaleet, čto malo gastrolirovala po Rossii.³⁰
 she regrets that little toured on Russia
 ‘She regrets she has rarely toured in Russia.’
presupposition: (she believes) she has rarely toured in Russia
- b. #Ona sožaleet, čtoby malo gastrolirovala po Rossii.³¹
 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 below on verbs meaning ‘recall’) depends only on partial, so-called Strawson downward-entailingness, counting presuppositions out, the German-Russian PSS depends on total downward-entailingness, 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 German *einzig-* or Russian *edinstvenn-* ‘(the) only’, as in 48 and 49, respectively.

- (48) a. Musik ist die einzige Sprache, die jeder versteht.³²
 music is the only language which every 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
- (49) a. Ona edinstvennaja, kto ponimaet Raskol’nikova, ...³³
 she only who understands Raskolnikov
 ‘She is the only one who understands Raskolnikov, ...’
- b. Ona edinstvennaja, kto ponimal by Raskol’nikova, ...³⁴
 she only who understood SUBJ Raskolnikov
 ‘She is the only one who understands Raskolnikov, ...’

Like the English adjective or particle *only*, these adjectives are commonly described as introducing a descriptive content that is downward-entailing, but also a presupposition that is not—in 48, that music is a language everybody understands, and in 49, that she is 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.

²⁹ Source: <https://www.handelszeitung.ch/politik/daniel-gloor-ich-bedauere-mein-verhalten-625431>

³⁰ Source: https://saratov.aif.ru/culture/prima-balerina_v_saratove_ona_sožaleet_čto_malo_gastrolirovala_po_rossii

³¹ Judgment validated by Solomeia Bagautdinova.

³² Source: <https://www.soundskills.de/community/> (no longer available)

³³ Source: <https://vashurok.ru/questions/> (no longer available)

³⁴ Judgment validated by Solomeia Bagautdinova and Serge Minor.

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 assume it is a presupposition, some, like van Rooij and 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 49 do not show that the Russian PSS is insensitive to non-downward-entailing presuppositions, only that it is insensitive to non-downward-entailing implicatures, which was already established in §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 50a (German) and 51a (Russian).

- (50) a. Jeder, der jemals in Bhutan war, war von dem Land beeindruckt.³⁵
 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 Land
 every who ever in Bhutan been was.SUBJ was of the country
 beeindruckt.
 impressed
- (51) a. Vse, u kogo deti idut v školu, posadjat derevce.³⁶
 all at who.GEN children go in school plants.PFV tree
 ‘Everyone with children going to school will plant a tree.’
- b. #Vse, u kogo deti šli by v školu, posadjat derevce.³⁷
 all at who.GEN children went SUBJ in school plants.PFV 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 50a one can infer that some have been to Bhutan, and from 51a that some have schoolchildren. 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 is in tune 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. Example 52 is a case in point: the relative clause is part of a partitive construction with a demonstrative pronoun ‘that’. The subjunctive version (52b) is infelicitous.

- (52) a. Hier ist noch nichts von dem geschehen, was uns zugesagt wurde.³⁸
 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

³⁵ Source: http://www.sfs.uni-tuebingen.de/~gjaeger/lehre/ss07/semantikPragmatik/Pragmatik_05_SkalareImplikaturen.pdf

³⁶ Source: <https://obozrenie-chita.ru/article/ukrashenie-i-blagoustrojstvo-dvora>

³⁷ Judgment validated by Solomeia Bagautdinova and Serge Minor.

³⁸ Source: <http://blog.mp-p.info/2019/09/>

Example 53 provides a subjunctive control case where most factors are held equal but the DP containing the relative clause is indefinite; thus while 52a presupposes that something was promised, 53 does not presuppose that anything is beyond repair.

- (53) ... , zum Glück ist nichts geschehen, was irreparabel wäre.³⁹
 to luck is nothing happened what irreparable was.SUBJ
 ‘... fortunately, nothing has occurred that cannot be remedied.’

DISAMBIGUATION. Across many languages, verbs meaning ‘remember’, which are ordinarily factive, can also be meant and read in a nonfactive 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 in 54 nor the Russian sentence in 55, with *jemals/kogda-libo* ‘ever’ in the complement clause, presupposes the content of that clause.

- (54) Allerdings kann sich keiner der 3500 Besucher auf dem Killesberg
 however can REFL none the.GEN 3500 visitors on the Killesberg
 erinnern, dass sie jemals hier aufgetreten ist.⁴⁰
 recall that she ever here appeared is
 ‘But none of the 3,500 visitors to the Killesberg remembers her ever
 performing there.’
- (55) Ona ne pomnit, čto kogda-libo zdes’ byla ... rabota s postojannoju
 she not recalls that when-ever here was work with constant
 oplatoj.⁴¹
 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 example 56 or the Russian example 57: the factive presupposition is missing. Homer (2008:432), Hedin (2016:158ff.), and B-Violette (2019:19) have illustrated the same pattern in French, Greek, and Portuguese, respectively.

- (56) Beatrix Zurbrügg kann sich aber nicht erinnern, dass Helga einmal
 Beatrix Zurbrügg can REFL but not recall that Helga once
 länger nicht gekalbt hätte.⁴²
 longer not calfed had.SUBJ
 ‘But Beatrix Zurbrügg cannot recall Helga once not calving for long.’
- (57) Papa ne pomnit, čtoby kogda-libo on otkazyvalsja govorit’
 pope not recalls that.SUBJ when-ever he refused speak
 s kem-libo.⁴³
 with whom-ever
 ‘The Pope cannot recall ever refusing to speak to anyone.’

³⁹ Source: *Franziska* Linkerhand, by Brigitte Reimann, Berlin: Neues Leben, 1974, p. 345.

⁴⁰ Source: <https://www.stuttgarter-nachrichten.de/inhalt.patti-smith.73a972f6-080b-457d-915c-706d6b59c431.html>

⁴¹ Source: <https://kazakh-zerno.net/131302-kak-menaetsya-zhizn-selchan-tadzhikistana-pri-podderzhke-proon-i-rossii/>

⁴² Source: <http://www.schweizerbauer.ch/tiere/fleischrinder/mit-23-jahren-geht-helga-immer-noch-z-berg-24101.html>

⁴³ Source: <https://fjp2.com/ru/>

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

Another case can be observed in connection with existence presuppositions. Recall the partitive construction in 52, 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, such as ‘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 nonpresuppositional reading. This is noted by Zifonun et al. (1997:1751):

In Relativsätzen zu negierten Obersätzen kann der Konjunktiv ... distinktiv eingesetzt werden, um anzuzeigen, dass der Relativsatz sich im Negationsskopos 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 in 58.

- (58) a. Ich habe nichts gefunden, was ich verloren habe.⁴⁴
 I have nothing found what I lost have.IND
 ‘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.⁴⁵
 I have nothing found what I lost had.SUBJ
 ‘I haven’t lost anything of what I’ve found.’—*that is*,
 ‘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 have found and the set of things I have lost is empty, but in practice, one set will be presupposed to be nonempty, and 58b is compatible only 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 nonpresuppositional 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 nonpresuppositional readings seems to be THE difference the PSS can make; whenever presuppositional readings are not on the table, the PSS is interchangeable with the indicative once it is licensed. This is as is to be expected from grammatical morphemes like subjunctives, which lack 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, for example, Eckardt 2012 on these two typical attributes of lexical or phrasal NPIs that can add meaning.

⁴⁴ Constructed; judgment validated by Alexander Pfaff and Alexandra Spalek.

⁴⁵ Constructed; judgment validated by Alexander Pfaff and Alexandra Spalek.

2.5. POLARITY AND COUNTERFACTUAL SUBJUNCTIVES CAN BE IN COMPETITION. We have seen evidence that subjunctives can behave like NPIs. If they are in fact subjected to treatment as NPIs, it 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 displaced by one where the subjunctive only reflects a higher negation.

Consider as a clear case in point the ambiguous German sentence in 59.

- (59) Es gibt keinen Kämpfer, der dieses Angebot abgelehnt hätte, ... ⁴⁶
 it gives no fighter who this offer declined had.SUBJ
 ‘No fighter would have declined this offer/has ever declined this offer, ...’

One of the two readings of 59 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.

Example 59 could be reproduced in Russian. A slightly different Russian example, 60 (which could, in turn, be reproduced in German), shows the same point.

- (60) Ne to čtoby ja skučal po nemu, ... ⁴⁷
 not it that.SUBJ I missed on him
 ‘Not that I miss(ed) him, ...’/‘Not that I’d (have) miss(ed) him, ...’

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

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

2.6. SUMMARY. This section has provided a variety of evidence that German and Russian display a variant of the subjunctive that behaves 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 downward-entailing for the local clause (§2.2).
- In German, this context must be downward-entailing 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 downward-entailing even when presuppositions are counted in (§2.4).

⁴⁶ Source: <https://kr.ufc.com/node/69658>

⁴⁷ Source: https://vk.com/@skazki_primus_julia-stranavozmognoosti; judgments validated by Margarita Aslanova Kapstad.

The aim of §4 is to outline an analysis from which these facts fall out. First, however, I review previous approaches to some of the facts as pertaining to Russian.

3. POLARITY-SENSITIVE SUBJUNCTIVE: PREVIOUS PROPOSALS. Descriptively oriented work on the subjunctive in German or Russian, such as the monographs by Dobrushina (2016) and Fabricius-Hansen et al. (2018), offers comprehensive characterizations of polarity-sensitive uses (see Dobrushina 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: Partee (2008), Kagan (2013), and Bondarenko (2021).

The first two follow opposite strategies. On the one hand, in line with proposed theories about subjunctives in Greek or Romance, Kagan (2013) concedes that the contexts in question are extensional, but postulates a common denominator between these contexts and the intensional contexts, whether counterfactual or volitional. On the other hand, Partee (2008) takes the critical negative element to enable or interact with a covert or overt intensional operator, making the PSSs 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 NONCOMMITMENT 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—a global context or an embedded context, as the case may be, whether the root clause proposition or a relevant epistemic state.

More specifically, Kagan draws on the constraint that Farkas (2003) subjects the Romance subjunctive to, namely, that the content of its clause must not be ‘decided’ in the relevant set of worlds, the output context to which the clause is added. It is decided if it or its negation follows from that context, or set of worlds, as in 61.

(61) A proposition p is decided in a set of worlds W iff $W \subseteq p$ or $W \cap p = \emptyset$.

For example, if you say that Mary is pregnant, that will be positively decided in the global output context since it follows from itself; if you say that Mary believes she is pregnant, the proposition that she is will be positively decided in the local output context of her beliefs.

For the Romanian example in 62, the felicity of the version with the negation *nu* and the infelicity of that without it can thus be accounted for.

(62) ... dar ea #(nu) crede șa fie o problemă cu lapticul ...⁴⁸
 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 added not to the main output context but to the embedded epistemic context of the attitude holder *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.⁴⁹

⁴⁸ Source: http://www.parinti.com/modules.php?name=Forums&file=print\&topic_id=39591 (no longer available)

⁴⁹ 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.

Kagan (2013) builds on this when analyzing the subjunctive in relative clauses under negation in Russian, as in 3 or 63 (one of her examples).

- (63) Ja #(ne) videl čeloveka, kotoryj by sčital inače.
 I 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.

Example 63—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):

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 Russian subjunctive can be used in a relative clause if and only if 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 such as *moč* ‘may’ create contexts without any implication that the denotation of the NP is nonempty, but this does not suffice to license the subjunctive.

- (64) a. Kak znat’, možet byt’, on vstretil ženščinu, kotoraya prednaznačena
 how know may be he met woman who predestined
 dlya nego samoj sud’boj?⁵⁰
 for him self.INS fate.INS
 ‘Who knows, maybe he’s met a woman who’s fated for him?’
 b. #Kak znat’, možet byt’, on vstretil ženščinu, kotoraya byla by
 how know may be he met woman who was SUBJ
 prednaznačena dlya nego samoj sud’boj?⁵¹
 predestined for him self.INS fate.INS

3.2. THE HIDDEN INTENSIONALITY APPROACH. Partee (2008) locates the key factor licensing the subjunctive in cases like 63 not in the negative element as such but in an implicit intensional element enabled by it. In this, her proposal is similar to 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 subjunctive [i.e. the noncommitment approach—*KJS*], or negative sentences are more able than affirmative ones to accommodate the addition of a silent modal operator

⁵⁰ Source: https://thelibrary.ru/books/neznanakiy_fridrih_evseevich/proschenie_slavyanki-read.html

⁵¹ Judgment validated by Margarita Aslanova Kapstad.

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. (Partee 2008:302)

As a case in point, that is, a negative sentence where a subjunctive relative clause is not supposed to be allowed, Partee cites 65 and compares it to 66.

- (65) #*Kakoj-to gost' ne vidal devočki kotoraja by nosila krasnoe plat'e.*
 some guest not saw girl.GEN who SUBJ wore red dress
 intended: 'Some guest didn't see a girl who wore a red dress.'
 (Partee 2008:303, attributed to Igor Yanovich)

- (66) *Ja ne videl človeka, kotoryj by sčital inače.* [= 63]
 I not saw man who SUBJ considered differently
 'I haven't seen a man with a different opinion.'

She draws a distinction between 'accidental' and 'generic' negation: in 65, we are talking about a narrowly constrained situation; sentence 66, by contrast, is not about a single occasion but 'quantifies over all past situations, and in a sense over all the men I've ever seen' (Partee 2008:304):

Hence it seems that negation in [66] is helping to license some modality, in comparison with ... the single-episode negative [65]. ... [66] 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 ...

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 65 is parallel to 67 in most regards, including those to which Partee attributes the dispreference for the subjunctive in 65.

- (67) *Ne vižu ženščiny, kotoraja stojala by nedaleko ot vyhoda.* [= 3]
 not see woman.GEN who stood SUBJ near to exit
 'I don't see any woman standing next to the exit.'
 (Dobrushina 2010:192, attributed to Elena Paducheva)

This sentence is about a single occasion and a constrained situation, and we do not seem to quantify over nonactual situations or to consider dispositional properties; standing next to the exit is just as accidental a property as wearing a red dress.

Example 65 contrasts with 67 in other ways, however, two of them decisive for its infelicity.⁵² For one thing, the specific indefinite subject DP *kakoj-to gost'* suggests that somebody else did see a woman wearing a red dress. Second, the imperfective verb forms *vidal* and *nosila* in 65 invite an experiential or habitual interpretation that interferes with the episodicity of the described scene; this reason for the infelicity of 65 is independent of the subjunctive. In fact, if those two verb forms and the subject DP are suitably replaced, the subjunctive becomes fully felicitous.

- (68) *On ne videl devočki u kotoroj by bylo krasnoe plat'e.*
 he not saw.PFV girl.GEN at who.GEN SUBJ was red dress
 'He didn't see any girl wearing a red dress.'

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

⁵² I am grateful to Serge Minor for careful judgments about 65 and 68.

The hidden intensionality approach to cases like 66, 67, or 68 is therefore faced with the opposite problem from that facing the noncommitment approach: undergeneration, or predicting subjunctives to be infelicitous when they are in fact felicitous, as in relative clauses under negation in episodic, extensional contexts.

3.3. THE DOWNWARD-ENTAILINGNESS, 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 range of clause-embedding verbs can embed subjunctive *čtoby* clauses only in downward-entailing contexts, and she argues, more specifically, that they can embed such clauses only in environments that are known to license weak NPIs, or ‘Strawson downward-entailing’ environments: ‘Subjunctive clauses are weak NPIs and need to occur in Strawson Entailment-Reversing environments’ (Bondarenko 2021:2).

Although Bondarenko thus refers to subjunctive CLAUSES as NPIs, it is clear that the subjunctive itself, represented by the particle *by*, is considered to be a morpheme that combines with a proposition-expressing constituent—more precisely, 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 seen in §2.4 that general entailment reversal, where a possible entailment-preserving presupposition is counted, seems to be the key factor.

While Bondarenko (2021) stops short of offering a full account of the Russian polarity subjunctive, including an explicit semantics for it, she formulates a generalization in the form of a necessary condition for its acceptability, as given in 69.

- (69) **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.

With the proviso about Strawson entailment reversal versus general entailment reversal (counting possible upward-entailing presuppositions out or in) in mind, this generalization provides a good starting point for an explicit semantic treatment of the Russian and the German PSS morpheme.

3.4. SUMMARY. Two of the three approaches reviewed here can be called integrational because they seek to integrate the polarity use of the subjunctive into a more comprehensive picture of subjunctive usage. These two approaches face empirical challenges: one tends to overgenerate, and the other tends to undergenerate.

In fact, in consideration of the problems facing attempts at a unified account, a ‘segmentational’, unilateral approach, like the third approach reviewed, appears worth pursuing. This means focusing on the polarity use in its own right without searching for a unifier, which is the line taken in the present article.

Note, though, a theoretical concern with all three approaches: none provides an explicit definition of the meaning of the subjunctive, answering the question of what causes the infelicity when the mood is not licensed. As observed by Chierchia (2013:146) in connection with NPIs, ‘[I]icensing generalizations’ are inherently descriptive; ‘we should try to do better’. In §4, an analysis of subjunctive-qua-NPI aimed at doing better is proposed.

4. POLARITY SUBJUNCTIVES ACTIVATE DOMAIN ALTERNATIVES. The goal of this article is not just to build a strong case that German and Russian subjunctives have meaning variants that could and should be classified as NPIs. Another important objective is to

show how these variants are well suited to be NPIs by providing a semantic analysis from which their licensing conditions follow.

One key ingredient in this analysis is the idea developed by Chierchia (2013) that NPIs activate alternatives in view of which their contexts are exhausted by a covert operator, a counterpart of *only* or of *even*. Another ingredient is Crnič's (2019) proposal 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 that fails unless the scope of the covert operator is a downward-entailing context for the scope of the subjunctive, concerning both at-issue and presuppositional content. This accounts for the licensing conditions the German and Russian PSSs share. Their distinctive licensing conditions are accounted for by further assuming that the operator which associates with the alternatives activated by the German subjunctive also takes scalar implicatures into account.

Before we go into the specific analyses of the German and the Russian PSSs, 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 these analyses are 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, which is a set of alternatives to the former. The NPI determiner *any* has the same two values as any indefinite article or determiner, such as *a* or *some*. The ordinary value is defined in 70, classically, as the generalized quantifier saying that the restrictor and the scope overlap; D is the covert 'domain argument', a contextually determined subset of the whole domain of individuals. The alternative value is defined in 71, as the set of things coming from the ordinary semantic value by replacing D with a subset.⁵³

$$(70) \llbracket any \rrbracket = \lambda P \lambda Q \lambda w D \cap P_w \cap Q_w \neq \emptyset$$

$$(71) \llbracket any \rrbracket^A = \{ \mathcal{D}_{(s(et))(s(et))(st)} \mid \text{there is a } D' \subseteq D \text{ s.t. } \mathcal{D} = \lambda P \lambda Q \lambda w D' \cap P_w \cap Q_w \neq \emptyset \}$$

However, while in the case of *a* and *some* the alternatives are active only when they are relevant, so that $\llbracket a \rrbracket^A$ usually 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.

Once activated these alternatives now have to be factored into meaning, which is accomplished by a covert operator attaching at some point above the NPI. The operator presented in 72, E_{\subseteq} , 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 72 and a definition of an alternative semantic value like 71 jointly predict, namely, that a sentence with an NPI cannot be true unless one of the contexts the operator can attach to is downward-entailing with respect to the NPI. In words, 72 says that a clause $E_{\subseteq} \phi$ is only true or

⁵³ Here and in the following, I adapt slightly the notation used by Chierchia (2013).

false if ϕ entails all of its alternatives, and that if it is true or false, it is true just in case ϕ itself is true.⁵⁴

$$(72) \llbracket E_{\subseteq} \phi \rrbracket^w = \begin{cases} 1 & \text{iff (i) for all } p \in \llbracket \phi \rrbracket^A, \llbracket \phi \rrbracket \subseteq p \text{ and (ii) } \llbracket \phi \rrbracket^w = 1 \\ 0 & \text{iff (i) and } \llbracket \phi \rrbracket^w = 0 \end{cases}$$

In other words: E_{\subseteq} adds to ϕ the presupposition that all of its distinct alternatives are weaker than it is. The contribution of E_{\subseteq} to alternative semantic values is defined in 73: alternatives are reset once they are factored into ordinary semantic values.

$$(73) \llbracket E_{\subseteq} \phi \rrbracket^A = \{\llbracket \phi \rrbracket\}$$

Together with the definition of the alternative semantic value of *any* in 71, the definition of the E_{\subseteq} operator in 72 predicts that a sentence $E_{\subseteq} \phi$, where ϕ contains *any*, can be true or false only if ϕ is downward-entailing with respect to the *any* phrase. Let us see how this prediction plays out in a simple case.

$$(74) \text{Not that there are any flies} \dots^{55}$$

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, thus effectively narrowing the set of flies. Because all of 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 downward-entailing context for *any flies* and turns the entailingness around. All of the propositions that come from the proposition that there are no flies by narrowing the set of flies are weaker than (or as weak as) it is; 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 respects (see Paducheva 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 with the intersection between its input and some subset of the domain of times T , represented formally as follows.

$$(75) \llbracket ever \rrbracket = \lambda \mathcal{J}_{(it)} \mathcal{J}$$

$$(76) \llbracket ever \rrbracket^A = \{f_{(it)(it)} \mid \text{there is a } T' \subseteq T \text{ s.t. } f = \lambda \mathcal{J}_{(it)} \mathcal{J} \cap T'\}$$

In a nutshell, the logic is: substitutions of subsets lead to subset propositions as long as the context is upward-entailing, but according to the definition of the operator E_{\subseteq} , the alternatives to its argument proposition should all instead be supersets. Once the context becomes downward-entailing, however, the alternatives turn into supersets, as required.

⁵⁴ 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 ϕ , and requires this as a truth condition, while Crnič's covert *even*, which does not do such double duty, does not require ϕ to be logically stronger but in any case less likely than its distinct alternatives. I call the operator defined in 72 ' E_{\subseteq} ' so as to reflect that it is like Crnič's E in that the truth of the alternatives is not a factor and the added meaning is a definedness condition, but like Chierchia's O in that the relevant relation is the subset relation.

⁵⁵ Source: <https://www.tripadvisor.com.au/ShowUserReviews-g528988-d3735605-r553633250.html>

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* which says that these items activate alternatives in the form of subsets of the relevant domains, alternatives that are propagated to the level of a proposition that is presupposed to be stronger than any of its distinct alternatives—a presupposition bound to fail if the context is upward-entailing and to succeed if it is downward-entailing.

The key idea is now that this theory can carry over to the German or Russian PSS so that the observations made in §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 entailment reversal is calculated for subdomains of the predicate for NPIs like *kakoj-libo* ‘any’, for *by* clauses it is calculated for subdomains of the proposition.

THE ANALYSIS IN OUTLINE. I assume that PSSs are situated high in the clause.⁵⁶ 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, this can explain 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 downward-entailing context within their clause, since the smallest of the contexts of which one must be downward-entailing for them to be possible—their minimal domain (see 33)—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 entailingness can be relevant, such as TP, in some superordinate clause.⁵⁷

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 of the subsets of *p* as alternatives.
- (ii) These alternatives are eventually picked up by a silent operator which introduces the presupposition that the proposition it applies to, say *q*, is stronger than all of its distinct alternatives.
- (iii) Because the alternatives to *q* come from alternatives to *p* that are stronger than *p*, this presupposition will be satisfied just in case any strengthening of *p* corresponds to a weakening of *q*—that is, in case *q* is a downward-entailing context for *p*.

The licensing condition stating that the PSS clause must be in just such a 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,
- a sketch of how the PSS, in German or in Russian, will be anti-licensed by a non-downward-entailing presupposition involving it, and

⁵⁶ See, for example, 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’.

⁵⁷ Since there can be more than one potentially downward-entailing phrase, a sentence can have two or more readings, one for each E attachment site; for simplicity, though, I 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.

- a sketch of how the German, but not the Russian, PSS will be anti-licensed by a non-downward-entailing scalar implicature involving it.

DEFINITIONS AND A STANDARD CASE DERIVATION. In the framework presented in §4.1, any meaning has two members: the ordinary semantic value and the alternative semantic value. The ordinary semantic value of the PSS, whether the German variant PSS_G or the Russian variant PSS_R , can be defined as the identity function over propositions.

$$(77) \llbracket PSS_G \rrbracket = \llbracket PSS_R \rrbracket = \lambda \phi_{(st)} \phi$$

Its alternative semantic value can be defined as the set of functions from propositions ϕ to intersections between ϕ and some subset $W' \subseteq W$ of the domain of possible worlds, given formally in 78.

$$(78) \llbracket PSS_G \rrbracket^A = \llbracket PSS_R \rrbracket^A = \{f_{(st)(st)} \mid \text{there is a } W' \subseteq W \text{ s.t. } f = \lambda \phi_{(st)} \phi \cap W'\}$$

Note the close parallel to the definition of the alternative semantic value of *jemals*, *kogda-libo*, or *ever* (76): 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 21 from §2.2, repeated here as 79, 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 pre-supposition that is satisfied by virtue of the negation.

$$(79) \text{Ne to, \u010doby se\u017e\u010das \u0111to imelo kakoe-to zna\u010denie.} \\ \text{not it that.SUBJ now that had some meaning} \\ \text{'Not that it matters anymore.'}$$

A rudimentary LOGICAL FORM is outlined in 80.

$$(80) [E_{\subseteq} [ne [to [_{CP} \u010dto [by [_{TP} se\u017e\u010das \u0111to imelo kakoe-to zna\u010denie]]]]]]]$$

The subjunctive *by* can be assumed to be interpreted between the complementizer *\u010dto* (to which it cliticizes) 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 alternative semantic value contains only its ordinary semantic value, a proposition—that is, a set of worlds.

$$(81) \llbracket se\u017e\u010das \u0111to imeet kakoe-to zna\u010denie \rrbracket^A = \\ \{ \llbracket se\u017e\u010das \u0111to imeet kakoe-to zna\u010denie \rrbracket \} = \{ \lambda w \text{ it matters now in } w \}$$

Let us identify the subjunctive particle *by* as occurring in 79 with PSS_R , whose alternative value is defined in 78; we now need to compose 81 with 77, and for that we need the rule of POINTWISE FUNCTION APPLICATION (Chierchia 2013:138).

$$(82) \llbracket a(b) \rrbracket^A = \{ \gamma \mid \text{there is a } \alpha \in \llbracket a \rrbracket^A \text{ and a } \beta \in \llbracket b \rrbracket^A \text{ such that } \gamma = \alpha(\beta) \}$$

This gives us the following alternative semantic value for the full clause (where the semantic values of *\u010dto* are assumed not to make any difference).

$$(83) \llbracket by (se\u017e\u010das \u0111to imeet kakoe-to zna\u010denie) \rrbracket^A = \\ \llbracket \u010dto (by (se\u017e\u010das \u0111to imeet kakoe-to zna\u010denie)) \rrbracket^A = \\ \{ p \mid \text{there is a } W' \subseteq W \text{ such that } p = W' \cap \lambda w \text{ it matters now in } w \}$$

This is now the same as the power set of the argument proposition of the PSS_R *by*, the set of all subsets of that proposition.

$$(84) \mathcal{P}(\lambda w \text{ it matters now in } w)$$

The next expression in line is the demonstrative pronominal correlate of the *čto*by clause, *to*. Its semantic values can, once again, be assumed not to change anything, resulting in the same alternative semantic value as before.

$$(85) \llbracket to \text{ (} \check{c}to \text{ (} by \text{ (} sej\check{c}as \text{ } \acute{e}to \text{ imeet kakoe-to zna\check{c}enie))} \rrbracket^A = \mathcal{P}(\lambda w \text{ it matters now in } w)$$

Along comes the negative adverb *ne*, with an ordinary semantic value as in 86, the function mapping a proposition to its complement, which is the total set of worlds W minus the proposition, and an alternative semantic value as in 87, the set containing just that function.

$$(86) \llbracket ne \rrbracket = \lambda \phi W \setminus \phi$$

$$(87) \llbracket ne \rrbracket^A = \{\lambda \phi W \setminus \phi\}$$

The two semantic values of the whole of the overt material in 79 now become the following.

$$(88) \llbracket ne \text{ (} to \text{ (} \check{c}to \text{ (} by \text{ (} sej\check{c}as \text{ } \acute{e}to \text{ imeet kakoe-to zna\check{c}enie))} \rrbracket \rrbracket = W \setminus \lambda w \text{ it matters now in } w$$

$$(89) \llbracket ne \text{ (} to \text{ (} \check{c}to \text{ (} by \text{ (} sej\check{c}as \text{ } \acute{e}to \text{ imeet kakoe-to zna\check{c}enie))} \rrbracket \rrbracket^A = \{p \mid \text{there is a } q \in \mathcal{P}(\lambda w \text{ it matters now in } w) \text{ such that } p = W \setminus q\}$$

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 89 are all supersets of the set defined in 88.

This is significant for the covert operator E_{\subseteq} , which enters into the semantic composition at this stage. Recall 72, repeated here for convenience.

$$(72) \llbracket E_{\subseteq} \phi \rrbracket^w = \begin{cases} 1 & \text{iff (i) for all } p \in \llbracket \phi \rrbracket^A, \llbracket \phi \rrbracket \subseteq p \text{ and (ii) } \llbracket \phi \rrbracket^w = 1 \\ 0 & \text{iff (i) and } \llbracket \phi \rrbracket^w = 0 \end{cases}$$

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

$$(90) \llbracket E_{\subseteq} \text{ (} ne \text{ (} to \text{ (} \check{c}to \text{ (} by \text{ (} sej\check{c}as \text{ } \acute{e}to \text{ imeet kakoe-to zna\check{c}enie))} \rrbracket \rrbracket \rrbracket \rrbracket^w = 1 \text{ or } 0 \text{ iff } \forall p \in \{p \mid \text{there is a } q \in \mathcal{P}(\lambda w \text{ it matters now in } w) \text{ such that } p = W \setminus q\}: (W \setminus \lambda w \text{ it matters now in } w) \subseteq p$$

The definedness condition introduced by E_{\subseteq} is thus verified. But if the negation (represented here as $W \setminus$) were missing, it would be falsified, for then the sets on the left and the right of \subseteq would stand not 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 20 would be accounted for in the same way.

Note that while 79 (= 21) and 20 are negative contexts, the same logic will extend to all downward-entailing environments in the scope of E_{\subseteq} .

SENSITIVITY TO PRESUPPOSITIONS. The formalization in 72 is underspecified in a key regard: ϕ may have a presupposition, and then $\llbracket \phi \rrbracket$ 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 ' $\lambda w \llbracket \phi \rrbracket(w) = 1 \subseteq \lambda w p(w) = 1$ ' for ' $\llbracket \phi \rrbracket \subseteq p$ ' in the definition of E_{\subseteq} . The revised

definition 91 says that a clause $E_{\subseteq} \phi$ is true or false only if the set of worlds where ϕ is true is, for all of its alternatives p , a subset of the set of worlds where p is true, and that if it is true or false, it is true just in case ϕ itself is true.

$$(91) \llbracket E_{\subseteq} \phi \rrbracket^w = \begin{cases} 1 \text{ iff} & \text{(i) for all } p \in \llbracket \phi \rrbracket^A, \\ & \lambda w \llbracket \phi \rrbracket(w) = 1 \subseteq \lambda w' p(w') = 1 \text{ and (ii) } \llbracket \phi \rrbracket^w = 1 \\ 0 \text{ iff} & \text{(i) and } \llbracket \phi \rrbracket^w = 0 \end{cases}$$

This amounts to factoring any presupposition into the content, providing suitably strict licensing conditions for presupposition-sensitive NPIs—more precisely, NPIs which are sensitive to presuppositions that are not downward-entailing 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 91, any presupposition that ϕ may have must be downward-entailing for any NPI that may be in it. As we saw in §2.4, the German PSS_G and the Russian PSS_R are both sensitive to non-downward-entailing presuppositions, which means that the operator defined in 91 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, like Russian *-libo* series words, consists in concentrating on the worlds where ϕ and its alternatives are not false. An operator that ensures this can be defined as in 91, save for ‘ $\lambda w \llbracket \phi \rrbracket(w) = 1 \subseteq \lambda w' p(w') = 1$ ’ being replaced by ‘ $\lambda w \llbracket \phi \rrbracket(w) \neq 0 \subseteq \lambda w' p(w') \neq 0$ ’.

Generally, the assumption in the theory is that different NPIs, with different licensing conditions along a strength axis, can have covert operators with slightly different properties associating with the alternatives they activate. It remains something of an open question, though, how the right pairings between NPIs and covert operators come about. One way to think about it is in terms of different sorts of alternatives and of alternative semantic values; another is to assume that an NPI can lexically ‘select for’ a certain covert operator, for example, by carrying features that only it can check (see Chierchia 2013:152, 217ff.; for critical discussion, see Zeijlstra 2017). One particular concern is how two NPIs of different strength in one sentence can each have the alternatives they activate factored into the meaning of the sentence by the appropriate operator. This issue cannot be settled here; I below use the locution that a subjunctive ‘selects for’ a certain operator, conscious that it does not explain, in the words of Sauerland and Yatsushiro (2023), ‘the still unexplained different ... operator selection properties of strong and weak NPIs’.

SENSITIVITY TO SCALAR IMPLICATURES. As we saw in §2.3, PSS_R , the Russian polarity-sensitive subjunctive, is not sensitive to non-downward-entailing scalar implicatures, but PSS_G , the German one, is. Examples 39 and 41 (repeated below) 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_R (39) but not for PSS_G (41).

- (39) ... sovsem malo ljudej, kotorye byli by dovol'ny svoim telom.⁵⁸
 quite little people who were SUBJ satisfied their body
 ‘... very few people are satisfied with their body.’

⁵⁸ Source: <http://lenta.te.ua/other/2016/11/30/61390.html>

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

Therefore, PSS_G must be assumed to select for an E operator that ‘looks at’ not only at-issue content and presuppositions but also any scalar implicature, while PSS_R selects for an E that pays attention to only the first two levels of meaning. One way to encode this distinction, framed in a theory where scalar implicatures are built into the at-issue content through exhaustification, might be to restrict the operator for which PSS_G selects 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_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 downward-entailingness at all levels and the other cares only about at-issue content. They thus strengthen the case, as has been made by Schaebbicke et al. (2021), for a more nuanced picture where different NPIs show different sensitivities in different kinds of contexts.

SUMMARY. Through an analysis of the polarity-sensitive subjunctive in German and Russian as an NPI, adapted closely from the treatment of such items developed by Chierchia (2013) and Crnić (2019), the facts established in §2, both concerning what PSS_G and PSS_R share and in view of their differing sensitivities, have been seen to fall into place.

It is worth pausing to appreciate the close conceptual parallel to the Chierchia-Crnić 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 92–94, which feature *any*, *ever*, and a hypothesized subjunctive, respectively, but are otherwise very similar.

- (92) Not that she has regrets about any decision.
 (93) Not that she has ever regretted a decision.
 (94) *Not that she were regretful about her decision.

All three sentences—pretending that 94 is a grammatical sentence—presuppose that it is more difficult for the proposition expressed by the sentence without the NPI (*any*, *ever*, *were*) to be true than it is for any proposition that comes from it by replacing the relevant domain—be it one of events (as here), 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 her decisions, the full set of past times, or the full set of worlds where she is regretful about her decision fails to contain an event she has regrets about, 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 article amounts to positing a separate meaning variant of the subjunctive in German and in Russian, a polarity-sensitive subjunctive, 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 that 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 that is true just in case the argument of the operator is downward-entailing 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 an isolated one in two respects. First, it limits itself to two languages and does not say anything about, for example, Romance, for which the term ‘polarity subjunctive’ was 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 respects, 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 the polarity subjunctive as a topic in its own right but to limit attention to one or two constructed examples that are conceived of as typical. That said, the cases reviewed in §2.1 do point in the direction that core licensing contexts are shared across rather a wide array of European languages. However, 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 §2.4).

Further, examples given by authors of polarity subjunctives in languages other than German and Russian mostly include a complement clause of a belief verb under negation; as we noted in §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 §3, previous work on this variant in Russian has sought to unify it with ‘intensional’ uses of the subjunctive. Here I 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 that 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 facts 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 §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 noncommitment 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 nonpolarity usage is different here. The subjunctive does have a prominent use as a counterfactual mood; an intensional use, however, as typified in 'purpose-like' complement clauses (see Dobrushina 2016:263ff.), scarcely exists (anymore) (there is, by contrast, 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 from 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 this cost is not without a theoretical gain: polarity subjunctives have been ascribed a meaning from which their polarity-sensitivity falls out. 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. By contrast, the theory of Chierchia (2013:146) and others in its wake supply the items with semantic values from which their polarity-sensitivity can be derived, 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 the steps of explicit 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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[k.j.sabo@ilos.uio.no]

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