

Atle Grønn

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Russian in Contrast. Grammar

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Contents

| | |
|--|-----|
| Russian in Contrast: form, meaning and parallel corpora <i>Atle Grønn, Irena Marijanović</i> | 1 |
| Specificational copular sentences in Russian and English <i>Barbara H. Partee</i> | 25 |
| Scales in the meaning of adjectives <i>Sveta Krasikova</i> | 51 |
| Aspect in English and Russian flashback discourses <i>Daniel Altshuler</i> | 75 |
| Complement tense in contrast: the SOT parameter in Russian and English <i>Atle Grønn, Arnim von Stechow</i> | 109 |
| Converbs in translation: the role of Aktionsart in the interpretation and translation of Russian converb constructions into English and Norwegian <i>Maria Filiouchkina Krave</i> | 155 |
| Subjunctive in Russian relative clauses <i>Nina Dobrushina</i> | 181 |
| Vocatives and other direct address forms: a contrastive study <i>Lilli Parrott</i> | 211 |
| Swiss cheese for lazy speakers: verb omissions in Russian and Czech <i>Jekaterina Mažara</i> | 231 |

RUSSIAN IN CONTRAST: FORM, MEANING AND PARALLEL CORPORA

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[1] RUSSIAN IN CONTRAST – WHO ARE WE?

As an initial taste of what is to come, we offer our readers this introduction as a kind of SMORGASBORD where we present most of the contributions to *Russian in Contrast* (Oslo, September 2009), namely, those papers which made their way to these proceedings. We also take this opportunity to discuss more general challenges currently facing Slavic linguistics and share some of our views on the role of parallel corpora in contrastive linguistics.

Let's start with the conclusion: This is a valuable and highly stimulating collection of articles, thirty one in total. The proceedings comprise three parts, and in the spirit of the conference, with PARALLEL publications in English and Russian. These introductory remarks relate to the first two parts which contain the articles in English.

The papers from *Russian in Contrast* reflect the diversity, strength, and, perhaps, shortcomings of our field. Indeed, we have succeeded in gathering some of the best minds in the field, but we hear ourselves exclaim almost immediately *what field?* The field we are referring to is quite big, but apparently not considered big enough – so far – to have its own channel for dissemination of research. With this at the forefront of our minds, it became evident that the goal of our September conference in Oslo was to create such a channel or meeting place.

We are SLAVICISTS and/or LINGUISTS with interest in the SEMANTICS OF RUSSIAN. This, we argue, is a legitimate occupation – the readers can judge for themselves by taking a closer look at the papers – but our impression is that this union is better described as rather an uncomfortable marriage. Looking at it from a historical perspective, that is, either in modern times or in the past, and irrespective of the geographical location, whether here in Norway or in Russia, the matrimony between the linguist and Russian semantics has not always proved to be a particularly good match. Of course, exceptions are always to be found, and luckily, several of these rarities have contributed to the present volumes.

For obvious reasons, some of us are Slavists whereas others are linguists. But irrespective of our affiliation, all of us are subject to and bound by the same

rigorous standards imposed by research: if we as Slavists want to say something about meaning, we must be as good as the best semanticists;¹ if we as linguists want to say something about Russian, we must be as good as the best Slavists (and native speakers).²

[1.1] *Contrastive semantics*

The title *Russian in Contrast* was purposely curtailed – what is it that Russian stands in contrast to? In fact, “the contrasts” and “tensions” are numerous, as we will see below. Plainly, we are analysing Russian in contrast to other languages, but our conference was also an attempt to gather DIVERGENT APPROACHES to Russian semantics.

Let’s start with the theory. If asked, most of us would probably agree that what we are doing is CONTRASTIVE SEMANTICS. However, can we conceive of contrastive semantics as a theoretical approach in any meaningful fashion? Unless subscribing to a crude form of, what could be dubbed as, linguistic essentialism whereby the existence of impersonal constructions, say in Russian, is inextricably linked to some inherent national characteristic, such as “submissiveness”, semantics is surely UNIVERSAL? So, what we probably mean by contrastive semantics then is the study of contrastive FORMS (syntax, morpho-syntax, constructions).³

But even if by “contrastive semantics” we actually mean “contrastive forms”, semantics is obviously our main preoccupation. For instance, we want to find out which phenomena, encoded in the syntax or morphology, pertain to semantics in one language and to “pragmatics” in another. (A simple example would be the explicit aspectual encoding in Russian vs. the lack of aspectual morphology in Norwegian – although both languages can with equal success describe events in the world).

One of the main ideas of *Russian in Contrast* is thus to use data from different languages to illuminate and give us insight into corresponding phenomena in Russian. A fitting example, in the spirit of the Norwegian-Russian RuN project that organised the conference, is Barbara Partee’s paper, where she uses Scandinavian (Danish) data in order to understand differences between copular sentences in Russian and English. We hope, however, that all of the papers presented here contribute to this common research agenda.

Finally, although the label “contrastive semantics” is somewhat fuzzy, the way it is informally understood makes it compatible with various theoretical approaches: with both COGNITIVE GRAMMAR (which is popular in Slavistics) and FOR-

[1] This is what makes it easier for, say, a Norwegian interested in Russian language to call herself a Slavist rather than a linguist.

[2] This is what makes it easier for, say, a Norwegian interested in Russian language to call herself a linguist rather than a Slavist.

[3] Indeed, in the lexical domain the realia may also differ from language community to language community – see the papers of Rachilina and Ivaniševa in Part 2 and Melent’eva in Part 3.

MAL SEMANTICS (which is not really “popular” anywhere, but is occasionally appreciated for its beauty). Hence, contrastive semantics is a field where all linguists and their pet theories can in fact meet.

[1.2] *Semantics vs. syntax*

As linguists, we cannot do without form, of course. The relationship between form and meaning – syntax and semantics – should be at the heart of our preoccupations. That is why one would expect at least to come across some interesting claims about syntax in this volume, but such theorising is almost nowhere to be found.

That no thought-provoking results on syntax proper came to the fore during these proceedings may impel many a Slavist to shout joyfully: So much the better! However, unlike most of our colleagues in Russian semantics for whom Chomskyan syntax is an obscenity of the most vulgar sort, we are somewhat saddened by such state of affairs, all the more since *Center for Advanced Study in Theoretical Linguistics* (CASTL) in Tromsø, in the North of Norway, has played an instrumental role in introducing Chomsky to Russians, mainly by opening its doors to Russian PhD students. All the same, we did not succeed in attracting generativists to our conference.⁴

Whatever views one has on syntax, we cannot do serious semantics without appealing to form (syntax); and it is rather unclear what kind of syntax-semantics interface we do assume in “our field”. In this respect, there is still much work to be done, for many generations to come. In our opinion, the whole field is in desperate need of some ten to twenty different advanced textbooks on the syntax of Russian, so that we can continue doing our semantics, occasionally casting downward glances from our ivory tower at the syntax laid out in a given textbook.

These problems are not restricted to Slavic linguistics, of course. Romance linguistics to pick one, or Norwegian linguistics to pick another, are also characterised by a certain immaturity of attitude in that there very often seems to be an almost complete absence of consensus regarding a minimum number of commonly shared theoretical assumptions.

Indeed, modern theoretical linguistics is a very callow science that started with Chomsky and Montague (Partee 2009). As often in science, these two giants didn’t see eye to eye on most things, and consequently had little liking for each other’s work. In Slavic linguistics, Montague is probably the lesser evil – and has not become a commonplace profanity like Chomsky – though that may in part be due to the fact that Montague is simply relatively obscure there.

[4] Perhaps we didn’t really try, or perhaps this is as it ought to be. Generativists working on Russian have had their own venues for a long time: regular conferences such as *Formal Description of Slavic Languages* (FDSL) in Europe and *Formal Approaches to Slavic Linguistics* (FASL), and the journal *Journal of Slavic Linguistics* (JSL) in the United States. Although semanticists are occasionally accepted into the bosom of the above-mentioned generative family, we never really feel completely at home in these surroundings.

To get a more balanced view on these matters, we can only recommend Barbara Partee's special pre-conference talk (Partee 2009) on her two influential teachers, available in the video format on the RuN home page. We fully share Partee's position where she reconciles the Chomskyan and Montagovian approaches (without subscribing to all details of their agendas).

At another level, a micro-level, from a representative of the new generation, we were inspired by some passages in Natalja Sljusar's recent monograph *Na styke teorij ...* (Sljusar' 2009). Sljusar' comes from a long tradition of Russian functionalism in St. Petersburg but wrote her PhD thesis in generative syntax in Utrecht. She published an extended version of her thesis as a monograph in Russian in which she observes: "С полученными в рамках генеративной теории выводами можно, и как нам кажется, зачастую нужно спорить. Но их уже нельзя игнорировать." (Sljusar' 2009, 130). In our view, a similar statement could be made with regard to formal semantics: Should we, however, keep on ignoring the sheer beauty and elegance of generalised quantifier theory? It was interesting to note the reaction from Tat'jana Černigovskaja to this publication⁵: "... Эта книга — примета нового времени, свежая и сильная, один из первых успешных синтезов отечественных лингвистических традиций и достижений генеративного подхода. Она показывает, как должен быть подготовлен современный ученый, чтобы уверенно себя чувствовать в лингвистике XXI века".

Our intention here is not to make much ado about this particular book or even about generative grammar (a field which we, regrettably, cannot say with any confidence to know too well), but this example illustrates some of the challenges in our "field". Sljusar's open-minded and eclectic approach, combining insights from both Russian and Western linguistics, is unquestionably something that ought to be encouraged in the hope that more researchers will be drawn to employing such an integrative approach in their own work. So, if Partee can reconcile Montague with Chomsky and Sljusar' a functional approach with a generative one, it may not be too fanciful to believe that (theoretical) (Slavic) linguistics can, some day, abandon its sectarian tendencies and emerge as a unified clan after all.

When all is said and done, what is imperative and of central importance is, of course, the notion of quality. Any work in linguistics, regardless of its theoretical orientation, should be informed by a rigorous application of scientific method, draw our attention to hitherto unnoticed and unobserved connections between specific facts of a given language, or indeed languages, and use sound and valid argumentation with respect to the phenomena it essays to explicate. For that

[5] Černigovskaja is, of course, a major figure in Russian linguistics, oriented towards cognitive grammar but with an extremely broad research agenda, and not the least, she is also the co-author of a contribution to this volume with Elena Tkačenko, now affiliated to Oslo University College, but a former student of Černigovskaja.

reason, our field ought to adhere to the following principle: any set of results, whether obtained in the West or in the East, should only be rejected because new research provides a deeper and more comprehensive understanding of the matter at hand, and not, as it seems to be today's practice, on the basis of ignorance or ideological prejudice.

[1.3] *Contrastive speakers*

Given the diversity of the field, our goal was to attract the best Russian semantists if not from all possible worlds, then at least from our world. To help us in this endeavour, a handful of guest speakers were invited in order to crystallise what our objective is even further. It was for this reason that an invitation simply had to be extended to both Barbara Partee and Elena Viktorovna Padučeva as they both share all the desired qualities: both linguists stand above the crowd and continue to enjoy a wide international readership. Padučeva is famous for her informal but extremely lucid observations which easily lend themselves to further formalisation (if the reader desires so).

Partee is evidently more formal, as the mother of Western style formal semantics, but due to the close connections she has had with Russia for many decades, she is well versed in both Western and Eastern, that is, formal and non-formal approaches to semantics. Partee is one of the few linguists in the field who can relate to everyone with an astounding ease. (This is probably a sign that "the field" is not big enough to have its own yearly conference after all, otherwise there would have been more people like Partee around.) In other words, Partee is unequivocally one of the leading *glitterati* in the linguistic community at large and in Slavic Linguistics for sure.

There is a general impression that the cognitive community has the upper hand in Slavistics, and we were therefore delighted to invite Laura Janda and Tore Nessel from Tromsø. This is an extraordinarily forceful duo in both science and life, and Janda's arrival to Tromsø has been a real boost for the community of Slavic linguistics in Norway.

It was also a great pleasure to invite Ekaterina Rachilina, a most natural choice given our joint interest in corpus linguistics, a linguist who is also known for her rather enthusiastic lecturing style as well as for making a significant contribution in the field of lexical semantics.

All the invited guest speakers are known to give excellent lectures; their enthusiasm, sincerity and the sheer passion for their chosen subjects made this conference into an unforgettable event. A warm, welcoming and constructive atmosphere was punctuated by tongue-in-cheek yet friendly comments, like Rachilina's opening remark to her own presentation right *after* von Stechow's λ -talk on sequence of tense: "... and now to something *interesting*". On behalf of von Stechow and his co-author, we can assure the reader that we were most amused.

Among other distinguished speakers were notably two German professors emeriti, one linguist and one Slavist, Arnim von Stechow and Hans Robert Mehlig. Von Stechow started popularising Montagovian formal semantics (and to some extent also Chomskyan syntax) in Europe some forty years ago, and has been one of the most influential semanticists ever since (outside Slavic linguistics).

Mehlig has been one of the leading aspectologists for decades inside Slavic linguistics. It was clear that Padučeva and Mehlig spoke in a mutually intelligible tongue (both contributions are in Russian – more on Russian in the preface to Part 3), and the same may be observed of Partee and von Stechow. Evidently, however, there is still some way to go and a few mountain faces to scale. It is unfortunate for our field that the nature of things is such that understanding is not a transitive relation – if you understand *x* who understands *z*, then you don't necessarily understand *z*.

From the younger generations, we were happy to see the contributions from our not so green Russian neophytes who assimilated into Western style formal linguistics, namely, Daniel Altshuler, Katja Jasinskaja and Svetlana Krasikova. They probably do not consider themselves Slavists and they all did their PhDs in linguistics in the West.

Another strong research community hails from Tromsø featuring several insightful talks from the Russians working in Janda and Nessel's research group, namely, from Julia Kuznecova, Olga Ljaševskaja and Svetlana Sokolova.

One more community which contributed to the present volume with several papers is our partner in the RuN project from Murmansk whose work is mostly focused on Scandinavian languages, notably Norwegian (see the introduction to Part 3).

[2] RUSSIAN IN PARALLEL AND CONTRAST TO OTHER LANGUAGES

So, our field is not without its challenges, although the reader may question the way in which this state of affairs was presented above. However, everyone can agree on the necessity of providing good and reliable data.⁶ Our conference invited a certain focus on data: going beyond Russian itself, new data was presented from parallel corpora, juxtaposing Russian with English, Scandinavian languages and Romance.

[6] This does not mean that everybody actually uses good data. Traditionally, there has been an extremely unfortunate demarcation between data-oriented and theoretically oriented linguistics. It suffices to remind the reader of the helpless toy sentences used for decades in Chomskyan and Montagovian linguistics. Again Partee stands out – famous for her original and good examples – she always has an example up her sleeve for any puzzle at the syntax-semantics interface, as von Stechow pointed out in his introduction to Partee's final talk closing the conference.

[2.1] *The use of corpora*

Corpus linguistics is an ideal meeting point for both formal and cognitive linguists. Indeed, the cognitive camp seems to hold sway in this area.

Janda and Tromsø have taken cognitive grammar a step further by implementing statistical approaches and thereby taking a quantitative turn in Slavic linguistics. In this respect, it will be exciting to follow their new project *Neat theories, messy realities: How to apply absolute definitions to gradient phenomena* (Janda 2009).

We have several examples in these volumes using MONOLINGUAL corpora, mostly the Russian National Corpus. Several authors compare their findings for Russian with the data from other monolingual corpora for other languages.

Given the right statistical tools, this approach can give rise to very interesting results and it further has the advantage of having access to large data sets for each language (that is, monolingual corpora such as the Russian National Corpus, Google, Yandex, and so forth).

[2.2] *Parallel corpora*

One important aspect of the conference was to elicit papers based on the use of PARALLEL corpora. Perhaps we only partly succeeded in this respect. Indeed, so far – including these proceedings – sophisticated quantitative and statistical analyses have mostly been done with monolingual corpora. Three reasons come to mind why this is so: first, there are not many parallel corpora available; second, the existing parallel corpora are too small for our research tasks; and third, parallel corpora, generally speaking, are not suited for the kind of research questions linguists are wont to pursue. (While acquiescing to the validity of the first two points, we raise strong objections about the validity of the third.)

Although the use of parallel corpora raises some methodological issues (Johansson 2007), the advantages it offers are numerous: it banishes the tedium more often than not engendered by more traditional methods, something which makes doing research more fun, as well as proving to be more entertaining for the reader.

Parallel corpora places at our disposal the technology which gives us ready access to authentic language from high-quality authors, as well as to highly accomplished, and often outstanding, translations of the texts in question. This is especially the case when the study of language is approached from the perspective of second language learning (and in contrastive studies, most researchers are confronted with second language learning unless a particular linguist is one of the lucky bilinguals).

Although languages in general, and translations in parallel corpora in particular, differ in the most unexpected ways, we should be neither discouraged nor daunted by this fact. First, if the parallel corpus is big enough, then the most devi-

ating and “noisy” translations will disappear as statistically insignificant. Second, the complexity of data from parallel corpora will force us to face and pose really hard questions since many theoretical puzzles are bound to arise as systematic patterns are observed in individual languages as well as cross-linguistically.

This methodology – the use of parallel corpora – will give us both cross-linguistic and language internal frequency distributions. The data obtained in this manner will incontestably open up for a whole range of investigations involving statistical models and a number of statistical methods relevant for linguistic applications are waiting to be used. As noted by (Janda 2009) and others, a corpus-based analysis of authentic language invariably yields observations that are difficult to reconcile with theories of language.⁷ We can expect the “clash” between traditional theoretical linguistics and statistical methods to produce some extremely interesting theorising.

In contrastive linguistics today, the limited access to good parallel corpora means that the use of parallel corpora must typically be supplemented with other traditional sources (monolingual corpora, Google, and so on) and tools (such as informants or introspection). However, we would like to advocate the principle that studies in contrastive linguistics should start with a survey of the data available in existing parallel corpora. If the data is scarce, this may be an interesting finding in itself.

Ideally, by compiling sufficiently large parallel corpora, we could create a new set of standards for contrastive linguistics. Several phenomena – also treated at this conference – occur so frequently that we can already, at this stage, empirically test some of the claims made in the literature.

As a closing remark on the issue of the use of corpora in linguistics, we would like to draw our readers’ attention to a point frequently made by one of the founding fathers of the Russian National Corpus, namely, Vladimir Plungjan. He remarks that it is rather puzzling why linguists are so keen on constructing ungrammatical toy sentences when corpora is bursting with so many facts yet to be discovered, especially when linguists are not in the position to boast of having a full understanding of grammatical sentences either.

[2.3] *The RuN Corpus*

At the University of Oslo – notably at our department of European languages – we have a strong tradition going back to the late Stig Johansson in building parallel corpora, that is, searchable collections of texts (both the originals and their translations) aligned at the sentence level. Such is, for instance, the OMC – the Oslo

[7] This is a novel perspective in theoretical syntax and semantics/pragmatics, but we are convinced that the availability of different kinds of reliable frequency data will lead to a range of new research questions. If construction x occurs 10 times more frequently than construction y, we – as linguists – should be able to explain the difference in distribution.

Multilingual Corpora – which involves Norwegian, English, German and French texts. In the RuN project, we started developing the RuN corpus comprising Norwegian and Russian originals and their respective translations.

We are currently expanding the RuN corpus to include more texts and languages, notably English, Bulgarian, Serbian, Polish, Italian, French, Swedish and German. The new corpus is labelled the RuN-Euro Corpus.

The RuN-Euro parallel corpus and the OMC share a common web search interface using the corpus explorer tool, *Glossa*, developed by the Text Laboratory at the University of Oslo.

Glossa is a graphical interface built on top of the IMS Corpus Workbench query system. The *Glossa* system allows post-processing of the search results. Collocations can be viewed and counted in a number of ways, thus facilitating statistical analysis of the data. The corpora are also linked to grammatical tags word-by-word. Tagging has been done using and adapting existing tagger models (Nygaard et al. 2008).

The RuN-corpus is of course not the only parallel corpus for Russian. As part of the Russian National Corpus, there exists a big Russian-English/English-Russian parallel corpus, and a smaller Russian-German/German-Russian corpus.

Other Russian bilingual parallel corpora include the Russian-Slovak Parallel Corpus and the Russian-Finnish Parallel Corpus. The latter is part of Michail Michajlov's dissertation (Mihailov 2003), which also contains a survey of parallel corpora in general and parallel corpora with Russian as one of the languages in particular.

In spirit, the RuN-Euro Corpus is closer to the *Parasol* project. Both corpora are truly multilingual. While the main languages in the RuN-Euro Corpus remain Russian, Norwegian and English, the focus of *Parasol* is primarily on the whole family of Slavic languages in addition to German.

The RuN-Euro Corpus, as well as the OMC, is heavily biased towards modern fiction texts and thus is not a representative corpus. Though the priority is given to contemporary prose texts, there is no harm in including older texts or other genres in the corpus since the search interface (*Glossa*) allows the search to be restricted according to parameters such as date of publication, author and genre.

The main limitation of existing parallel corpora is certainly their modest size compared to monolingual corpora, some of which contain hundreds of millions of words. The reason for this discrepancy is obvious: it is much harder, in all possible respects, to compile a parallel corpus than a monolingual corpus. Accordingly, researchers in contrastive linguistics will always feel that their parallel (multilingual) corpus is too small. Our answer is that this limitation should not be a reason to give up – we must continue the work, building larger and larger parallel (multilingual) corpora!

[2.4] *Some applications at Russian in Contrast*

Let's confront some real data. The first two illustrations come from the research carried out as part of the RuN project relative to complement tense and converbs. Both phenomena occur frequently in real texts and display a highly interesting cross-linguistic variation. A corpus-based approach will thus immediately establish which constructions actually occur (and at which frequency) in natural languages.

In contrastive, cross-linguistic studies of theoretical syntax, semantics and pragmatics, this use of parallel corpora represents a significant innovation.

Complement tense

Russian is known to be a so-called non-sequence-of-tense language, that is, a language without the kind of tense agreement between the matrix tense and subordinate tense as is found in English or Norwegian.

Apart from the canonical and well-studied *verba dicendi*, such as “say”, “ask”, and so forth, the literature on embedded COMPLEMENT TENSE raises several questions. What happens in complements of past tense perception verbs, like “see” and “hear”, and factives, like “know” and “understand”? Do we have a relative present tense in the Russian complement or an independent past? In fact, some of these questions were raised by the curious and insightful members of the audience at our conference *Russian in Contrast*. A puzzling situation arose since although some of the brightest minds in Russian semantics were present at the conference and were actively engaged in the debate around this issue, the latter proved to be rather slippery and seemingly resistant to any attempt at clarification.

A good start is to look at what the parallel corpora have to offer. Indeed, both the present and the past tenses are attested not only in these environments but also, surprisingly enough, in the same sentence:

- (1) R Она глядела, как сизые кольца от сигары Азазелло *уплывали* в камин и как кот *ловит* их на конец шпаги.
(Michail Bulgakov, “Master i Margarita”)
- E She watched as Azarello blew (*Rus: past!*) smoke-rings at the fireplace and the cat spiked (*Rus: present!*) them on the end of his sword.
- N Hun så på Azazello, som sendte ringer av sigarrøk inn i peisen, og på katten, som fanget dem opp med kordespissen.

The discussion at the conference led us to a more systematic examination of this issue in Grønn and von Stechow (this volume). Interestingly, the authentic data abound, for instance, there are many examples of factive matrix verbs and embedded past tense in Russian with a simultaneous interpretation:

- (2) N Alle *visste* at lensmannsfrua *var* flere måneder på vei da hun ble skoldet i hjel. (Herbjørg Wassmo, “Dinas bok”)
 E Everyone *knew* the sheriff’s wife *was* several months pregnant when she was scalded to death.
 G Alle *wußten*, daß die Lehnsfrau schon mehrere Monate schwanger *war*, als sie zu Tode verbrüh wurde.
 R Все *знали*, что жена ленсмана *была* беременна, когда обварилась щелочью.
- (3) R Он *понял*, что она *ехала* в Ергушово со станции железной дороги. (Lev Tolstoj, “Anna Karenina”)
 E He *understood* that she *was driving* to Ergushovo from the railway station.
 N Han *skjønte* at hun *var* på vei til Jergusjovo fra jernbanestasjonen.

Of course, the corpus data is just the beginning. Very little has been said so far, and, we can assure the reader, nothing further will be said in these introductory remarks. If you are really interested – you could look up the analysis at your own peril by scrolling down to the article itself.

Converbs in Russian/English/Norwegian

In her contribution to this volume, Maria Filiouchkina Krave looks at systematic differences in translation of CONVERB constructions (*gerunds*, *deepričastija*) in Russian. As “expected”, the translations of perfective converbs of, say, the delimitative Aktionsart explicitly encode the temporal precedence relation with PPs headed by *after*:

- (4) R — Но скажите, пожалуйста, я никогда не могла понять, — сказала Анна, — *помолчав* несколько времени [...]
 (Lev Tolstoj, “Anna Karenina”)
 E “But do tell me, please, I never could make it out,” said Anna, *after being silent* for some time [...]
 N “Men si meg en gang, er De snill, jeg har aldri kunnet forstå,” sa Anna *after å ha sittet taus en stund* [...]

However, the translation data from the RuN corpus reveal certain peculiar properties of perfective converbs of the semelfactive kind:

- (5) R Сергей сидел в углу, *закинув* ногу на ногу, и курил [...]
 (Viktor Pelevin, “Generation P”)
 E Sergei sat in the corner *with his legs crossed*, smoking [...]
 N Sergej satt *med korslagte bein* i et hjørne og røykte [...]

The use of the ‘with/med + DP’ construction in English/Norwegian suggests that the converb event is interpreted – at least by the translators – as simultaneous with the matrix event, which is unexpected given the standard semantics of temporal precedence associated with perfective converbs in Russian.

Krave argues in her paper that the reason for this interpretation is that certain semelfactive verbs lexically denote the “target state” of the event – in this case the state of *the legs’ being crossed*. It is precisely this state, and not the preceding event/activity of crossing the legs itself, which is referred to by the construction chosen by the translators. Hence, the complex situation is interpreted as simultaneity although the “semelfactive event” in a narrow sense may still precede the matrix.

The lesson to be drawn from examples like (5) is that translations in corpora may reveal facts which have been largely ignored in the literature based on grammaticality judgments alone. Systematic patterns arise which challenge the conventional wisdom.⁸

We are convinced that authentic cross-linguistic data will serve as an impetus to rethink a whole range of theoretical issues. Although our main focus here will be to show that parallel corpora can be a unique source and an indispensable tool in the study of GRAMMATICAL CATEGORIES across languages as well as in the LEXICON, it should be emphasized that parallel corpora may also be of considerable interest and value to researchers and practitioners in other language-related disciplines such as computational linguistics, translation studies, and, last but not the least, second-language teaching.⁹

[3] THE CONTENTS

As mentioned earlier, the papers from the proceedings are split into three parts, that is, into three separate books: *Grammar* (1); *Lexicon* (2); and *Русский язык в контрастивном аспекте* (3).

This division, as well as the titles of individual books, is indeed somewhat arbitrary. The second part includes some articles which could just as well have been added to Part 1.

Part 3 is truly “Russian” in that all papers are written in Russian, starting with an engaging paper by Elena Padučeva. The article, supported by the evidence afforded by the corpus data, endeavours to answer the question formulated some thirty-forty years ago by Vendler and Karttunen: What is the presuppositional

[8] We remember our old Russian teacher, the late professor Geir Kjetsaa (1937–2008), also a brilliant translator, who told us on more than one occasion to automatically use the preposition “etter” (after) when translating a perfective converb. Well, now in hindsight, we see that things are slightly more complicated.

[9] More examples from parallel corpora will be given in the next section. See also the introduction to Part 3, notably Klonova on impersonal sentences in Russian and Norwegian, and Janygina on implicit information in the Norwegian novel “Naiv. Super” and its Russian translation (from the RuN corpus).

status of indirect questions embedded under factive verbs? This kind of fruitful, although admittedly slow, dialogue between Russian and Western linguistics is what lies at the heart of our conference: what we envisage our conference to be about and what we hope to see more of in future works in the field of Russian linguistics.

Below we focus on Parts 1 and 2, that is, on the papers written in English.¹⁰

[3.1] *Grammar*

As already mentioned, (formal) semantics (and syntax) and Slavistics have traditionally not been a very good match. For some – certainly a minority – of us, “grammar” more or less means COMPOSITIONAL SEMANTICS.¹¹ Thus, from our perspective, the main obstacle to a long, fruitful and harmonious marriage concerns COMPOSITIONALITY. It is very much our hope that this contrast, at a theoretical level, will be overcome by future generations.¹²

It should, however, be admitted that it is hard to provide a fully compositional explanation for many linguistic phenomena – a fact that has a surprisingly positive aspect to it: there is work enough for everyone.

Partee

The beginning of our conference was ushered in by Barbara Partee’s pre-conference talk – whose video may be seen on the *Russian in Contrast* web page (Partee 2009) – and brought to a close with her paper on *Specificational copular sentences in Russian and English*. The latter paper kicks off the first part of the proceedings, a natural choice in view of the previous paragraph since Partee has been active from Amherst to Moscow in popularising the Fregean principle of compositionality since before we were born!

In much of her work, Partee addresses phenomena which pose a considerable challenge to a straightforward compositional analysis. This is also the case on this occasion: what is presented is a contrastive analysis of copular sentences in Russian and English, a topic, it seems, of such elusive and slippery quality that even individual linguists find it hard to agree with themselves¹³ on apparently “simple” questions such as what constitutes the subject of a sentence. The theo-

[10] See the introduction to Part 3 for further discussion of the Russian papers.

[11] A personal note: compositionality is the only thing we truly believe in relative to the study of form and meaning; the rest is darkness. If even a single piece of indubitable evidence could show that compositionality is an illusion, then we’ll be the first ones in line to seek early retirement and endeavour to find comfort in other gods, naturally outside linguistics.

[12] We noted with satisfaction that Nessel’s opening talk of *Russian in Contrast* placed some emphasis on the fact that cognitive grammar is not incommensurable with the concept of compositionality. Nessel even included a photo of Frege in his powerpoint presentation, something which cannot be described otherwise than an excellent start to our conference.

[13] Partee traces the history of the debate in her article and shows how researchers, including herself, are forced to shift positions on this highly intricate topic.

retical complexity of these simple matters is such that we dare not look at what the parallel corpus may spout at us.

The younger generation

Next, we turn to the younger generation. Sveta Krasikova, a former student of Arnim von Stechow in Tübingen, contributes with one of the most complex papers in these proceedings. Behind the complexity, we find phenomena which should interest any Slavacist. As the topic of the paper is gradable adjectives, let's take a look at one example from the parallel corpus:

- (6) E And then, just as the beasts had burst out of the earth, there burst out from the shoulders of Fledge wings that spread and grew, *larger* than eagles', *larger* than swans', *larger* than angels' wings in church windows. (Staples Lewis, "The Chronicles of Narnia. The Magician's Nephew" – Russian National Corpus)
- R А потом — точь-в-точь как звери, появлявшиеся из земли — на спине у Стрелы прорезались крылья, которые росли и расправлялись, стали *больше* орлиных, *шире* лебединых, *громаднее*, чем крылья ангелов на церковных витражах.

The reader may find it obvious why the translator chose the morphologically marked comparison forms *šire*, *gromadnee* instead of *bolee širokie/gromadnye*, and so forth. On reading Krasikova however, the reader will soon realise that nothing is trivial in the domain of gradable adjectives – and that the reader's favourite theory on this topic can hardly be called a theory.

Daniel Altshuler presents his recent work – parts of his PhD from 2010 – on the evergreen issue of Russian aspect, the general-factual interpretation of the imperfective. Instead of illustrating the phenomenon with *Kto čital "Vojnu i mir"?* or a *chrestomatijnyj*, but constructed, example from Rassudova, we take the liberty to present an example from the RuN-Euro Corpus. The author is all the same *chrestomatijnyj*.

- (7) R Варенька сказала, что Анна Павловна *присылала* сказать, что вы не поедете. (Lev Tolstoj, "Anna Karenina")
- E Varenka said that Anna Pavlovna sent word you were not going.
- N Varenka sa at Anna Pavlovna hadde send bud at det ikke ble noe av turen.

The data in (7) display several interesting tense-aspect combinations, notably related to sequence-of-tense phenomena. In tribute to Altshuler, we note that the relative past in (7R) is expressed with an imperfective past, *prisylala* ("sent"), in-

stead of the perfective aspect. This should be an *obščefaktičeskoe značenie* as good as any.¹⁴

TAM in contrast

Next follow three more papers on tense, aspect and mood, namely the papers by Grønn & von Stechow, Filiouchkina Krave (see above) and Dobrušina. Nina Dobrušina compares some interesting data from Russian and French relative clauses: the alternation between the subjunctive and the indicative. Her data are mostly from the monolingual Russian National Corpus, but she notes certain interesting parallels with the French data, which were elicited from informants:

- (8) R Надо разработать такую социальную систему, которая максималь-
но *защищала бы* [OK: защитит] детей из малообеспеченных семей
‘We should create a social infrastructure that would protect children
who come from low income families.’
F Il faut mettre au point un système qui *protège* (SUBJ) [OK: protégera
(FUT)] les enfants de familles pauvres.

It is rather obvious that it would be extremely interesting to back up these patterns with authentic data from parallel corpora.¹⁵

In search of nothing

Lilli Parrott’s paper is a comparison of the Russian direct address form usage – the vocative – with that in other languages, especially English, Czech and Polish. Since our corpora are not tagged for the vocative case, the search is therefore not straightforward. Nevertheless, it was possible to find some curiosities, for instance, the English translation in (9) – Mash! – possibly a mistake on the translator’s part engendered in all likelihood by his ignorance of the new Ø-vocative form with Russian *-a* nouns:

- (9) R Ой, *Маш*, ты, что ли? (Ljudmila Ulitskaja, “Medeja i ee deti”)
E Oy, *Mash*, is that you?
N Oj, *Masja*, er det deg, da?

[14] The example is not chosen accidentally: Altshuler’s previous work on sequence-of-tense has inspired our own work; and our own work on the general-factual imperfective plays a certain role in Altshuler’s paper in this volume. That said, no consensus has been reached on either of these matters, as far as we can see.

[15] We are currently adding Romance texts (French and Italian) to the RuN-Euro Corpus, but there is a long way to go before a really good Slavic-Romance corpus becomes available.

If you are interested in ellipsis, searchable corpora may not at first sight appear to be the right tool to use. However, inspired by Jekaterina Mažara, we managed in the end to retrieve some data¹⁶, such as the following example:

- (10) R — Ну, как тебе ∅ мой грим, Валер?
 (Ljudmila Ulitskaja, “Medeja i ee deti”)
 E Well, what do you *think* of my makeup, Valerii?
 N Nå, hva *synes* du om sminken min, da, Valerij?

[3.2] *The Lexicon*

Albeit not so unambiguously clear-cut, the focus in Part 1 is on traditional grammatical categories and their interpretation at the sentence level, whereas Part 2 represents more innovative areas of research, as the lexicon assumes the focal point. In the lexical domain, depending on the research topic, parallel corpora, if sufficiently large, can provide new insights.

Morphology in contrast

We start Part 2, that is, *OSLa*, volume 2(2), 2010, with an original study by Laura Janda, in which she discusses the role of metonymy in suffixal word formation in three of her favourite languages: Russian, Czech and Norwegian.

In the Glossa search interface, if the suffix is known, it can be searched for by a TRUNCATED search. An example would be the Russian suffix “**nica*”. One kind of metonymy associated with this suffix is CONTAINED FOR CONTAINER and standard examples include words such as *pepel’nica* and *sacharnica*, where the names for CONTAINERS are derived from nouns that refer to a substance that is CONTAINED in them.

An example of such metonymy is given in (11):

- (11) R Посреди комнаты — тяжелый, как *гробница*, стол, накрытый белой скатертью [...] (Michail Bulgakov, “Sobač’e serdce”)
 N Midt i værelset et bord, tungt som et *mausoleum* og dekket med en hvit duk [...]
 E In the middle of the room was a table, heavy as a *gravestone* and covered with a white tablecloth [...]

The Norwegian translator correctly comprehends the metonymy involved as exemplified by his choice of the word “mausoleum” (contained for container). The English translator, on the other hand, either has not understood the Russian origi-

[16] Looking for data in a parallel corpus is, in game theoretical terms, a fight between two often rather non-cooperative players: Y(ou) and C(orpus). Y makes a move (search). C answers by finding a way to escape Y’s intensions. Y realises his naive mistake in the first round and makes a new move making it harder for C to escape Y’s intensions. In the end, either Y or C wins by default.

nal or he takes the liberty of choosing another metaphor (“heavy as a gravestone”, gravestone = *nadgrobnij kamen’*).

We know that metaphor (theory) is complicated, and so is metonymy. As demonstrated by Janda, the presence of a suffix like *.*nica* does not in and of itself determine the metonymic designation. The next example fittingly illustrates Janda’s point as the Russian suffix in (12), *-nica*, this time signals the metonymy ACTION FOR LOCATION:

- (12) R Окурки на пол не бросать — в сотый раз прошу. Чтобы я более не слышал ни одного ругательного слова в квартире! Не плевать! Вот *плевательница*. (Michail Bulgakov, “Sobač’e serdce”)
 N Ikke spytte. Der har De *spyttebakken*.
 E And don’t spit everywhere! The *spittoon*’s over there.

The interesting word *plevatel’nica* is obviously derived from the activity verb *plevat’* according to the productive model given by Janda. Neither of these metonymic designations are attested for Norwegian, which has overall a more restricted system of affixal word-formation. In Norwegian, we typically find compounds like “*spyttebakke*” [spit + ground, that is, spittoon].

This brings us to Janda’s husband and colleague, Tore Nessel, whose project is close in spirit to hers, but narrower in focus. Nessel presents a contrastive case study of word formation in Russian and Norwegian in the domain of negative characterizations of people, such as in the pair below:

- (13) R — А под вашею полною достоинства личиною, — отнесся артист к Дунчилю, — скрывается жадный паук и поразительный охмуряло и *врун*. (Michail Bulgakov, “Master i Margarita”)
 N Og bak Deres maske av lutter verdighet, sa artisen henvendt til Dunchill, skjuler det seg en grådig edderkopp, en helt fantastisk svindler og *løgnhals*.
 E “And under your so very dignified mask,” the artiste adverted to Dunchil, “is concealed a greedy spider and an astonishing bamboozler and *liar*.”

Following Nessel we note, as we did with Janda’s examples above, that Norwegian frequently uses a compound noun [“*løgnhals*” = lie + throat].

Our corpus can, of course, be used to search for such components with a truncated search, e.g. “*.*fant*” [= tramp, vagabond in English]:

- (14) N Greven har jevnlig figurert i avisenes sladrespalter. Han er en Don Juan, en *fyllefant* og en bråkmaker.
 (Nikolaj Frobenius, “Latours katalog”)

- R Граф постоянно фигурирует в скандальных хрониках. Он — дон-жуан, *выпивоха* и задира.
- E The Count had featured regularly in the gossip columns; he was a Don Juan, a *drunkard*, a troublemaker.
- G Den Klatschspalten zufolge ist er ein Don Juan, ein *Säufer* und Randalierer.
- F Son nom défraie les ragots des gazettes. Don Juan, *sac à vin*, faiseur de scandales.

Other Russian translations of the Norwegian “fyllefant” in the RuN-corpus include: *p’janica* and *p’jančuzka*. Nessel shows convincingly that common gender nouns in *-a* in Russian, such as in (14) above, systematically correspond to a compound noun in Norwegian.

Nessel himself gives only one example from the RuN Corpus thus tacitly pointing to its limitations. (Since Nessel finished his study, the corpus has been significantly expanded, but still, of course, his initial point is duly taken: the corpus should be at least ten times its present size. To rectify this rather wretched state of affairs, all that’s needed is lots of ready dosh, which, once in our coffers, will allow us to do the rest. A Maecenas, anonymous or otherwise, would be most welcome.)

The last morphology paper by Tkačenko and Černigovskaja features the same languages as above, namely, Russian and Norwegian, but from a rather different perspective. Their paper is an interesting comparison of the acquisition of verbal morphology by Norwegian adult learners of L2 Russian with the children acquiring Russian as L1. For once, we will not try to squeeze any further examples out of our parallel corpora.

Lexicon in contrast

It is Ekaterina Rachilina’s earnest plea for the often ignored and dismissed part of natural language, namely, the lexicon, and for lexical studies in general, that is the first paper to appear in this section (translated from Russian to English by Irena Marijanović). It is envisaged as a first tentative step towards a future, fully comprehensive study of verbs of sound. In this paper, Rachilina focuses on verbs denoting animal sounds, in particular where the latter are metaphorically used in relation to various reactions and actions performed by human beings.

A parallel corpus would certainly prove to be an indispensable tool in a study of this nature since it ultimately aims to develop a topology of verbs of sound. The corpus would, of course, have to be significantly larger than what can presently be offered by the RuN-Euro Corpus. However, even in its present, relatively circumscribed edition, some data may be obtained. The following examples illustrate

the extension of the Russian verbs *fyrkat'*, *ryčat'* and *šipet'*, and their corresponding verbs in Norwegian and English, from the animal into the human domain.

- (15) R Пристаёт! — продолжал Ляпунов, сердито *фырка*я.
(Anton Čechov, “Učitel”)
E “He won’t leave off,” Lyapunov went on, *snorting* angrily.
N — Han gir seg ikke! fortsatte Ljapunov og *fnyste* forarget.
- (16) R [O]н страшно конфузился и, когда уходили гости, хватал ее за руку и *шипел* сердито: [...] (Anton Čechov, “Dušečka”)
E He was dreadfully embarrassed, and when the guests had gone, he would seize her by the hand and *hiss* angrily: [...]
N [H]an ble fryktelig brydd, og når gjestene var gått, kunne han gripe henne i armen og *frese* sint: [...]
- (17) R Он не хотел уходить с окна, *рычал*, и вздрагивал, и порывался прыгнуть вниз. (Michail Bulgakov, “Master i Margarita”)
E He refused to leave the window, *growled* and twitched, and kept trying to jump out.
N Den ville ikke ned fra vinduet, men *knurret* og rykket og ville hoppe utfor.

Next, we turn to Olga Ivaniščeva, Murmansk, a former student of the late Valerij Berkov (1929-2010), an expert on Nordic languages, in particular Norwegian, and a world-class lexicographer. Not surprisingly, Ivaniščeva presents a paper concerned with lexicographical issues from a Scando-Russian bilingual perspective. This is precisely the kind of data where our parallel corpus would have been extremely useful had it been merely a hundred times bigger. Such a corpus would be capable of revolutionising bilingual lexicography, including the work of Berkov (for whom the availability of such a Russian-Norwegian corpus tools was, perhaps, beyond imagination.) With the RuN Corpus, we can at least imagine what a sufficiently large corpus would be like and the myriad of ways in which it could be applied.

All the same, our modest corpus may prove useful already at this stage. Let’s take the Russian concept of *njanja*.

The most frequent Norwegian translation in the corpus is *barnepike*:

- (18) R Несчастный ребенок! — сказала *няня*, шикая на ребенка.
(Lev Tolstoj, “Anna Karenina”)
N “Stakkars unge!” sa *barnepiken* og hysjet på barnet.
E “Luckless child!” said *the nurse*, hushing the baby.

The Norwegian translator of *Anna Karenina*, Erik Egeberg (professor emeritus, University of Tromsø), also uses the more old-fashioned word *dadda*:

- (19) R Няня понесла ребенка к матери. (Lev Tolstoj, “Anna Karenina”)
 N Daddaen bar barnet bort til moren.
 E The nurse brought the baby to his mother.

In other contexts, *njanja* has a rather different meaning (still probably “nurse” in English), corresponding to the Norwegian *pleierske*:

- (20) R Его вынесли няньки и отдали подлецу, я сунула няне трешку.
 (Ljudmila Petruševskaja, “Vremja noč”)
 N Pleierskene kom bærende på ham og rakte ham til Bedrageren; som seg hør og bør ga jeg *pleiersken* tre rubler.

In modern prose, *njanja* in its prototypical meaning can also be translated as *dagmamma*:

- (21) R Знаешь какой-нибудь нормальной девчонки — я ищу няню для Со-
 ни. (Andrej Kurkov, “Piknik na l’du”)
 N “Hør her,” Viktor så spørrende på vennen, “du kjenner ikke en grei
 jente, jeg leter etter en *dagmamma* til Sonja.”

Dagmamma is ALWAYS the choice of the Norwegian translator of the modern writer Andrej Kurkov, whereas the same word is NEVER attested in the translation of “Anna Karenina”. This in itself is significant: it draws our attention to the fact that two words, although seemingly synonymous, may nevertheless reflect different writing styles or in fact different concepts. The case in point is the opposition between the words “barnepike”: “*dagmamma*”, rendered in Russian by the same word *njanja*, where the difference between the two is dependent to a large extent on the historical context each novel provides.

Semantic profiling

The next in line is one of the young researchers from the Tromsø group, Julia Kuznecova. Her paper is informed by a combined lexico-grammatical approach in which the notion of SEMANTIC PROFILING plays a key role.

Semantic profiling may be described as an advanced statistical use of corpora to detect the linguistic environments of certain constructions. In Kuznecova’s investigation, this method is used to examine the occurrence of the PP *on the phone* in Russian and English monolingual corpora. In studies of this kind, it is still very much an open question what purpose parallel corpora would be best used for, apart from generating innumerable examples of the construction(s) under investigation.

- (22) R По телефону с ней говорить теперь невозможно.
 (Ljudmila Ulitskaya, “Medea i ee deti”)

- E It's impossible to *speak* to her *on the telephone* now.
 N Det er umulig å *snakke* med henne *i telefonen*.

Being at loss to say what one could do with such examples, we have no other choice but to resort to an old linguistic chestnut: such examples will have to be left for “future research”.

Another project from the same group is presented by Svetlana Sokolova and her co-author Wojciech Lewandowski who analyse the constructional profile of the verbal prefix *za-* in Russian and Polish.

Their data are extracted from the Russian and Polish National Corpora. Here, it seems rather obvious that good parallel corpora would give us valuable additional information. A search in a sufficiently *large* parallel corpus – if such were to exist¹⁷ – could shed light on the authors' hypotheses concerning differences between *za-*verbs in the two languages. Our own example points to a similar use of the imperfective verbs *zalewać* and *zalivat'*:

- (23) P Długi ten wąż w październiku, kiedy Nil *zalewa* cały Egipt, miałby błękitną barwę wody. (Bolesław Prus, “Faraon”)
 R В октябре, когда воды Нила *заливают* весь Египет, эта длинная змея принимает голубую окраску воды...

In their study, however, Sokolova and Lewandowski looked at the perfective prefixed verbs *zalać* and *zalit'*. What their analysis shows is that these verbs prefer the so-called Goal-Object construction in both languages (*zalit'* “Egypt with water”), but in Russian, unlike Polish, can we also have the Theme-Object construction (*zalit' vodu v bak*). So, an ideal parallel corpus study is thus predicted to show that in cases where *zalać* is used in the Goal-Object construction it can easily be translated by means of *zalit'*. However, if the Russian *zalit'* is used in the Theme-Object construction it cannot straightforwardly be translated into Polish with the help of *zalać*.

Pragmatics in contrast

Elizaveta Khachaturyan from the University of Oslo contributes with a paper on discourse markers, in particular, the juxtaposition of *tak skazat'* in Russian with *diciamo* in Italian. It is quite obvious that a parallel corpus would be extremely useful in such a study. It is unfortunate, however, that the Italian part of our RuN-Euro Corpus is not yet available for use, but the following example gives us an impression of what kind of data can be obtained:

- (24) R В слове “БЛО” чувствовались неиссякаемые запасы жизненной силы и одновременно что-то негуманоидное, поэтому Эдик берег

[17] The example below is excerpted from the Polish-Russian part of the RuN-Euro Corpus.

его. Он подписывал им только статьи, которые дышали такой беспредельной свободой и, *так сказать*, амбивалентностью, что подпись вроде “Сидоров” или “Петухов” была бы нелепа.

(Viktor Pelevin, “Pokolenie P”)

E The word “Bio” summoned up the idea of inexhaustible reserves of vital energy and at the same time something non-humanoid, which was why Ed used it carefully. He only used it for signing articles imbued with such boundless freedom and ambivalence, *so to speak*, that a common signature such as “Ivanov” or “Petrov” would have been absurd.

N Ordet “Blo” assosierte de med uuttømmelige reserver av livskraft og samtidig med noe inhumanoid, så Edik brukte det varsomt. Han brukte psevdonymet kun når han skrev om slik grenseløs frihet og *la oss si* ambivalens at en underskrift som Sidorov eller Petukhov ville virke meningsløs.

Part 2 of the proceedings is brought to a close by a pair of papers which could just as well have been placed in Part 1 (grammar), namely the contributions by Margje Post and Katja Jasinskaja. It is always exciting to have twin presentations at a conference: although they are both looking at the Russian conjunction *a*, the analyses are presented from different contrastive perspectives. Post compares the three Russian basic additive and contrastive coordinating conjunctions *i*, *a* and *no* with their two Norwegian counterparts *og* and *men* when used in utterance-initial position:

- (25) R А я-то думал, что это сказки. (Michail Bulgakov, “Rokovye jajca”)
 E And I thought that was all make-believe.
 N Og jeg som trodde at det bare var et eventyr.

As Posts puts it: “An analysis in terms of core meanings needs to be supplied by contrastive studies on the basis of corpora, which show actual use of the words in almost all possible contexts.”

The title of Jasinskaja’s paper is music to our ears: “Corrective contrast in Russian, in contrast”. Her study could not be better suited for the approach to Slavic linguistics we are fervently advocating here. And naturally, we expect such and similar examples to abound in the RuN Corpus. In addition, it is possible to search for both *ne a*:

- (26) R Это какие-то черти, *a не* люди. (Michail Bulgakov, “Rokovye jajca”)
 E They’re devils, *not* human beings.
 N Dette er en slags djevler *og ikke* mennesker.

or the same construction with a random word in between, that is, *ne X a*:

- (27) R Ведь вы *не* художница, а музыкантша.
 (Anton Čechov, “Poprygun’ja”)
 E You’re *not* an artist, you know, *but* a musician.
 N De er jo *ikke* malerinne, *men* musiker.

It is always a great pleasure to end on a positive note and that means from the point of view of parallel corpora. The topics explored by Post and Jasinskaja are eminently suitable for a parallel corpus study: with a minimum amount of effort, thousands of hits are available at our disposal within seconds. Further ‘polishing’ of the initial crude results through clever use of statistical tools is bound to produce interesting sets of data. It is therefore imperative to continue the work on improving the search-interface which allows statistical processing. At present, it is only statistical processing of the source texts that is made available but with time we also aim to provide statistical processing of target texts, word-by-word-alignment, and so on.

For the discussion of and a short introduction to the rest of the papers from the conference, we refer the reader to the introduction in Part 3.

ACKNOWLEDGMENTS

This concludes the introduction to the first two parts of the proceedings, edited by Atle Grønn and Irena Marijanović. The third part in Russian is edited by Atle Grønn and Olga Klonova.

We would like to thank the participants at the Oslo conference, the authors and the reviewers. The technical part of the work with these proceedings deserves a special mention. As the readers may have noticed, the articles are type set in \LaTeX . This, we’re afraid, may prompt some of you to wonder why we chose to engage in an activity so time consuming and, possibly, not worth the effort we put in it. We defend our actions by appealing to the fact that if Grigorij Perel’man can do it, so can we! Since Mr. Perel’man is known for his preference to publish his work online in this particular document markup language and preparation system, we are hereby inviting him to feel free to submit his papers to our open access series *OSLa*. The conversion from Word to \LaTeX was this time done by Vladyslav Dorochin, Atle Grønn and Pavel Iosad.

We are proud to present these books to the linguistic community at large for, in our opinion, they are certainly the closest to the very best we are capable of in the field of *Russian in contrast*. Our conference *Russian in Contrast* was organized by the RuN project (2008-2010) at the University of Oslo with funding from the *Norwegian Centre for International Cooperation in Higher Education* (SIU).

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SPECIFICATIONAL COPULAR SENTENCES IN RUSSIAN AND ENGLISH

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ABSTRACT

The Russian sentence (1), from Padučeva & Uspenskij (1979), and English (2) are examples of specificational copular sentences: NP₂ provides the ‘specification’, or ‘value’ of the description given by NP₁.

- (1) Vladelec ètogo osobnjaka — juvelir Fužere.
owner-NOM this-GEN mansion-GEN jeweler-NOM Fuzhere
‘The owner of this mansion is the jeweler Fuzhere.’

- (2) The biggest problem is the recent budget cuts.

Williams (1983) and Partee (1986a) argued that specificational sentences like (2) result from “inversion around the copula”: that NP₁ is a predicate (type $\langle e, t \rangle$) and NP₂ is the subject, a referential expression of type e . Partee (1999) argued that such an analysis is right for Russian, citing arguments from Padučeva & Uspenskij (1979) that NP₂ is the subject of sentence (1). But in that paper I argued that differences between Russian and English suggest that in English there is no such inversion, *contra* Williams (1983) and Partee (1986a): the subject of (2) is NP₁, and both NPs are of type e , but with NP₁ less referential than NP₂, perhaps “attributive”.

Now, based on classic work by Roger Higgins on English and by Paducheva and Uspensky on Russian, and on a wealth of recent work by Mikkelsen, Geist, Romero, Schlenker, and others, a reexamination of the semantics and structure of specificational copular sentences in Russian and English in a typological perspective supports a partly different set of conclusions: (i) NP₁ is of type $\langle e, t \rangle$ and NP₂ is of type e in both English and Russian; (ii) but NP₁ is subject in English, while NP₂ is subject in Russian; and (iii) NP₁ in specificational sentences is universally topical (discourse-old), but only in some languages (like English) is that accomplished by putting NP₁ into canonical subject position. In other words, both English (2) and Russian (1) move the $\langle e, t \rangle$ -type NP₁ into some sentence-initial position for information-structure reasons, but in English NP₁ ends up as syntactic subject, whereas in Russian, it’s inverted into some other left-periphery position.

[1] INTRODUCTION

Compare Russian (1), from Padučeva & Uspenskij (1979), and English (2).

- (1) Vladelec ètogo osobnjaka — juvelir Fužere.
 Owner-NOM this-GEN mansion-GEN jeweler-NOM Fuzhere
 ‘The owner of this mansion is the jeweler Fuzhere.’
- (2) The biggest problem is the recent budget cuts.

The kind of copular sentence exemplified by (1) and (2) has been known as “specificational” since the work of Halliday (1967), Akmajian (1970, 1979), and especially the classic Higgins (1973), which provided insights and examples that have fueled much of the subsequent work on the topic. As Higgins described this kind of copular sentence, the second noun phrase, NP₂, provides the ‘specification’ of the individual described by the first noun phrase, NP₁, typically an attributive definite NP. Higgins refers to NP₁ as a “Superscriptional NP”, functioning very much like the “heading” of a list, a list which may in these sentences have just one item. Williams (1983) and Partee (1986a) argued that in English a specificational sentence like (2) involves “inversion around the copula”: NP₁ is ‘really’ a predicate (type $\langle e, t \rangle$) and NP₂ is a referential expression (type e) and is in some sense ‘really’ the subject.

Partee (1999) compared Russian and English specificational copular sentences like (1) and (2) and reached the following conclusions:

- (i) Russian does have inversion around the copula. In this conclusion, Partee (1999) agreed with Paducheva and Uspensky that in sentence (1), NP₂ is the subject.
- (ii) But in English there is no such inversion, contra Williams (1983) and Partee (1986a): the subject of (2) is NP₁. (The number agreement in (2) is one piece of evidence, but not by itself conclusive.)
- (iii) Partee (1999) also abandoned the earlier claim that NP₁ in an English specificational sentence has predicate type $\langle e, t \rangle$, claiming that as a subject, NP₁ is of type e , although in some sense less referential than NP₂, which is uncontroversially e -type.

Partee (1999) concluded (with many open questions) that the Williams-Partee proposals would be correct for Russian but were not correct for English. That paper also suggested information structure as a motivation for the sentence-initial position of NP₁ in both languages, an approach also advocated by others before and since.

In the light of newer research by Mikkelsen (2004b) (English and Danish), Geist (2007) (Russian and English), Romero (2005), Schlenker (2003), and others, I now

defend a view that returns in part to the approach of Williams (1983) and Partee (1986a), while agreeing with Partee (1999) that the subject of a specificational sentence is NP₁ in English, NP₂ in Russian. The conclusions I argue for in this paper are as follows:

- (i) English and Russian do indeed differ at the syntactic level on whether they make NP₁ the subject in a specificational sentence.
- (ii) In both languages, NP₁ has predicate type $\langle e, t \rangle$ or something similar – possibly a nominalized property in English, of type e ; or possibly a concealed question. The semantics of specificational sentences ends up the same in both languages.
- (iii) NP₁ in specificational sentences is universally a topic (discourse-old); but only in some languages does it become syntactic subject.

In Section [2] I review the classification of copular sentences into predication, equative, and specificational, along with some of the main properties that distinguish specificational sentences from the others. Section [3] discusses the syntax of specificational sentences, including debates about which NP is the subject, with special attention to Mikkelsen (2004a)’s evidence for distinguishing between predicate-fronting operations¹ that do and do not put the predicate-type expression into subject position. The conclusion of Section [3] is that while NP₁ is topic in both English and Russian, it is the subject in English, but is a non-subject in Russian. Section [4] is concerned with the semantics of different kinds of copular sentences, including the issue of the semantic types of NP₁ and NP₂ in specificational sentences. Drawing especially on arguments of Mikkelsen for English and Geist for Russian, we conclude that NP₁ is a property-type expression (or something effectively similar) in both Russian and English. Section [5] addresses the information structure of specificational sentences, and the hypothesis that the form of specificational sentences is motivated by discourse functions. The difference between Russian and English is then a difference in grammaticization: Russian achieves the given discourse function by topicalization of a predicate, while English makes the fronted NP₁ the subject in order to indicate its pragmatic topical (discourse-old) status. Section [6] concludes by putting those results in the typological context of other similar differences between English and Slavic, including passivization, “dative movement”, and existential sentences, differences that were noted and emphasized by Mathesius (1961, 1975) and in subsequent work in Prague School linguistics.

[1] I speak informally of predicate-fronting “operations”, but that should not be taken as implying any preference for derivational frameworks over monostratal frameworks, where the corresponding kinds of syntactic relatedness would be expressed without appeal to movement rules.

[2] KINDS OF COPULAR SENTENCES

Higgins (1973) proposed a fourfold distinction among copular sentences that may all have the surface form “NP₁ be NP₂”; subsequent scholars have generally agreed in recognizing at least three of the kinds identified by Higgins,² with various proposals for merging or splitting some of them. The three most widely accepted kinds of copular sentences of the form “NP₁ be NP₂” are PREDICATIONAL copular sentences, as in (3); EQUATIVE copular sentences, as in (4), and SPECIFICATIONAL copular sentences, as in (5).

(3) PREDICATIONAL

- a. Helen is a teacher.
- b. Juvelir Fužere — vladelec ètogo osobnjaka. (Russian)
Jeweler-NOM Fuzhere owner-NOM this-GEN mansion-GEN
‘The jeweler Fuzhere is the owner of this mansion.’
(Padučeva & Uspenskij 1979)

(4) EQUATIVE

- a. That woman over there is Susan. (Mikkelsen 2004b)
- b. Ciceron — èto Tullij. (Russian) (Geist 2007)
Cicero-NOM PRT³ Tully-NOM
‘Cicero is Tully.’

(5) SPECIFICATIONAL

- a. The winner is Susan.
- b. Vladelec ètogo osobnjaka – juvelir Fužere. (Russian)
Owner-NOM this-GEN mansion-GEN jeweler-NOM Fuzhere
‘The owner of this mansion is the jeweler Fuzhere.’
(Padučeva & Uspenskij 1979) (=1))

Below I briefly mention some of the main distinctions among these types of copular sentences; see den Dikken (2005) for an overview of syntactic distinctions among them and approaches to their syntactic analysis and Mikkelsen (To appear) for discussion of their semantic properties and debates over their semantic analysis.

[2] Higgins’s fourth type, which I will not discuss in this article, are IDENTIFICATIONAL copular sentences, like *That is Rosa* and *That’s the mayor*; they are analyzed as a type of specificational sentence in Mikkelsen (2004a) and as a type of intensional predicative sentence whose predicate must describe a SORT in Heller & Wolter (2008).

[3] The particle *èto* used in equative constructions in Russian is homophonous with the demonstrative *èto* ‘this’; whether it is a separate lexical item or not is a matter of debate; see, for instance Błaszczak & Geist (2000a,b); Geist (2007); Junghanns (1997); Kimmelman (2009); Padučeva (1982).

One distinction between referential and predicative NPs in English is that the question word *what* and pronominal *that* and *it* can range over humans when predicative, but not when referential, where one must use *who* or an animate pronoun like *he* or *she* (Higgins 1973).

- (6) a. *Who* is John? John is *the president of the club*.
NP₂ type *e*: equative. (Geist 2007)
b. *What* is John? John is *the president of the club*.
NP₂ type $\langle e, t \rangle$: predicational.
c. *What* cooked this beef stew? *#John*. OK: *This crockpot*.

The *who* question in (6-a) (together with the fact that one can of course also ask *Who is the president of the club?* and answer *John*) helps to show that equative sentences have two type *e* NPs; this is in fact their main defining characteristic. The contrast between (6-a) and (6-b) stems from the fact that definite NPs can be either referential or predicative, as discussed in Partee (1986b); (6-b) is a predicational sentence with a predicate nominal of type $\langle e, t \rangle$. (This test doesn't work for Russian, since Russian uses *kto* 'who' for both *e*-type and $\langle e, t \rangle$ -type NP questions.)

Another distinction between predicational and equative sentences is that only the former correspond to the kind of small clause that can be the complement of *consider*, as illustrated in (7-a)-(7-b), since the second constituent in such a small clause is preferably of type $\langle e, t \rangle$ (Partee 1986b). The same constraint blocks specificational small-clauses (7-c).

- (7) a. They considered Cicero a great orator.
b. *They considered Cicero Tully. (Rothstein 2001, 245)
c. #?I consider the best person for this job Diana.

Russian predicative expressions, but not *e*-type expressions, can optionally take Instrumental case in past and future tenses; so the predicational (3-b), but not the equative (4-b), has a past tense version with NP₂ in the Instrumental: see (8) vs. (9-a)-(9-b). And the specificational sentence (5-b) has a past tense version (10) with NP₁ in the Instrumental case, confirming that NP₁ in specificational sentences in Russian is of type $\langle e, t \rangle$.

- (8) Juvelir Fužere byl vladelcem ètogo osobnjaka. (Russian)
Jeweler-NOM Fuzhere was owner-INSTR this-GEN mansion-GEN
'The jeweler Fuzhere was the owner of this mansion.'
- (9) a. Ciceron — èto byl Tullij. (Russian) (Geist 2007)
Cicero-NOM PRT was Tully-NOM
'Cicero was Tully.'

- b. *Ciceron — èto byl Tullièm. (Russian)
 Cicero-NOM PRT was Tully-INSTR
 ‘Cicero was Tully.’
- (10) Vladelcem ètogo osobnjaka byl juvelir Fužere.
 Owner-INSTR this-GEN mansion-GEN was jeweler-NOM Fuzhere
 ‘The owner of this mansion was the jeweler Fuzhere.’

Russian equative sentences have *èto*; predication and specificational sentences do not.

One famous and much-studied property of specificational sentences is their exhibition of connectivity effects (Akmajian 1970; Higgins 1973), occurring most famously in specificational pseudoclefts like (11-a) but not only in those, as observed by Higgins: see (11-b). Neither predication nor equative sentences display connectivity effects.

- (11) a. What John is is proud of himself.
 b. The only thing the missile damaged was itself.

Much of the theoretically oriented work since Higgins (1973) has been devoted to trying to better understand the syntactic, semantic, and information-structure properties of these sentence types, and to derive their properties from some general principles. Many philosophers and some linguists have posited multiple verbs *be* as part of their account (Comorovski 2007; Romero 2005; Schlenker 2003); without going into arguments here, we will side with Chvany (1975); Padučeva & Uspenskij (1979); Déchaine (1993) and den Dikken (2005) in supposing that since the different sorts of two-NP copular sentences can be characterized in terms of the types of the two NPs, it should not be necessary to posit more than one *be*. This is of course a contentious issue, and some (Déchaine 1993; den Dikken 1995; Kon-drashova 1996; Moro 1997) would advocate no contentful *be* at all. Here I will not be totally committal, but I will assume that there is a single *be* in all three types of sentences; for concreteness, I will follow Williams (1983) and Partee (1986a), and posit a single *be* which takes one argument of type *e* and one of type $\langle e, t \rangle$, and is interpreted as an identity function on its $\langle e, t \rangle$ argument; this is also the analysis of Mikkelsen (2004a,b). I consider this relevantly equivalent to assuming that *be* is semantically empty, as long as the syntax in both cases somehow requires that one ‘argument’ be of type *e* and the other of type $\langle e, t \rangle$. For the equative sentences, one can either follow the suggestion of Partee (1986b) that one of the two NPs type-shifts to predicative type via the IDENT function, or the suggestion of Geist (2007) that the copula itself type-shifts in that case.

[3] SYNTAX OF SPECIFICATIONAL SENTENCES

Many researchers have proposed that in a specificational sentence, in some sense the predication is “turned around”. All agree that in specificational sentences, NP₂ is “more referential” than NP₁. As noted by researchers starting with Higgins (1973), specificational sentences can usually be ‘reversed’ with little change of meaning:⁴ see (12). Predicational sentences usually cannot be – either the result is ‘bad’ (13), or it may change meaning and become specificational, as in (14).

- (12) a. The winner is Susan (specificational)
 b. Susan is the winner (predicational; possibly ambiguously still specificational)

(13) *A teacher is Susan

(14) ‘Melanie’ is a popular name ≠ A popular name is ‘Melanie’

Debates about the syntax of specificational sentences center on two issues:

(i) whether NP₁ gets into sentence-initial position as the result of some kind of “fronting” of what would otherwise end up as a predicate nominal, and (ii) whether NP₁ actually is the subject of the sentence. The combinations of answers to these questions yield four different positions, three of which can be found in the literature. (No one has argued that NP₁ is base-generated in initial position but is a non-subject.)

BASE GENERATION OF NP₁ AS SUBJECT: Some authors have argued against viewing specificational sentences as “turned-around” predicational sentences. Heycock & Kroch (2002, 1999) and Rothstein (2001) are influential proponents of this sort of approach. One potential problem for base generation of a type $\langle e, t \rangle$ NP₁ as subject is that subjects are not normally of type $\langle e, t \rangle$; but that problem is avoided on these approaches, since they analyze specificational sentences as something similar to equative sentences, with two e -type arguments.

PREDICATE TOPICALIZATION: Analyses of English specificational copular sentences on which NP₁ gets into sentence-initial position by fronting but does not end up as subject include “predicate topicalization” treatments, such as Heggie (1988a,b). Williams (1983) considered inversion a “late, stylistic” rule. Most subsequent work has assumed that such movement is of a more syntactic nature, while maintaining the implicit premise that a predicational sentence like (12-b) is closer to the “basic” or “canonical” form for what (12-a) and (12-b) have in common. For Russian, versions of predicate topicalization for specificational sentences include Padučeva & Uspenskij (1979); Partee (1999), and Geist (2007). Mikkelsen (2004b) shows that Danish has predicate topicalization, but that it is not the

[4] It is normally assumed that the “reversal” of a specificational sentence is a predicational sentence, and that seems to always be one possible interpretation; we defer discussion of the possible ambiguity of such sentences until Section [5] on information structure.

source of Danish specificational copular sentences, as we will see just below. This means that topicalizing a predicate does not automatically yield a specificational sentence; the differences between them will be addressed just below.

PREDICATE FRONTING INTO SUBJECT POSITION: Analyses of English specificational sentences with fronting of NP₁ into subject position include Moro (1997) and (Mikkelsen 2004b). (Mikkelsen 2004b) gives strong arguments that in English and Danish, NP₁ is in subject position in specificational sentences.

Mikkelsen illustrates “predicate topicalization” vs specification in Danish. Example (15) (Mikkelsen 2004b, 22) is ambiguous; negation, as in (16-a)–(16-b) (Mikkelsen 2004b, 24), is one of several tests she provides showing that specificational sentences have a different structure from predication sentences with topicalized predicate.

- (15) Den højeste spiller på holdet er Minna. (Danish) (ambiguous)
 The tallest player on team-DEF is Minna
 ‘The tallest player on the team is Minna.’ (specificational), or
 ‘Minna is the tallest player on the team.’ (predicational with pred. topicalization)
- (16) a. Den højeste spiller på holdet er IKKE Minna. (specificational)
 The tallest player on team-DEF is not Minna
 ‘The tallest player on the team is not Minna.’
 b. Den højeste spiller på holdet er Minna IKKE. (pred. topic.)
 The tallest player on team-DEF is Minna not
 ‘Minna is not the tallest player on the team.’

Mikkelsen gives a strong set of further arguments showing differences between the two sentence types related to such phenomena as pronominal forms (nominative vs. accusative), reflexives, negative polarity items, word order, yes-no questions, and embedding. Her conclusions are that Danish has predicate “topicalization” structures, as in (16-b), where NP₁ (actually DP₁, but I will continue to use NP terminology) is a focused⁵ predicate in CP and NP₂ is the subject (in Spec-IP). And Danish also has specificational structures, as in (16-a), where NP₁ is in fact the subject (occupying Spec-IP), and the post-copula NP₂ is inside the verb phrase. Here NP₁, the subject, is topic (discourse-old), not focus.

Since I will largely follow Mikkelsen on syntax, I show below her syntactic trees for specificational sentences (16-a) and predication sentences with predicate topicalization (16-b). These are the surface structures, with traces of move-

[5] Terminology concerning “topicalization” is notoriously problematic, as can be seen by doing a Google search on “so-called topicalization”. Mikkelsen argues convincingly that what is commonly referred to as predicate topicalization in Danish is really a focusing construction. On the focusing function of “predicate topicalization” in English and Danish, see (Gundel 1988, 143-50), (Heggie 1988a, 66), and Mikkelsen (2005, 2004b).

ment⁶ shown; the most deeply embedded traces show where things were in deep structure. I slightly modify the trees given in (Mikkelsen 2004b, 24–26), incorporating a very few things from the further details given in Chapter 9, and using subscripts *et*, *e*, and *v* on what I have otherwise here been calling NP₁, NP₂, and the copula, and on their traces. In the underlying structure of both, Mikkelsen assumes, following Heggie (1988a,b), that the copula takes as complement a small clause, in which the small-clause subject DP_{*e*} is left-adjoined to the small-clause predicate DP_{*et*}. But whereas Heggie argues that specificational sentences ARE predicate topicalization sentences, Mikkelsen’s evidence from Danish shows that at least for Danish, those are two separate constructions with different surface structures, as shown below.

For the specificational sentence (16-a), the $\langle e, t \rangle$ -type DP ends up in subject position, in the specifier of IP, cf. Figure 1.⁷

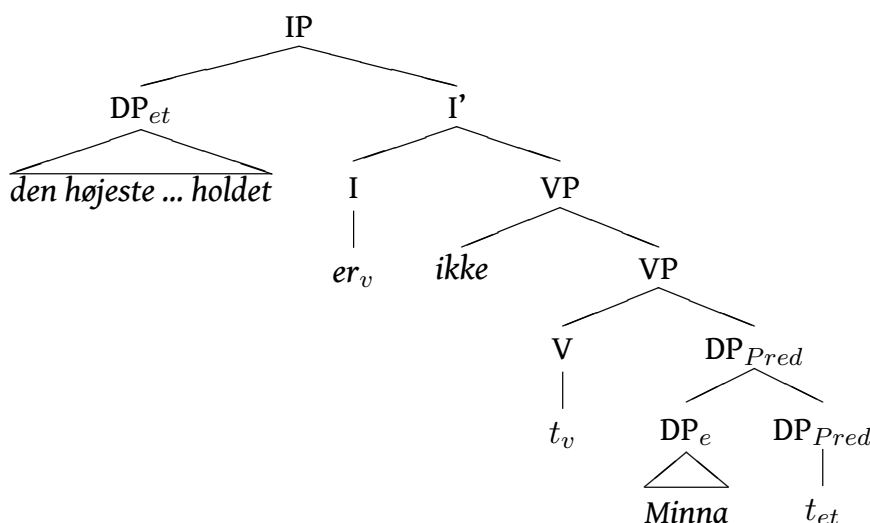


FIGURE 1: Surface structure for the specificational sentence (16-a) (adapted from trees (2.10) and (2.43) in Mikkelsen (2004b))

For the predicational sentence (16-b) with predicate topicalization, on the other hand, her derivation follows Heggie’s, and the $\langle e, t \rangle$ -type DP ends up in the specifier of CP. It is the proper name *Minna* that is in subject position in the specifier of IP, cf. Figure 2 on the next page.

Mikkelsen shows that versions of her arguments are consistent with a range of different theoretical approaches, and with several different proposals about

[6] Like Mikkelsen, I hasten to add that I express the relation between “levels” of syntactic structure in terms of “movement”, since so much of syntactic theory has been and still is formulated that way, without thereby intending to imply that movement is the only or the best account of such relations.

[7] “The definite description is in subject position and the proper name inside the verb phrase. The finite verb has moved to I and the negation (*ikke*) appears between the finite verb and the proper name” (Mikkelsen 2004b, 26).

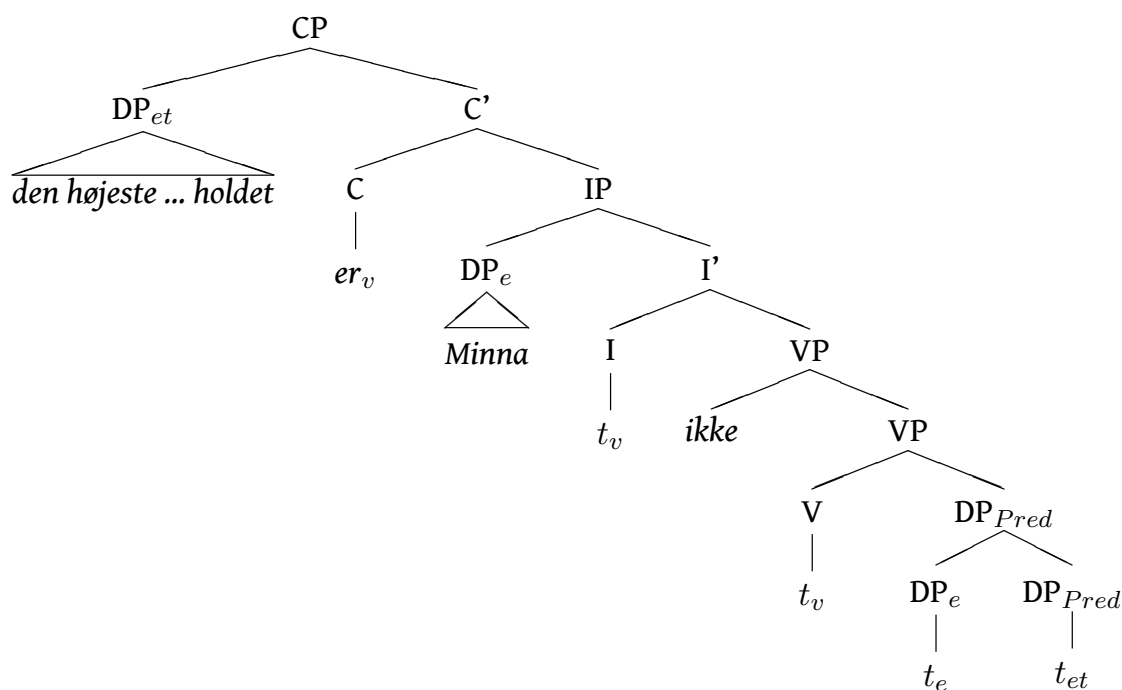


FIGURE 2: Surface structure for the predicational sentence (16-b) with predicate topicalization (adapted from trees (2.9) and (2.39) in Mikkelsen (2004b))

the details of specificational sentences. What's clearly established is that making a certain NP initial may or may not involve making it the subject; Danish has both kinds of constructions, and they have different semantic and pragmatic properties as well as different surface syntax. So specificational sentences, in Danish at least, are not formed by predicate “topicalization”. NP₁ is indeed topic, but it is in syntactic subject position, not in any higher left-periphery position.⁸

As for Russian, Partee (1999) and Geist (2007) show that some of the arguments for subjecthood of NP₁ in specificational sentences in English give opposite results in Russian. (i) Number agreement in Russian specificational sentences is with NP₂, not NP₁. (ii) NP₁ may be in the Instrumental case when there is an overt copula (in past and future tenses); that is typical behavior for nominal and adjectival predicates, not otherwise attested for subjects.

We note that Italian also has agreement with NP₂ in specificational sentences. Heycock and Kroch argued that Italian specificational sentences are predicational, whereas English specificational sentences are equative. Mikkelsen and Geist both argue against this conclusion: Specificational sentences are not the same as equa-

[8] Mikkelsen notes in a footnote that on some approaches to Danish verb-second phenomena, even the subject would eventually move into a higher left-periphery position like specifier of CP and I with the verb would move to C; but the primary distinction remains between predicate topicalization of NP₁ vs. making NP₁ subject.

tives in any language. Agreement with NP₂ may be one strong (but not absolute) argument that predicate topicalization has applied to NP₁, and agreement with NP₁ is one strong argument that NP₁ is subject, but it is important to employ as large a battery of diagnostics as possible for determining which NP is subject in each language. The best evidence so far supports the conclusion that NP₁ in Russian specificational sentences is not subject; it is classically agreed to be topic, and could be a ‘topicalized predicate’ in the Heggie-Mikkelsen sense.

[4] SEMANTICS OF DIFFERENT KINDS OF COPULAR SENTENCES: NP TYPES AND THE COPULA.

While there remain many debates about the semantics of the copula in the various kinds of copular sentences, and about their information structure, there is something close to consensus among semanticists about the semantic types of the NPs, so much so that those are regarded as almost definitional of the sentence types. There is one large caveat concerning details of the semantic type and the semantic and pragmatic analysis of NP₁ in specificational sentences, but modulo some specifics there is agreement even there.

PREDICATIONAL SENTENCES: In predicational sentences like (3-a)–(3-b), NP₁ is referential, type *e*. (NP₁ may also be quantificational, of type $\langle\langle e, t \rangle, t \rangle$, but that is true for just about every NP position that is basically of type *e*, so such NPs may be safely ignored here.) NP₂ is predicative, type $\langle e, t \rangle$.⁹ In predicational sentences, the copula may be regarded as empty, or as an identity mapping on predicates, $\lambda P[P]$, or as in Partee (1986b) as the ‘predication relation’ $\lambda P \lambda x[P(x)]$. These are all effectively equivalent: the copula in such sentences is just acting as some sort of go-between: what follows it is to be predicated of the subject. When and why a copula is required at all is the subject of a large literature; we ignore that question here.

EQUATIVE SENTENCES: The distinctive semantic characteristic of equative sentences is that NP₁ and NP₂ are both basically referential, type *e*. On the Williams-Partee approach, one of them shifts to predicate type by the *ident* relation of Partee (1986b), as in (17).

$$(17) \quad \textit{ident}(\text{Tully}) = \lambda x[x = \text{Tully}] \text{ (the property of being identical to Tully)}$$

The copula itself remains the same as in a predicational sentence; it is its demand for one $\langle e, t \rangle$ argument that coerces the shift of type of one of the NPs. And although it is not fully explicit in Williams (1983) or Partee (1986a), it may be posited

[9] As in Partee (1986b) and much subsequent literature, I systematically ignore the distinction between intensional property-type and extensional predicate-type, representing both for simplicity as $\langle e, t \rangle$.

that it is the pragmatically rhematic (discourse-new, or informationally focused) NP that shifts to type $\langle e, t \rangle$, and the topical or discourse-old NP that is chosen to be NP₁, in subject position and of type e .

On Geist's approach (Geist 2007), the copula instead shifts to express the identity relation on entities: $\lambda y \lambda x [y = x]$.

Geist (2007) uses Russian (and English) to argue against the Partee/Williams account of Identity sentences, on which NP₂ shifts from type e to type $\langle e, t \rangle$, to yield $\lambda x [x = \text{Tully}]$. Her main argument is based on the idea that only overt elements can undergo type-shifting. The argument concerns predicative *èto*: It's required in *be*-less identity sentences, but not required in past or future sentences, where there is an overt form of the copula.

- (18) a. Ciceron — *èto* Tullij (Russian) Geist (2007)
 Cicero-NOM PRT Tully-NOM
 'Cicero is Tully.'
 b. *Ciceron — Tullij
 Cicero-NOM Tully-NOM
 'Cicero is Tully.'
 c. Ciceron — (*èto*) byl Tullij
 Cicero-NOM PRT was Tully-NOM
 'Cicero was Tully.'

Geist argues that null elements cannot type-shift, and that explains why *èto* is required in present tense copular sentences. It 'substitutes' for the copula (cf. Hebrew as well as various South Slavic languages which also have a 'pronominal' copula in sentences with no overt verbal copula.) She derives a suitable reading for this *èto*.

If (as Williams and Partee claimed) NP₂ could shift to mean $[\lambda x [x = \text{Tully}]]$, then according to Geist there should be no need for *èto*. And there would be no explanation for why English small clauses can't get equative readings as in (19), or (7-b) above:

- (19) *Mary considered Cicero Tully.

We leave this interesting debate unresolved; Geist (2007) has indeed shown some problems for the Williams-Partee approach, where one of the e -type NPs shifts to type $\langle e, t \rangle$; her own proposal avoids those problems but posits a shift in the meaning of the copula that does not seem to have independent motivation or to occur anywhere else. Her argument would apply to any one-*be* or no-*be* analysis, it would seem. There may be an alternative explanation for the facts Geist has uncovered, but I do not have one. What is not under dispute is that the equative sentences, if they are indeed a separate class, are characterized by having two NPs

that are both “basically” of type *e*.

SPECIFICATIONAL SENTENCES:

Of the three types of two-NP copular sentences, the semantics of specificational sentences is the most controversial, especially with respect to how to account for connectivity effects. However, I believe there is increasing evidence in both English-like languages and Russian-like languages that NP₂ is referential, of type *e*, while NP₁ is either property-denoting (type $\langle e, t \rangle$), or of some other related non-canonical subject type: perhaps a concealed question, or a nominalized property, or an intensional attributive expression (Geist 2007; Romero 2005; Schlenker 2003).

Mikkelsen (2004b) shows that Danish gives even clearer evidence than English for such an analysis of specificational sentences; see her work for discussion of the variants of the property-denoting status of NP₁ just mentioned. And Geist (2007) provides evidence quite different from Mikkelsen’s in favor of something like a property-type analysis of NP₁ in Russian specificational sentences.

According to what we might then call the Williams/Partee/Mikkelsen analysis of NP₁ in specificational sentences in English (and Danish), NP₁ in a specificational sentence is subject, and topic, but it’s something like property-denoting. I’ll continue to use type $\langle e, t \rangle$ as a cover term for these proposals (even though, for instance, a nominalized property would be of type *e*, and a concealed question or an attributive intensional expression would have other types). What it’s not is a simple referential type *e* expression. For the purposes of this paper, lumping the variants of the property-type hypothesis together should not affect the main points.

Some of Mikkelsen’s best arguments that NP₁ is property-denoting involve the choice of pronouns anaphoric to NP₁ in specificational vs. predicational sentences. The English facts may seem slightly idiosyncratic, but Danish is quite systematic and clear, and reinforces what we find in English.

In an English predicational sentence, with an ordinary *e*-type subject, if the subject denotes a human, then an anaphoric pronoun in a tag question must be *he* or *she*, not *it*. But with the same subject in a specificational sentence, the anaphoric pronoun must be *it*, not *he* or *she*. The explanation that seems to fit best is that *it* is the appropriate anaphoric pronoun for property-denoting NPs.

- (20) a. The winner was Norwegian, wasn’t *she*? / *wasn’t it?
 b. The winner was Susan, wasn’t *it*? / *wasn’t *she*?

Danish has two grammatical genders, ‘common’ and ‘neuter’. An anaphoric pronoun normally agrees in grammatical gender with its antecedent; this is uniformly the case for an *e*-type subject of a predicational sentence, as illustrated by the question-answer pair in (21). But when the same common-gender NP is

the subject of a specificational question, the pronoun anaphoric to it must be the non-agreeing neuter-gender form, as shown in (22), analogous to English *it* in (20) above.

- (21) a. Q: Hvor stor er *den største by i Skotland*?
 How big is the-COM largest city in Scotland
 ‘How big is the largest city in Scotland?’ (predicational)
 b. A: *Den* / **Det* er større end København.
 it-COM / it-NEUT is larger than Copenhagen
 ‘It is larger than Copenhagen.’ (Mikkelsen 2004b, 125)
- (22) a. Q: Hvilken by er *den største (by) i Skotland*?
 which-COM city is the-COM largest (city) in Scotland
 ‘Which city is the largest (city) in Scotland?’ (specificational)
 b. A: **Den* / *Det* er vist Glasgow.
 it-COM / it-NEU is PRT Glasgow.
 (only *neuter* pronoun possible)
 ‘I believe it’s Glasgow.’ (Mikkelsen 2004b, 125)

Geist (2007) gives a different kind of argument for the property-type of NP₁ in Russian specificational sentences. She first establishes that specificational sentences are not Equatives, by showing that a specificational sentence like (23) cannot contain *èto*.

- (23) Ubijca staruxi — (*èto) Raskol’nikov.
 Murderer-NOM old.lady-GEN PRT Raskolnikov-NOM
 ‘The murderer of the old lady is Raskolnikov.’

So the NPs are not both type *e*. And in a past-tense sentence, NP₁ can be marked either Instrumental (24-a) or Nominative (24-b), a characteristic of property-type NPs and APs in Russian, as described in Section [2] above.

- (24) a. Pričinoj avarii *byla / byli
 Cause-INSTR.F.SG crash-GEN was-F.SG / was-PL
 neispravnye tormoza.
 unrepaired-NOM.PL brakes-NOM.PL
 ‘The cause of the crash was the unrepaired brakes.’
- b. Edinstvennyj, kto stal na našu storonu, *byl /
 Only.one-NOM.M.SG who stood on our side was-M.SG /
 byla Varvara.
 was-F.SG Barbara-NOM.F.SG

Russian specificational sentences have semantic and pragmatic properties like those in English and Danish, but as Paducheva and Uspensky observed, it's NP₂ and not NP₁ that is the subject in Russian: NP₂ is always Nominative, and the verb agrees with it, as illustrated in (24-a)-(24-b) above.

[5] INFORMATION STRUCTURE OF SPECIFICATIONAL SENTENCES

Part of what makes specificational sentences distinctive is their pragmatics. Mikkelsen and others argue that the discourse function of the inversion of the predicative NP₁ in specificational sentences is to express that NP₁ is "discourse-old" in the sense of Birner (1996); it's a kind of topic-driven movement. She argues that what permits this rather unusual (for English) movement is that *be* is "the lightest of light verbs": it does not assign accusative case, and nothing prevents movement of the predicative NP₁ to subject position. The resulting NP₁ will then be both semantically predicative and discourse-old, a relatively unusual combination. This explains the restrictions on possible subjects of specificational sentences, including the impossibility of (25), which was earlier (for instance in Partee (1999)) considered a problem for the Williams-Partee predicate inversion hypothesis about specificational sentences.

- (25) *A doctor is John.

There is no absolute prohibition on indefinite subjects of specificational sentences; their existence was already pointed out by Higgins (1973). Examples include (26-a), from Partee (1999), and (26-b),(26-c) from Mikkelsen (2004a).

- (26) a. One friend of mine you could talk to is Diana.
 b. A philosopher who seems to share the Kiparskys' intuitions on some factive predicates is Unger (1972), who argues that . . . (Delacruz 1976, p.195, fn.8 via Mikkelsen 2004a)
 c. Another speaker at the conference was the *Times* columnist Nicholas Kristof, who got Wilson's permission to mention the Niger trip in a column.¹⁰

There are also examples of the same thing in Russian. Examples (27-b)-(27-c) are from Padučeva & Uspenskij (1979).

- (27) a. Odin iz moix soavtorov — Uspenskij. (Paducheva, p.c.)
 One-NOM from my coauthors Uspenskij-NOM
 'One of my coauthors is Uspenskij.'

[10] Mikkelsen gives the source of this example as Seymour M. Hersh, "The Stovepipe", *The New Yorker*, Oct. 27, 2003, p.86.

- b. Pod"exavšie byli Napoleon i dva ad"jutanta.
Approaching.ones-NOM were Napoleon and two adjutants
'The/some approachers were Napoleon and two adjutants.'
- c. Učastnik našego koncerta — artist Georg Ots.
Participant-NOM our-GEN concert-GEN singer-NOM Georg Ots
'One participant in our concert is the singer Georg Ots.'

Mikkelsen (2004a,b) shows convincingly that the kinds of indefinites permitted as NP₁ in a specificational sentence are those that can be good discourse-old topics; the problem with (25) is not that its subject is indefinite, but that it is the kind of indefinite that cannot readily be interpreted as discourse-old.

So let's summarize the similarity and differences between Russian and English specificational sentences. (i) Their information structure is the same: NP₁ is topic (discourse-old), "is NP₂" is new information. (ii) Their semantics ends up the same, though possibly by slightly different compositional routes: NP₁ expresses a property, NP₂ is referential (type *e*), and the copula is either empty or expresses the predication relation 'turned around'. That combination of semantics and information structure yields something like "The thing that has property NP₁ is NP₂." (This summary is oversimplified, not least in omitting connectivity issues.) (iii) It's their syntax that's different. In English (and Danish), NP₁ is subject, while in Russian NP₂ is subject. In both languages there is information-structure-motivated movement of NP₁, but only in English is it movement into subject position.

The semantics/pragmatics of Danish predicate-topicalized sentences is different from that of Russian (and English and Danish) specificational sentences, since in predicate-topicalized sentences, which actually involve as noted a kind of focus construction, the resulting interpretation is roughly paraphrasable as "The property that NP₂ has is NP₁" (Mikkelsen 2004b, 19–22).¹¹

In the concluding section we put these results into a typological perspective.

[6] TYPOLOGICAL CONCLUSIONS

We have seen that specificational copular sentences in English (and Danish) on the one hand and in Russian on the other hand are essentially alike in their semantics and information structure, but differ in their syntax: Russian gets the predicative NP₁ into a sentence-initial topic position without making it a subject, whereas English makes the topical (discourse-old) NP₁ subject. This difference between Russian and English is not an isolated case. Mathesius argued many decades ago that Czech and Russian can use "word order alone" where English uses such transfor-

[11] Russian probably also has the possibility of predicate-topicalization as found in Danish and many other languages, since focused constituents may also occur sentence-initially with a marked intonation; I have not investigated this issue.

mations as Passive to get the Topic (or Theme) into sentence-initial position.

The difference between the uses English and Slavic make of Passive structures is one of the best-known examples of this sort. Russian has two different passive-like constructions, used with imperfective and perfective verbs respectively, but neither one is used as much as English passive. The reason seems simply to be that one of the motivations for passive in English is to topicalize the direct object; for English, the most natural way to do that is to make the direct object into the surface subject, since the subject is the default topic. Slavic languages can move the object into a left-periphery topic position with no change in grammatical relations; they are more inclined to use passive only when the subject is to be left unexpressed or strongly demoted.

Active vs. passive and predication vs. specificational may be regarded as “diathesis choices” in English, closely related but distinct argument structures in which the same verb may appear. The choice of which structure to use in a given sentence involves the “relative importance”, in some sense, of one of the arguments. There are various kinds of “importance.” We have seen that information structure may be a motivating factor for one or the other choice, and that the same information-structure demands may motivate diathesis shifts in one language, like English, but “mere” word-order shifts in another, like Russian.

Another such case seems to be Dative Shift with *give/send* verbs, although the details of what motivates the choice of the alternating forms in English are still controversial.

- (28) a. Mary threw the ball to John.
 b. Mary threw John the ball.

Krifka (1999) argues that the two patterns have different semantics: (28-a), in which *the ball* is surface direct object, has a “cause-go” semantics, while (28-b), in which *John* is surface direct object, has a “cause-have” semantics. Bresnan et al. (2007) and Rappaport Hovav & Levin (2008) argue that it’s instead a choice motivated by information structure: the one chosen to be direct object is the one with greater topicality. One might offer a typological argument in favor of Bresnan’s and Rappaport Hovav and Levin’s hypothesis by appealing to the fact that Russian has no such “dative shift”, just a word order difference. In Russian, corresponding sentences like (29-a)–(29-b) have no change in the case marking on the NPs, and correspondingly no change in which argument is considered the direct object. With neutral intonation, the final NP is understood as most rhematic, the one right after the verb as more topical or familiar. (Hence the anarthrous NP *pis'mo* ‘a/the letter’ is somewhat more likely to be interpreted as definite in (29-a) than in (29-b).)

- (29) a. Maša poslala pis'mo Ivanu.
 Masha-NOM sent letter-ACC Ivan-DAT
 'Masha sent the/a letter to Ivan.'
- b. Maša poslala Ivanu pis'mo.
 Masha-NOM sent Ivan-DAT letter-ACC
 'Masha sent Ivan the/a letter.'

If Bresnan's and Rappaport Hovav and Levin's hypothesis about the difference in the English examples is correct, this is a third example in which English makes a structural syntactic distinction and Russian just uses a word order change to signal a marked Information structure. These are also good examples for showing that what is at issue can be a gradient notion of topicality (cf. the Praguean scale of communicative dynamism (Sgall et al. 1986)) and one that need not involve a dedicated syntactic "topic" position.

In order to dispel the possible impression that all English diathesis alternations are motivated principally by information structure and that Russian has no real diathesis alternation, let me add a different sort of diathesis alternation, one in which English and Russian appear to be quite similar, at least with some verbs: the "spray/load" alternations.

In spray/load alternations in English, it is well known that one chooses as Direct Object the more "totally affected" argument Levin (1993).

- (30) a. The farmer loaded *the wagon* with the hay.
 b. The farmer loaded *the hay* onto the wagon.

Russian is similar in this respect, with alternations between accusative marking on the "affected" argument and instrumental case for the substance (*the hay* in (30-a)), or a directional phrase¹² for the goal argument (*the wagon* in (30-b)): see (31-a)-(31-b).

- (31) a. Ivan zagruzil telegu senom.
 Ivan loaded-Pf wagon-ACC hay-INST
 'Ivan loaded the wagon with hay.'
- b. Ivan zagruzil v telegu seno.
 Ivan loaded-Pf in wagon-ACC hay-ACC
 'Ivan loaded (the) hay onto the wagon.'

Russian often chooses differently prefixed verbs for the two constructions, so it's not always simply a diathesis choice in Russian, but insofar as it is, it seems to be motivated by the same 'affected argument' property as in English.

[12] Directional prepositions in Russian take accusative objects; the ACC on *telegu* in (29-b) is licensed by the preposition, whereas in (29-a) ACC marks *telegu* as direct object of the verb.

A particularly interesting and controversial example that might be considered a diathesis alternation is the distinction between existential and locative (predicational) sentences in Russian vs. English. In English, there is no doubt that (32-a)–(32-b) are syntactically distinct structures.

- (32) a. The/a doctor is (not) in Amherst.
 b. There is (not) a doctor in Amherst.

But there is considerable more controversy about the nearest equivalents in Russian.

- (33) a. *Vrač byl v gorode.*
 Doctor-NOM.M.SG was-M.SG in town
 ‘The/a doctor was in town.’
 b. *V gorode byl vrač.*
 In town was-M.SG doctor-NOM.M.SG
 ‘There was a doctor in town.’
 c. *Vrač ne byl v gorode.*
 Doctor-NOM.M.SG NEG was-M.SG in town
 ‘The doctor was not in town.’
 d. *Vrača ne bylo v gorode*
 Doctor-GEN.M.SG NEG was-NEUT.SG in town
 ‘There wasn’t a doctor in town.’
 e. *V gorode ne bylo vrača.*
 In town NEG was-NEUT.SG doctor- GEN.M.SG
 ‘There wasn’t a doctor in town.’

This is a much more complex case; Babby (1980) argued (controversially) that the main difference between existential and locative sentences is a difference in Theme-Rheme structure, reflected in preferred word order (if both are pronounced with neutral intonation) and that in Russian affirmative sentences that was the only difference between them. In Russian negative existential sentences there is a further difference: the NP is marked with the genitive case (the famous Russian Genitive of Negation) and the verb takes a non-agreeing neuter singular form; Babby argued that these alternations reflect the marked theme-rheme structure of existential sentences. Borschev and Partee have argued in several papers that the diathesis alternation in these Russian examples reflects not theme-rheme structure but another difference they call “Perspectival structure” (Borschev & Partee 2002a,b; Partee & Borschev 2004, see also Hazout 2004) for related discussion of Hebrew existential sentences.) However, we conjecture that it would be quite possible for there to be a language very similar to Russian in

which the difference between existential and locative sentences really did reduce to greater topicality of the “entity” argument vs. the “location” constituent, since it’s clear from other constructions that what one language does with a change of argument structure another may be able to do with information-structure-related movement that doesn’t change grammatical relations.

The conclusion, then, is that one language may have an information-structure-motivated diathesis choice where another language uses information structure alone, as we see in the difference between English and Russian specificational copular sentences. This paper has offered a small contribution to the cross-linguistic and typological study of interactions among syntax, semantics, and information structure. It is to be hoped that with more work of this kind, it may be possible to partially predict which languages will express certain contrasts in which way from knowing what mechanisms each language has available for expressing information structure.

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SCALES IN THE MEANING OF ADJECTIVES

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ABSTRACT

The goal of this paper is to show that a degree-based semantics for comparative constructions in English, based on a degree ontology going back to Cresswell (1976), meets the challenge of polarity effects in antonymous adjectives, once it is properly adapted to deal with measure expressions and the so called norm-related inferences. I present an alternative to theories that rely on a shift from degrees as points to degrees as intervals as proposed in von Stechow (1984a). My approach builds on the assumption that degrees constitute simple ordinal scales and measures are introduced at the LF by the necessity of interpreting numerals. The proposal is evaluated against the data from two languages with completely different polarity patterns, English and Russian.

[1] INTRODUCTION

Any theory of comparatives employs some notion of a degree. Following the work of Cresswell (1976), most contemporary theories of comparison handle degrees as abstract entities forming part of the object language.¹ Klein (1991) calls such theories degree-based. The main tenet of a degree-based analysis is the presence of an object of degree type in its underlying semantic ontology. The classical method to construct degrees inspired by the Frege–Russell treatment of cardinal numbers was first elaborated in Cresswell (1976). Cresswell defines degrees as equivalence classes of individuals indistinguishable relative to a relevant gradable property. For example, John’s tallness is conceptualized as a set of entities that are considered exactly as tall as John and the degree of John’s intelligence is a set of entities that are indistinguishable from John relative to how intelligent they are. Under this view, one would take John’s shortness to be the same object as John’s tallness, i. e. degrees associated with antonymous predicates would be expected to be identical. Not only is this assumption ontologically plausible, it is also crucial for deriving the equivalence in (1), which Kennedy (1997) calls a minimal requirement of any theory of comparatives.

- (1) Judy is taller than Sam. \Leftrightarrow Sam is shorter than Judy.

[1] A different tradition going back to Lewis (1970) is to treat degrees as contextual coordinates, for a comparison see Klein (1980); Kennedy (2007); Sassoon (2007); van Rooij (2008).

However, as pointed out in Rullmann (1995), identifying polar degrees appears problematic for the treatment of some degree constructions. For example, it makes it difficult to explain the deviancy of the sentences with negatively polar adjectives in (2) and (3) below. If ‘tall’ and ‘short’ relate Judy to the same degree why should this polar asymmetry arise? Rullmann remarks that both (2-b) and (3-b) presuppose that Judy is short, whereas (2-a) and (3-a) are neutral in this respect.

- (2) a. Judy is 1.80 m tall.
b. ??Judy is 1.80 m short.
- (3) a. How tall is Judy?
b. ?How short is Judy?

Along with measure phrase constructions and degree questions, equatives with ratio modifiers also display polar asymmetry, see (4).

- (4) a. Judy is twice as tall as Sam.
b. ??Judy is twice as short as Sam.

Another environment that discloses markedness of negative poles are subdeletion comparatives with differential measure phrases. It appears that a differential is only licensed in a subdeletion comparative if the embedded predicate is positively polar as illustrated by the contrast in (5).

- (5) a. The doorway is 5 cm higher than the shelf is wide.
b. The doorway is 5 cm lower than the shelf is wide.
c. *The doorway is 5 cm higher than the shelf is narrow.
d. *The doorway is 5 cm lower than the shelf is narrow.

The paradigm in (5) is discussed in Bierwisch (1989) who observes that the variants of (5-c) and (5-d) without differentials can only receive a so called N-reference reading. N-reference is a comparison with a norm salient in the context. For instance, (6) can only be understood to convey that the extent to which the shelf is narrow is surpassed by the extent to which the doorway is high; it could be truthfully uttered in a situation in which the doorway is very high and the shelf is not very narrow. Bierwisch calls the interpretation of (6) norm-related. Note that Rullmann’s characterisation of the deviant examples (2-b) and (3-b) is captured by norm-relatedness as well. Markedness of negative polar adjectives reflected in the licensing of numerical modifiers is evidently related to the phenomenon of norm-relatedness.

- (6) The doorway is higher than the shelf is narrow.

We would expect a language in which norm-related readings are distributed differently from English to have a different polarity pattern. This expectation is borne out for Russian. On the one hand, Russian is known to have a more restricted distribution of numerals with gradable adjectives: they are licensed with the comparative form of an adjective only, cf. (7)–(8). On the other hand, except for comparatives of inequality, Russian degree constructions are norm-related regardless of the polarity of the predicate. For example, in contrast to English, Russian equatives can only receive an N-reference interpretation. In (9) both Katja and Larissa are understood to be tall or short, respectively.

- (7) Кровать на 4 см/ в 2 раза шире, чем диван
 bed by 4 cm/ twice wider than sofa
 ‘The bed is 4 cm wider than the sofa./The bed is twice as wide as the sofa.’
- (8) Кровать 80 см *широкая/ *узкая/ шириной
 bed 80 cm wide/ narrow/ width-INSTR
 ‘The bed is 80 cm wide.’
- (9) Катя такая же высокая/ низкая, как и Лариса
 Katja that EMPH tall/ short as also Larissa
 ‘Katja and Larissa are equally tall/short.’

This paper strives to account for polarity effects in English without changing the standard ontological assumptions about the nature of degrees. I tackle this task by spelling out the correlation between the observed polar asymmetries and norm-relatedness. Furthermore, I investigate the contrast between English and Russian to embed my conclusions in a broader cross-linguistic picture.

The paper is structured as follows. Section [2] gives a background on a degree-based analysis of comparatives; in section [3] I discuss how polarity effects are accounted for by different theories of antonyms; in section [4] I first propose a new analysis and apply it to the English data, the last part of that section is concerned with antonyms in Russian; section [5] is a conclusion.

[2] DEGREE-BASED APPROACH

In this section I introduce underlying ideas of a degree-based approach to the analysis of constructions with gradable adjectives. The crucial notion is that of a degree. As an example, let me demonstrate a standard way of constructing a degree of tallness. I rely on a recent exposition in von Stechow (2008). We start with the relation ‘taller than’ holding of individuals of type e , which is empirically given and has the property of being irreflexive, asymmetric and transitive. By assumption, each gradable predicate is associated with at least one such relation. Let us denote this relation as \succ_{tall} and its field as $F(\succ_{\text{tall}})$. Using this relation, we may define the equivalence relation ‘exactly as tall as’ with the same field.

$$(10) \quad \forall x, y \in F(\succ_{\text{tall}}) : y \approx_{\text{tall}} x \text{ iff } \forall z \in F(\succ_{\text{tall}}) : \\ [y \succ_{\text{tall}} z \text{ iff } x \succ_{\text{tall}} z] \wedge [z \succ_{\text{tall}} y \text{ iff } z \succ_{\text{tall}} x]$$

The tallness degree of individual u , notated as $[u]_{\text{tall}}$, can now be defined as a subset of $F(\succ_{\text{tall}})$ corresponding to the equivalence class of u relative to \approx_{tall} , see (11-a). Tallness degrees are thus predicates of individuals, i.e. they have the semantic type *et*, and denote sets of individuals which are indistinguishable with respect to how tall they are, see (11-b).

$$(11) \quad \begin{aligned} \text{a.} \quad & \forall u \in F(\succ_{\text{tall}}) : [u]_{\text{tall}} = \{x : x \approx_{\text{tall}} u\} \\ \text{b.} \quad & D_{\text{tall}} = \{[u]_{\text{tall}} : u \in F(\succ_{\text{tall}})\} \end{aligned}$$

It is common practice to introduce type d representing objects of this kind into the semantic ontology.

$$(12) \quad \begin{aligned} \text{a.} \quad & \text{Let } d \text{ be a semantic type of degrees.} \\ \text{b.} \quad & \text{Let } D_d \text{ consist of disjoint sets of degrees of various sorts.} \end{aligned}$$

Constructed as equivalence classes, tallness degrees can be related to each other by a second order relation based on \succ_{tall} , as defined below:

$$(13) \quad \forall d, d' \in D_{\text{tall}} : d >_{\text{tall}} d' \text{ iff } \forall x \in d, \forall y \in d' : x \succ_{\text{tall}} y$$

Like their domains, degrees constitute a scale structure. I shall call a scale a tuple consisting of a set of degrees of a particular sort and an ordering ' $>$ ' on this set.

$$(14) \quad \text{Call each pair } \langle D_a, >_a \rangle, \text{ such that } D_a \subseteq D_d \text{ and } >_a \text{ is the ordering on } D_a, \\ \text{a scale of degrees in } D_a.$$

Degree scales like $\langle D_{\text{tall}}, >_{\text{tall}} \rangle$ constitute an ordinal system of measurement, which implies that degrees of tallness can be compared by the 'greater than' or 'less than' relation, but the operations of addition or subtraction cannot be meaningfully applied to them. Thus, degrees as equivalence classes represent only the order of the entities they correspond to, they do not encode the distance between them.

Cresswell (1976) suggests that degrees are introduced into a semantic representation by lexical entries of gradable predicates, which take degrees as their arguments. More specifically, he proposes to analyse gradable adjectives as expressing relations between individuals and degrees of the relevant sort. For example, the adjective 'tall' is treated as a function that maps a degree of tallness to a set of individuals whose height is represented by that degree. The assignment of an individual to its unique degree of some sort is called a measure function. A gradable adjective is therefore associated with a certain kind of measure function. The measure function that relates an entity to its height in world w is defined in (15-a). Given this measure function, we may formulate the lexical entry for 'tall'

as in (15-b).

- (15) a. $\text{HEIGHT}_w := \lambda x \iota d (d \in D_{\text{tall}} \wedge x \in d)$
 b. $\llbracket \text{tall} \rrbracket = \lambda w \lambda d \in F(>_{\text{tall}}) \lambda x \text{HEIGHT}_w(x) = d$

An analysis of a simple comparative in (16) should intuitively involve a comparison of the degree representing Judy's height to the degree representing Sam's height by means of a relation \succ_{tall} . There is a variety of theories trying to capture this intuition, for a comparison see von Stechow (1984a). The simplest view goes back to Russell's (1905) definite-style analysis. According to it, sentence (16-a) has the truth conditions in (16-b).

- (16) a. Judy is taller than Sam is.
 b. $\iota d (\text{HEIGHT}_w(J) = d) >_{\text{tall}} \iota d' (\text{HEIGHT}_w(S) = d') = \text{HEIGHT}_w(J) >_{\text{tall}} \text{HEIGHT}_w(S)$

In a definite-style analysis the comparison operation is assumed to be expressed by the comparative morpheme. A sample lexical entry is given in (17). '-er' combines with a gradable predicate A and a standard of comparison degree d contributed by the comparative complement to yield a property holding of entities whose degree of A -ness exceeds d on a relevant scale.²

- (17) $\llbracket \text{-er} \rrbracket = \lambda w \lambda A_{d(et)} \lambda d \in F(>_R) \lambda x_e \iota d' (A(d')(x)) >_R d$

'Than'-clauses are assumed to undergo ellipsis, known as comparative deletion since the work of Bresnan (1973), see (18-a). After reconstruction, the question word is moved from the degree argument position of the adjective to the edge of the clause and is interpreted as a lambda abstractor. As a result, the comparative complement denotes a property of degrees. This property is coerced into a degree description by a covert definite term, as outlined in (18-b).

- (18) a. than Sam is ~~how tall~~
 b. $\llbracket \text{DEF}[\lambda d \text{ Sam } d \text{ tall}] \rrbracket = \lambda w \iota d (\text{HEIGHT}_w(S) = d)$

Let us now consider how an analysis along these lines is applied to (19) below. To this end, I give a lexical entry for 'short' in (20-a). 'Short' is assumed to employ the same measure function as its positive polar antonym 'tall'. This amounts to postulating that equivalence classes formed by the relation \approx_{short} are identical to those formed by the relation \approx_{tall} . Shortness degrees are therefore indistinguishable from tallness degrees. They are, however, associated with a different ordering. This ordering is based on the basic relation \succ_{short} which is the inverse

[2] The analysis is couched in an intensional framework in the style of Heim & Kratzer (1998), which I adopt throughout this paper.

of the \succ_{tall} . Given this definition of ‘short’, the analysis of (19) proceeds along the lines in (20-b). The sentence is predicted true in w iff Sam’s height exceeds Judy’s on the shortness scale, i. e. iff Sam belongs to the class of people who are judged shorter than those to whom Judy belongs.

(19) Sam is shorter than Judy is.

- (20) a. $\llbracket \text{short} \rrbracket = \lambda w \lambda d \in F(>_{\text{short}}) \lambda x \text{HEIGHT}_w(x) = d$
 b. $\llbracket \text{-er} \rrbracket(w)(\llbracket \text{short} \rrbracket(w))(\text{HEIGHT}_w(J))(S) =$
 $\text{HEIGHT}_w(S) >_{\text{short}} \text{HEIGHT}_w(J)$

Given degrees as equivalence classes, which constitute ordinal scales, we still do not have a means to treat expressions like (21), where the notion of distance plays a crucial role. Degrees based on equivalence classes cannot be used to measure distance. The interpretation of the subcomparative in (22) appears even more involved. We cannot apply the analysis sketched above to (22), for we cannot directly relate a width degree to a length degree. Intuitively, we seem to be comparing two measures here, not simply two equivalence classes of individuals.

- (21) a. Judy is 5 cm taller than Sam is.
 b. Judy is 1.80 m tall.

(22) The doorway is wider than the shelf is long.

The standard method to handle measures is to replace an ordinal system of measurement induced by degrees by an interval system of measurement, see Klein (1991) and von Stechow (2008). For this purpose, an operation of addition is defined on degrees via some operation of fusion on individuals in their domain. For degrees of length such operation is concatenation, see (23). Given addition, it is possible to define multiplication of degrees as shown in (24).

- (23) Assume that \circ is an operation of concatenation on the domain of individuals. Let $d, d' \in D_{\text{tall}}$.
 $d + d' = \{u : u \in F(\succ_{\text{tall}}) \wedge \exists x \in d, \exists y \in d' : x \circ y = u\}$

(24) For any degree d the following holds: $2d = d + d \wedge nd = (n - 1)d + d$

The sequence $d, 2d, 3d \dots$ is called a standard sequence based on d in Krantz et al. (1971). The notion of standard sequence is used in semantics to define measure expressions. A standard sequence can be based on a unit of measurement. First, we construct a degree corresponding to the equivalence class of entities that are exactly as tall as a meter unit object. Call this degree $[m]_{\text{tall}}$. The standard sequence that is based on $[m]_{\text{tall}}$ looks as follows: $[m]_{\text{tall}}, 2[m]_{\text{tall}}, 3[m]_{\text{tall}} \dots$. Expressions, like ‘2 meter’ are usually assumed to refer to the members of that sequence. Once fractions are defined, ‘1.80 meter’ can be analysed as referring to the degree

1.8[m]_{tall}. The analysis of the measure phrase construction in (21-b) is straightforward, see (25).

$$(25) \quad \text{HEIGHT}_w(J) = 1.8[m]_{\text{tall}}$$

Differentials are usually analysed as measures of distance between two degrees. Distance between two degrees can be defined as in (26-a). To handle (21-a) let us assume with von Stechow (2008) that ‘(by) 5 cm’ is composed with the comparative morpheme and adds a measure of distance to the operation of comparison, as shown in (26-b). The truth conditions of (21-a) are computed in (27).

$$(26) \quad \begin{aligned} \text{a.} \quad & \forall d, d' \text{DISTANCE}_R(d, d') = \iota d'' \in F(>_R), \\ & \text{such that } d + d'' = d' \vee d' + d'' = d \\ \text{b.} \quad & \llbracket 5 \text{ cm} \rrbracket = \lambda w \lambda O_{(d(et))(d(et))} \lambda A_{d(et)} \lambda d_d \in F(>_R) \lambda x_e O(A)(d)(x) \\ & \wedge \text{DISTANCE}_R(d, \iota d'(A(d')(x))) = 5[\text{cm}]_R \end{aligned}$$

$$(27) \quad \begin{aligned} & \llbracket 5 \text{ cm} \rrbracket(w)(\llbracket \text{-er} \rrbracket(w))(\llbracket \text{tall} \rrbracket(w))(\text{HEIGHT}_w(S))(J) \\ & = \llbracket \text{-er} \rrbracket(w)(\llbracket \text{tall} \rrbracket(w))(\text{HEIGHT}_w(S))(J) \\ & \wedge \text{DISTANCE}_{\text{tall}}(\text{HEIGHT}_w(S), \iota d'(\llbracket \text{tall} \rrbracket(w)(d')(J)) = 5[\text{cm}]_{\text{tall}} \\ & = \text{HEIGHT}_w(J) >_{\text{tall}} \text{HEIGHT}_w(S) \\ & \wedge \text{DISTANCE}_{\text{tall}}(\text{HEIGHT}_w(S), \text{HEIGHT}_w(J)) = 5[\text{cm}]_{\text{tall}} \end{aligned}$$

I close this section by sketching an analysis of the subcomparative in (22). Following von Stechow, let us assume that in such cases the comparative may abstract from dimension and relate two degree quantities, i. e. to avoid undefinedness in (28-a) we opt for the meaning of the comparative in (28-b).

$$(28) \quad \begin{aligned} \text{a.} \quad & \text{WIDTH}_w(\text{door}) >_{\text{long}} \text{LENGTH}_w(\text{shelf}) \quad \text{undef!} \\ \text{b.} \quad & \llbracket \text{-er}^{\text{QU}} \rrbracket = \lambda w \lambda A_{d(et)} \lambda d_d \lambda x_e \text{QU}(\iota d'(A(w)(d')(x))) > \text{QU}(d), \\ & \text{where for relation } A, \text{ unit of measurement } u \text{ and degree } d = n[u]_A : \\ & \text{QU}(d) = n[u] \end{aligned}$$

[3] POLARITY EFFECTS

[3.1] *The problem of polar (a)nomalies*

Most asymmetries between negatively and positively polar adjectives (henceforth A− and A+) I touched upon at the outset of the paper follow from the treatment of antonyms outlined in the previous section. As von Stechow (2008) observes, we cannot define multiples of negative degrees. For example, 1.8[m]_{short} has to be 1.8 times more short than [m]_{short}. In order to make sense of this, we would need to define an operation of addition +_{short}, such that for two shortness degrees d and d' the following would hold: $d +_{\text{short}} d' >_{\text{short}} d$. There seems to be no natural way to do that. As a result, (29-a) and (30-a), whose semantics is based on the operation of multiplication, come out undefined.

- (29) a. ??Judy is 1.80 m short.
 b. $\text{HEIGHT}_w(J) = 1.8[m]_{\text{short}}$ undef!
- (30) a. ??Sam is twice as short as Judy.
 b. $\text{HEIGHT}_w(S) = 2n[u]_{\text{short}}$,
 for some unit u and $n[u]_{\text{short}} = \text{HEIGHT}_w(J)$

Importantly, since measures of distance always refer to positive degrees, measure phrases are correctly predicted to be acceptable in comparatives with A–, cf. (31).

- (31) a. Sam is 5 cm shorter than Judy is.
 b. $\text{HEIGHT}_w(S) >_{\text{short}} \text{HEIGHT}_w(J) \wedge \text{DISTANCE}_{\text{short}}(\text{HEIGHT}_w(S), \text{HEIGHT}_w(J)) = 5[\text{cm}]_{\text{short}}$

What remains unaccounted for is the pattern of cross-polar comparisons in (32-a) and (32-b). Obviously, if a subcomparative contains an A–, we expect it to be deviant, for we cannot abstract a quantity from a negative degree and so the operation QU cannot be applied. This accounts for the deviance of (32-a). However, the acceptability of the cross-polar comparison in (32-b) and the subcomparative with two A– in (32-c) remains unexplained.

- (32) a. ??The doorway is higher than the shelf is narrow.
 b. The doorway is lower than the shelf is wide.
 c. The doorway is lower than the shelf is narrow.

In the following subsection I shall show that an alternative interval-based approach to the analysis of antonyms also fails to account for the problem of cross-polar comparisons.

[3.2] *Extents*

Polar anomalies caused a lively debate on the status of degrees in the analysis of comparatives. Following a suggestion by Seuren (1984), von Stechow (1984b) modifies the concept of a degree to account for distinctions between A+ and A–. He proposes that measure functions do not map individuals to discrete points on a relevant scale but to intervals of a special sort, which he calls extents. The differences in the distribution of A+ and A– can be captured by the distinction between negative and positive extents in the ranges of their measure functions. A positive extent is a convex set of points on a scale that spans from zero to some positive value, whereas a negative extent starts at some positive value and has no upper bound. For example, suppose that Judy is 1.75 m tall. Her tallness and shortness extents are schematized in (33).

The assumption that numerical phrases denote positive extents is crucial. As pointed out in Sassoon (2007), this is problematic for cases like (39-a). Indeed, we cannot obtain Judy's shortness extent by concatenating two positive extents.

- (39) a. Judy is 20 cm shorter than 2 m.
 b. $\text{SHORTNESS}_w(J) = \langle_{\text{height}} 0, 2 \rangle + \langle 0, 0.2 \rangle$ undef!

This problem is inherited by Kennedy (1997) who also endorses a sortal distinction between negative and positive degrees by defining them as Seuren's extents. As a remedy, Kennedy suggests that measure phrases might have different denotations. Whereas '1.80 m' in the measure phrase constructions in (35-a) denotes a positive extent, '2 m' in the comparative in (39-a) denotes an entity which is mapped by the measure function of 'short' to a negative extent.

Cross-polar comparisons present another problem for the extent-based analysis. The $A+/A-$ comparative in (40) is effectively ruled out: concatenating Sam's shortness with a positive extent can produce only a negative extent, which does not correspond to Judy's tallness. Obviously, the same result could be derived for two-dimensional comparatives like (32-a) if we can find a way to abstract away from the dimension. $A-/A-$ comparatives like (32-c) would be correctly predicted to be grammatical. The problem resides in cross-polar nomalies like (32-b), i. e. comparatives of the form $A+/A-$. As cross-polar comparisons, they come out deviant, contrary to the intuitive judgment.

- (40) ??Judy is taller than Sam is short.

The idea of extents has remained influential for over more than two decades. One of its implementations due to Heim (2001) is adopted in many mainstream analyses of degree constructions. Heim assumes that gradable adjectives, which have a relational meaning, denote monotone functions in the following sense: a function f denoting a relation between an individual and a degree is monotone if and only if for any two degrees d and d' and individual x , if f is true of x and d and $d > d'$ then f is true of x and d' :

- (41) $\forall d, d' \in D_d, f \in D_{d(et)}, x \in D_e : (d > d' \wedge f(x, d)) \rightarrow f(x, d')$

A sample lexical entry in (42) defines 'tall' as a function with the property in (41). According to (42), 'tall' applied to an individual x denotes a set of degrees that are smaller or equal to x 's height. Put differently, x is related to an interval on the scale of tallness degrees that stretches from the lower end of the scale to the height of x , which corresponds to the positive extent of x 's tallness.

- (42) $\llbracket \text{tall} \rrbracket = \lambda w \lambda d \lambda x \text{ HEIGHT}_w(x) \geq d$

In Heim (2004), a negative antonym is defined as the internal negation of its positive counterpart, cf. (43-a) and (43-b). $A-$ relates an individual x to the negation of the extent that x is related to by $A+$, see (43-c).

- (43) a. Adjectival negation: $\text{LITTLE}(A_{d(et)}) = \lambda d \lambda x \neg A(d)(x)$
 b. $A- := \text{LITTLE}(A+)$
 c. $\llbracket \text{SHORT} \rrbracket = \lambda w \lambda d \lambda x \text{HEIGHT}_w(x) \prec d$

This analysis of antonyms is known as “negation theory of antonymy”. Heim does not address the licensing of numerical modifiers in Heim (2001). A possible solution to this problem under the negation theory is sketched in (von Stechow 2006). Von Stechow proposes to type-lift measure expressions to the quantifier meaning as shown in (44-a) for ‘1.80 m’. ‘1.80 m’ is true of a set of degrees whose maximum is at least 1.80 m.

- (44) a. $\llbracket 1.80 \text{ m} \rrbracket = \lambda w \lambda D_{dt} \text{MAX}(D) \geq 1.80 \text{ m}$, where MAX is defined below.
 b. $\text{MAX}(D_{dt}) = \iota d : d \in D \wedge \forall d' \in D : d' \leq d$

Assuming that the tallness scale is open-ended, (35-b) repeated in (45-a) below comes out undefined under this analysis.

- (45) a. *Judy is 1.80 m short.
 b. $\text{MAX}(\lambda d \text{HEIGHT}_w(J) < d) \geq 1.80 \text{ m}$ undef!

The account of the cross-polar anomaly in (40) depends on the treatment of the comparative. In Heim (2007), ‘-er’ expresses the inclusion relation between two sets of degrees formed by abstracting over the degree arguments of the main predicate and the reconstructed embedded predicate, see (46-a). Obviously, cross-polar comparisons can never be true in this analysis, which may be seen as a reason for their deviance, see (46-b). However, the asymmetry between $A-/A+$ and $A+/A-$ still remains a puzzle.

- (46) a. $\llbracket \text{-er} \rrbracket = \lambda w \lambda D_{dt} \lambda D'_{dt} D \subseteq D'$
 b. $[\lambda d \text{HEIGHT}_w(S) < d] \subseteq [\lambda d \text{HEIGHT}_w(J) \geq d]$

To conclude, though a standard theory of antonyms derives some polar anomalies, such as the ungrammaticality of measure phrase constructions with $A-$, it does not account for the cross-polar paradigm. Theories based on a shift to intervals inherit this problem.

[3.3] Cross-polar paradigm revisited

Bierwisch (1989) gives an accurate and exhaustive survey of the anomaly pattern of subdeletion comparatives. He discusses subdeletion paradigms for comparatives and equatives in German, which appear to differ in their acceptability pat-

terns, see (47) and (48).

- (47) a. Der Tisch ist höher als er breit ist.
the table is higher than it wide is
'The table is higher than it is wide.'
- b. ?Der Tisch ist niedriger als er breit ist.
the table is lower than it wide is
'The table is lower than it is wide.'
- c. ?Der Tisch ist niedriger als er schmal ist.
the table is lower than it narrow is
'The table is lower than it is narrow.'
- d. ??Der Tisch ist höher als er schmal ist.
the table is higher than it narrow is
'The table is higher than it is narrow.'
- (48) a. Der Tisch ist so hoch wie er breit ist.
the table is that high how it wide is
'The table is as high as it is wide.'
- b. ?Der Tisch ist so niedrig wie er breit ist.
the table is that low how it wide is
'The table is as low as it is wide.'
- c. Der Tisch ist so niedrig wie er schmal ist.
the table is that low how it narrow is
'The table is as low as it is narrow.'
- d. ?Der Tisch ist so hoch wie er schmal ist.
the table is that high how it narrow is
'The table is as high as it is narrow.'

According to Bierwisch, (47-a) and (47-b) can relate two length degrees directly, (47-c) and (47-d) cannot express regular comparison but only allow for what he calls a secondary N-reference reading. He gives the following paraphrase for (47-c).

- (49) The table is further below the contextual norm regarding height than regarding width.

Bierwisch characterizes the acceptability pattern in (47)–(48) in the following way. Negative polar adjectives are generally impossible in comparative complements. If a negative predicate occurs in a 'than' clause of a subdeletion comparative, the secondary N-reference interpretation obtains. It requires setting up an auxiliary scale different from the degree scale used for making direct comparisons, which amounts to a re-interpretation step, hence the markedness of (47-c) and (47-d). In equatives, there is no ban on negative polarity in the complement.

In an A–/A– equative, like (48-c), N-reference is not secondary. It must have the same source as a norm-related interpretation of A– equatives, e. g. (50).

- (50) Der Tisch ist so niedrig wie das Bett.
 the table is that low how the bed
 ‘The table is as low as the bed.’

Another factor that adds to the deviancy of (47-d) and reduces the acceptability of (47-b) and the equatives in (48-b) and (48-d) is scale reversal, i. e. opposite polarity of the involved predicates.

That a regular comparison interpretation is impossible in (47-c) and (47-d) is supported by the fact that they disallow differential measure phrases, see (51).

- (51) a. *Der Tisch ist 10 cm niedriger als er schmal ist.
 the table is 10 cm lower than it narrow is
 ‘The table is 10 cm lower than it is narrow.’
 b. *Der Tisch ist 10 cm höher als er schmal ist.
 the table is 10 cm higher than it narrow is
 ‘The table is 10 cm higher than it is narrow.’

For the equatives in (48) modifiability by ratio modifiers can be used to test the availability of a regular comparison. As shown in (52), ‘twice’ is ruled out in the examples that Bierwisch characterises as norm-related.

- (52) a. Der Tisch ist doppelt so hoch wie er breit ist.
 the table is twice that high how it wide is
 ‘The table is twice as high as it is wide.’
 b. *Der Tisch ist doppelt so niedrig wie er breit ist.
 the table is twice that low how it wide is
 Lit: ‘The table is twice as low as it is wide.’
 c. *Der Tisch ist doppelt so niedrig wie er schmal ist.
 the table is twice that low how it narrow is
 Lit: ‘The table is twice as low as it is narrow.’
 d. *Der Tisch ist doppelt so hoch wie er schmal ist.
 the table is twice that high how it narrow is
 Lit: ‘The table is twice as high as it is narrow.’

Given Bierwisch’s paradigm and its apparent applicability to English, see Kennedy (2001),³ a theory that aims to account for markedness of A–, has to address the following questions:

[3] Although Kennedy disagrees with Bierwisch on the status of A–/A– comparatives, his examples of a regular comparison reading of A–/A– comparatives are exceptional and can be categorized as word play.

- (53) Why does the asymmetry of poles not lead to anomaly in A+/A– comparatives?
- (54) Why do A–/A– comparatives and equatives disallow measure phrases despite the symmetry of the poles?

Obviously, the extent-based approaches face difficulties with the cases where one cannot appeal to the asymmetry of the poles on the one hand, e.g. (51-a), and where this asymmetry does not lead to unacceptability on the other, e.g. (47-b). Differences in the licensing of numerical modifiers in comparatives and equatives present an additional complication which has to be dealt with by any theory of antonymy.

Question (53) has not been addressed by the extent-based theories to the best of my knowledge. Norm-relatedness of subdeletion comparatives and equatives as well as degree questions with negative adjectives is not regarded as noteworthy. Kennedy (2001) proposes that comparison with a contextual norm is sometimes triggered by a special status of A–. As marked members of antonym pairs, negative adjectives carry a presupposition that “the property they describe does hold of the target of predication”. Thus, (55-a) and (55-b) are only felicitous in a context in which the table is low. In (55-a) it is additionally presupposed to be narrow. However, it is unclear why this requirement does not apply in (55-c) which seems perfectly neutral in this respect.

- (55) a. The table is lower than it is narrow.
 b. How low is the table?
 c. The table is lower than the bed.

On the other hand, question (54) attracted quite some attention in the recent literature. Büring (2007) and Heim (2008) discuss the acceptability of cross-polar nomalies from the perspective of the negation theory. I turn to their accounts in the following section.

[3.4] *Accounts of cross-polar nomalies*

Kennedy (2001) notes that A+/A– comparatives are degraded in English unless the adjectives involved are associated with different dimensions, cf. (56). The same point is made in Büring (2007) where two-dimensional A–/A+ comparatives like (56-b) are called cross-polar nomalies, while A–/A+ comparatives with the adjectives sharing the dimension, like (56-a), are categorized as cases of cross-polar anomaly.

- (56) a. ?The ski poles are shorter than the box is long.
 b. The ski poles are shorter than the box is wide.

Büiring (2007) argues that A−/A+ comparatives are possible because abstract negation (LITTLE) on a A− can split from the adjective and attach to the comparative morpheme, i. e. LITTLE-A-er can be interpreted as LITTLE-er A. To make this concrete, ‘shorter’ is assumed to be sometimes interpreted as ‘less tall’. This decomposition step, apparently inspired by the discussion of ‘less’ comparatives in Rullmann (1995), allows one to do away with cross-polarity and treat surface A−/A+ comparatives as underlying A+/A+ ones.

The difference in the acceptability of two-dimensional and one-dimensional A−/A+ comparatives does not immediately follow on this approach. The latter are predicted to be interpretable if LITTLE is bracketed with the comparative. However, as Büiring argues, though this construal is possible, the deletion of the entire embedded AP is preferred in such cases over the deletion of the degree morphology, that is, comparative deletion is preferred over subdeletion. As a result, one-dimensional A−/A+ comparatives are unacceptable for most speakers.

Some consequences of Büiring’s proposal are discussed in Heim (2008) where Büiring-style decomposition is characterized as a syntactic negation theory of antonymy. Such an approach presupposes that the lexicon does not contain entries for negative adjectives. Words like ‘short’ are spell outs of two units: a positively polar adjective and a predicate negation. The negation unit appears in the pre-spell-out representations of ‘less’ and negatively polar adjectives.

This approach is to be distinguished from a lexical theory of antonymy adopted by Heim (2007), where A− are assumed to be listed as separate meaningful units in the lexicon on the par with A+. In contrast to Büiring’s analysis, no part of the syntactic representation of A− corresponds to a predicate negation.

To account for cross-polar nomaly, Heim (2008) follows the path laid down by Büiring. She assumes that despite the cross-polar surface realisation of such sentences, on the level of LF they involve two comparable predicates, that is, two predicates with matching polarity. This is achieved by analysing A− as a spell out of an immobile LITTLE and the corresponding A+ and positing a covert LITTLE in the complement clause. The process of comparative deletion should take care of this case and erase the embedded instance of LITTLE. As a result, both predicates are A−, i. e. they map their individual-denoting arguments to negative extents. Though forced to decompose negative predicates, Heim emphasises that her analysis does not treat ‘shorter’ by analogy with ‘less tall.’ She posits two separate kinds of LITTLE. The first one, which is responsible for the formation of antonyms, is always bracketed with the adjective at the logical form, whereas the second one, spelling out ‘less’ and semantically distinct from the antonym-forming LITTLE, is a scopally active element.

Assessing her proposal, Heim admits that positing a silent LITTLE is driven by the need to account for the acceptability of A−/A+ comparatives. Apart from not being motivated independently, this move inevitably leads to the complication of

the theory of ellipsis.

[4] SCALARITY AND N-REFERENCE

In this section I lay out an extension of a standard degree-based analysis of comparatives sketched in section [2] and argue that it meets the challenges of existing theories of antonyms. I start with a new approach to measures in section [4.1]. In section [4.2] I derive the distribution of N-reference and its correlation with the licensing of measure phrases. In section [4.3] I apply the analysis to Russian.

[4.1] Measures

There is a way to deal with measures that does not require that addition and multiplication be defined on degrees. Those operations may be performed on real numbers to which some degrees may be mapped by an appropriately defined numerical assignment. I sketch such a method below.

I start by introducing a class of parametrised functions from degrees of a particular sort to real numbers. Call such functions $\text{NUM}_{u,R}$ where the indices correspond to a unit of measurement and a dimension, respectively. For example, $\text{NUM}_{\text{meter}, \text{tall}}$ maps a height degree d to a real number that represents the ratio between an entity from the domain of d and an entity from the equivalence class of a meter unit object m .

$$(57) \quad \forall d \in F(\succ_{\text{tall}}) : \text{NUM}_{\text{meter}, \text{tall}}(d) = n, \text{ such that } \exists y \in [m]_{\text{tall}} \exists x \in d : x/y = 1/n$$

By the same token, we may define a function that maps a weight degree to its ratio to a standard represented by weight measures, such as kilo, and so on. Finding a ratio between two entities is fundamental to a system of measurement. The idea is simple. For example, to determine the ratio representing the length of a desk in meters we apply a meter unit object, say, a meter long ruler, and if necessary its parts, to the longer side of the desk and find out how many times we need to repeat this procedure to cover the entire length of the desk.

Given this kind of homomorphism into real numbers, which can be applied at LF whenever required, the simple notion of a degree as an equivalence class inducing an ordinal scale is preserved. Let me demonstrate how constructions (21)–(22) are handled in this approach. I start with the measure phrase construction in (21), repeated below.

$$(58) \quad \text{Judy is 1.80 m tall.}$$

I assume that the head of the measure phrase ‘1.80 m’ is an operator that turns a number and a name of unit into a degree, as defined in (59). In the example at hand, EQ maps the number 1.80 and the unit name ‘meter’ to the height de-

gree to which the function $\text{NUM}_{\text{meter,tall}}$ assigns 1.80. The entire LF of (58) and its interpretation are given in (59-b).

- (59) a. $\text{EQ}(n)(u) = \iota d \in F(>_R) : \text{NUM}_{u,R}(d) = n$
 b. $\llbracket \text{tall} \rrbracket(w)(\text{EQ}(1.80)(\text{meter}))(J) =$
 $\text{HEIGHT}_w(J) = \iota d \in F(>_{\text{tall}}) : \text{NUM}_{\text{meter,tall}}(d) = 1.8$

The analysis of the differential in (21-a), repeated in (60), is parallel to that of von Stechow (2008), cf. (61-b).

- (60) Judy is 5 cm taller than Sam is.

I redefine DISTANCE to incorporate a NUM function. DISTANCE maps two degrees to the distance between their numerical values, see (61-a).

- (61) a. $\forall d, d' \in F(>_R) : \text{DISTANCE}(d, d', u) = |\text{NUM}_{u,R}(d) - \text{NUM}_{u,R}(d')|$
 b. $\llbracket 5 \text{ cm} \rrbracket = \lambda w \lambda O_{(d(et))(d(et))} \lambda A_{d(et)} \lambda d_d \lambda x_e O(A)(d)(x)$
 $\wedge \text{DISTANCE}(d, \iota d'(A(d')(x)), \text{cm}) = 5$

Finally, to treat subdeletion comparatives, like those in (22) repeated below in (62), I define a new variant of the comparative morpheme which applies in cases of two-dimensional comparisons. The resulting truth conditions of (62-a) are given in (62-c).

- (62) a. The doorway is wider that the shelf is long.
 b. $\llbracket -\text{er}^{\text{NUM}} \rrbracket = \lambda w \lambda A_{d(et)} \lambda d_d \lambda x_e \text{NUM}_u(\iota d'(A(d')(x))) >_R \text{NUM}_u(d),$
 where $>_R$ is a ' $>$ ' or ' $<$ ' ordering on real numbers.
 c. $\text{NUM}_{u,\text{long}}(\text{WIDTH}_w(d)) > \text{NUM}_{u,\text{long}}(\text{LENGTH}_w(s))$

I assume that the polarity of the adjective argument determines which ordering is employed by $-\text{er}^{\text{NUM}}$; A+ leading to the choice of ' $>$ ' and A- to the choice of ' $<$ '. This analysis predicts that the polarity of the embedded adjective does not have any impact on the truth conditions, see (63). NUM maps a negative polar degree to the same value it maps the respective positive polar degree to, because they correspond to one and the same equivalence class.

- (63) a. The doorway is wider that the shelf is long/??short.
 $\text{NUM}_{u,\text{wide}}(\text{WIDTH}_w(d)) > \text{NUM}_{u,\text{long/short}}(\text{LENGTH}_w(s))$
 b. The doorway is shorter than the shelf is wide/??narrow.
 $\text{NUM}_{u,\text{long}}(\text{LENGTH}_w(d)) < \text{NUM}_{u,\text{wide/narrow}}(\text{WIDTH}_w(s))$

Another construction whose semantics incorporates a function NUM is the equative with a ratio modifier, like (64-a). I assume that an equative complement is a correlative clause that provides the value for the correlate 'as' in the matrix

clause. For reasons of space I do not spell out its composition. For the present purpose, suffice it to say that the degree argument of the matrix adjective is saturated by the correlate. Provided that the value of the correlate in (64-a) is set to the height of the shelf, the sentence without ‘twice’ is predicted to be true in w iff the height of the shelf in w equals the height of the doorway in w , see (64-b).

- (64) a. The doorway is (twice) as high as the shelf.
 b. $\text{HEIGHT}_w(d) = \text{HEIGHT}_w(s)$

‘Twice’ applies to the correlate and doubles the numerical value of the degree it refers to, as shown in (65).

- (65) a. $\llbracket \text{twice} \rrbracket = \lambda w \lambda d \in F(>_R) \iota d' (2\text{NUM}_{u,R}(d) = \text{NUM}_{u,R}(d'))$
 b. $\text{HEIGHT}_w(d) = \iota d' (2\text{NUM}_{u,R}(\text{HEIGHT}_w(s)) = \text{NUM}_{u,R}(d'))$

In subdeletion equatives, the same operation of accomodation is at work as in subdeletion comparatives, i. e. the comparison of numerical values of sortally different degrees based on the same unit of measurement.

- (66) a. The doorway is as high as the shelf is long.
 b. $\text{NUM}_{u,\text{high}}(\text{HEIGHT}_w(d)) = \text{NUM}_{u,\text{long}}(\text{LENGTH}_w(s))$

In the following section, the current predictions of the analysis will be embedded in a theory of semantic competition between positive and negative adjectives to derive polarity effects.

[4.2] *Ambiguity and competition*

In a degree-based approach, it is a common practice to treat positive forms of gradable predicates as expressing comparison with an implicit contextually provided norm, see Cresswell (1976). For example, (67) would be analysed as involving a covert degree morpheme [pos] carrying a ‘standard of comparison’ variable that applies to ‘tall’ and turns it into the comparative property in (67-b).

- (67) a. Judy is tall.
 b. $\llbracket \text{pos}_c \text{ tall} \rrbracket = \lambda w \lambda x \text{ HEIGHT}_w(x) \succ g(c)$, where $g(c)$ is a contextual norm for tallness.

I pursue a different approach to the analysis of vague predicates like ‘tall’ in (67). I treat the positive ‘tall’ and ‘short’ as properties of individuals, i.e. as functions of type et , that hold of x iff x is considered tall and short, respectively, in the given context, see (68).

- (68) a. $\llbracket \text{tall} \rrbracket = \lambda c \lambda x x \in \text{pos}_{\text{tall}}(c)$
 b. $\llbracket \text{short} \rrbracket = \lambda c \lambda x x \in \text{pos}_{\text{short}}(c)$

There are various ways to account for the vagueness of ‘tall’ in (67), see Klein (1980) for a related discussion. I assume that vagueness is a result of the blurred, i.e. unknown, boundary between the positive and the negative extension of a gradable predicate.

Under the present view, gradable adjectives are lexically ambiguous between a scalar relational meaning and a predicate meaning. The presence of degree morphology and measure phrases requires scalar meanings. Drawing on a proposal in Rett (2008) I suggest that there is an additional factor that may restrict the choice of a scalar meaning, namely semantic competition between A+ and A−. The crucial idea of Rett’s theory is that competition arises between two semantically equivalent sentences differing only in the polarity of the predicates. It results in a re-interpretation of sentences featuring negative polar adjectives. In the current approach, re-interpretation may be conceived as the choice of a non-scalar meaning. This factor is ultimately responsible for the observed polar asymmetry in English. Let me spell out this process in detail.

Assume that A− elements of antonym pairs are marked relative to their A+ counterparts. This assumption – though a stipulation at this point – is most probably related to the nature of the empirical relation used for forming equivalence classes of negative and positive polar degrees.⁴ Then the process of semantic competition can be described as follows:

- (69) If two degree constructions $X(A-)$ and $X(A+)$ can be truth-conditionally equivalent, the speaker only chooses to utter the marked $X(A-)$ if she can employ the meaning of A− that renders $X(A-)$ and $X(A+)$ non-synonymous.

Under the assumptions I layed out in the previous section, there are several constructions where competition arises. First, polarity of an adjective does not influence truth conditions of an equative, as shown in (70).

- (70) Equative
- a. The desk is as ✓ high/low as the shelf.
 - b. $\text{HEIGHT}_w(d) = \text{HEIGHT}_w(s)$

As already pointed out in the previous section, NUM returns the same value for positive and negative antonymous degrees. This results in six pairs of constructions competing with each other, see (71)–(76).

- (71) Measure phrase constructions

[4] Surely, constructing Judy’s height by means of ‘ \succ_{short} ’ can be shown to be a cognitively different process from constructing her height by means of the positive polar relation ‘ \succ_{tall} ’. The investigation of this issue is beyond the scope of this work.

- a. Judy is 1.80 m ✓ tall/short.
 b. $\text{HEIGHT}_w(J) = \iota d(\text{NUM}_{\text{meter,tall/short}}(d) = 1.8)$
- (72) Subdeletion comparatives A+/A+ vs. A+/A–
 a. The desk is higher than it is ✓ wide/narrow.
 b. $\text{NUM}_{u,\text{high}}(\text{HEIGHT}_w(d)) \succ \text{NUM}_{u,\text{wide/narrow}}(\text{WIDTH}_w(d))$
- (73) Subdeletion comparatives A–/A+ vs A–/A–
 a. The desk is lower than it is ✓ wide/narrow.
 b. $\text{NUM}_{u,\text{low}}(\text{HEIGHT}_w(d)) \prec \text{NUM}_{u,\text{wide/narrow}}(\text{WIDTH}_w(d))$
- (74) Subdeletion equatives A+/A+ vs. A+/A–
 a. The desk is as high as it is ✓ wide/narrow.
 b. $\text{NUM}_{u,\text{high}}(\text{HEIGHT}_w(d)) = \text{NUM}_{u,\text{wide/narrow}}(\text{WIDTH}_w(d))$
- (75) Subdeletion equatives A+/A+ vs. A–/A+
 a. The desk is as ✓ high/low as it is wide.
 b. $\text{NUM}_{u,\text{high/low}}(\text{HEIGHT}_w(d)) = \text{NUM}_{u,\text{wide}}(\text{WIDTH}_w(d))$
- (76) Subdeletion equatives A+/A+ vs. A–/A–
 a. The desk is as ✓ high/low as it is ✓ wide/narrow.
 b. $\text{NUM}_{u,\text{high/low}}(\text{HEIGHT}_w(d)) = \text{NUM}_{u,\text{wide/narrow}}(\text{WIDTH}_w(d))$

The marked construction, i. e. the one with an A–, loses in each case and its adjective is re-interpreted as a predicate of individuals. In the presence of measure phrases and ratio modifiers, which require scalar meanings, this results in a derivation crash. Otherwise an N-reference reading in the sense of Bierwisch (1989) obtains. For example, the equative with ‘twice’ in (77-a) is uninterpretable since the process of semantic competition forces the speaker to employ the predicate meaning of ‘short’. If uttered without ‘twice’ it does not relate Judy’s height to Sam’s but rather conveys that they are both short relative to the same comparison class.⁵ I propose that N-reference should be viewed as comparison of vague degree adverbials or comparison classes on a conventional scale. Thus, (77-a) without ‘twice’ is analyzed along the lines in (77-b). The details of the analysis depend on one’s assumptions concerning the semantics of vague adverbials or the way in which the comparison class referring expressions like ‘for an X’, ‘compared to X’ are treated.

- (77) a. Judy is (*twice) as short as Sam.
 b. If Sam is fairly/very/extremely short then Mary is fairly/very/ex-

[5] Negative polar equatives are often reported to have a regular comparison reading, however, only in a special kind of context, e. g. in the case of (77) if everyone is considered short. Since such contexts generally obviate polar distinctions one may suppose that semantic competition does not always arise in such cases.

tremely short too.

[4.3] *The case of Russian*

The account of polarity effects presented above is based on a correlation between the distribution of polar anomalies and N-reference. In this section I show that these two phenomena are correlated in a language that does not reveal polarity effects, a correlation which lends additional support to my proposal.

Russian has been observed to lack English-style asymmetries between A– and A+, see Krasikova (2009). Measure phrases are restricted with gradable adjectives in Russian; their distribution is captured by the following generalization: Russian gradable adjectives allow modification by measure phrases only if they bear comparative morphology, see (78).

- (78)
- a. Озеро на 20 м/ в два раза шире реки
lake by 20 m/ in two times wider river-GEN
'The lake is 20 m wider than the river. / twice as wide as the river.'
 - b. Озеро *на 20 м/ *в два раза более широкое, чем река
lake by 20 m/ in two times more wide than river
Intended: 'The lake is 20 m wider than the river. / twice as wide as the river.'
 - c. Река 20 м шириной/ *широкая
river 20 m width-INSTR/ wide
'The river is 20 m wide.'

According to the present analysis measure phrases are licensed only in constructions in which N-reference is optional. Given more stringent rules on licensing of measure phrases, we expect Russian to have a distribution of N-reference different from that observed in English. This prediction is borne out: in Russian N-reference is obligatory with non-comparative adjectives. In effect, any degree construction with a non-comparative adjective conveys comparison with an implicit norm, independent of the polarity of the predicate involved, see (79)–(81).

- (79)
- a. (Мария низкая.)
Maria short
 - b. #Она такая же высокая, как и Иван./ ^{ok}Она одного роста
she that EMPH tall as also Ivan she same height
с Иваном
with Ivan
'Maria is short. She is as tall as Ivan.'

- (80) Белое озеро узкое, но оно #более широкое, чем Кубенское./
white lake narrow but it more wide than Kubenskoje

^{ok}шире Кубенского.

wider Kubenskoje-GEN

‘The White lake is narrow but it is wider than the Kubenskoje lake.’

- (81) Насколько Кубенское озеро широкое?/ Какой ширины Кубенское
by how much Kubenskoje lake wide which width Kubenskoje
озеро?
lake
‘To what extent is the Kubenskoje lake wide?’ / ‘How wide is the Kubenskoje lake?’

To summarize, Russian gradable adjectives can only be assigned scalar meanings if they are morphologically marked for comparison. Put differently, only adjectives of the form ‘A-er’ project degrees. Whatever might be the nature of this restriction, it correctly predicts the ban on measure phrases with non-comparative adjectives. Semantic competition between A– and A+ and, for that matter, polarity effects, does not obtain in Russian.

[5] CONCLUSION

I argued that the classical degree-based approach to the analysis of degree construction is better equipped to deal with polarity effects in dimensional adjectives than the extent-based theories. Normally, degrees are assumed to constitute interval scales and therefore positive and negative degrees have fundamentally different measurement properties. Treating degrees as simple equivalence classes removes this kind of distinction. Without it, many negative polar constructions in English are truth conditionally equivalent to positive polar ones. The main claim of the paper is that this causes the process of semantic competition and is responsible for polar anomalies. The second claim is that gradable predicates are lexically ambiguous between a scalar and a predicate meaning. The distribution of the two meanings is governed by the occurrence of degree morphology and measure expressions. In English it additionally depends on the outcome of semantic competition. In Russian, scalar meanings are restricted to adjectives in the comparative form and do not compete with predicate meanings.

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ASPECT IN ENGLISH AND RUSSIAN FLASHBACK DISCOURSES

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ABSTRACT

An important issue that often comes up in research on Russian aspect concerns the puzzling choice of the imperfective versus the perfective aspect in cases where both seem to be possible and seem to have similar meanings. This paper investigates flashback discourses, which often exemplify such cases and reveal some criteria for how the choice is made. I provide an analysis of the two aspects in Russian based on these criteria, as well as a comparison of the two aspects to the English perfect and progressive.

[1] INTRODUCTION

A central puzzle in the research on Russian aspect concerns the following question: What dictates the choice of imperfective versus perfective aspect in cases where both seem to be possible and seem to have similar meanings? For example, consider (1) and (2) from Rassudova (1968), which contain the imperfective and perfective respectively. Both examples entail that the father successfully arrived, but stayed for only a brief time. Although some native speakers claim that there is a difference between (1) and (2), it is extremely difficult to state what that difference is. So much so, that a translation of these sentences leaves out whatever difference there may be (cf. Paducheva 1992).

- (1) K nam *priežža-l* otec, no vskore u-exa-l.
To us arrive.IPF-PST.3S father but in.a.rush PFV-go-PST.3S
'Father came/had come to see us, but he went away again soon.'
- (2) K nam *priexa-l* otec, no vskore u-exa-l.
To us PFV.arrive-PST.3S father but in.a.rush PFV-go-PST.3S
'Father had came/came to see us, but he went away again soon.'

The usage of the imperfective aspect in (1) is often called *konstatacija fakta*.¹

[1] *Konstatacija fakta* is translated as 'statement of fact' (Brecht 1985; Smith 1994); cf. the term *constative* in Comrie (1976), *simple denotation* in Forsyth (1970), *obščefaktičeskoe* in Bondarko & Bulanin (1967) and 'general-factual' in Rassudova (1984), Maslov (1985) and Dickey (1995, 2000). The study of *konstatacija fakta* goes back to at least Mazon (1914).

Although *konstatacija fakta* is sometimes divided into various types (Glovinskaja 1982; Chaput 1990; Grønn 2003), it is often defined as “the use of the impv aspect... which refers to a single, completed action” (Glovinskaja (1989), cited in (Dickey 2000, 96)).

Konstatacija fakta is puzzling since ‘completion’ is typically associated with the perfective aspect in other (non-Slavic) languages and not the imperfective, which like the English progressive is typically associated with ‘non-completion’ or ‘ongoingness’ (Comrie 1976). In fact, based on imperfective sentences such as (3) and (4), which provide a stark contrast to the imperfective sentence in (1), oft-cited sources such as the Russian *Academy Grammar* (1960) have incorrectly claimed that the semantic function of the imperfective aspect is to indicate that “the action expressed by the verb is presented in its course, in process of its performance” (*Academy Grammar* 1960, pp. 424, cited and translated in (Forsyth 1970, 3); see also, e.g. Zucchi (1999), where the Russian imperfective is incorrectly treated like the English progressive).

- (3) *Smerka-l-os’*, kogda brosi-l-i kosit’.
 Darken.IPF-PST-RFL when PFV.stop-PST.3P mow.IPF.INF
 ‘It was getting dark when they stopped mowing’
 (Sholoxov, Tixij Don; cited in (Forsyth 1970, 66).
- (4) Probravšis’ skvoz’ gustujuščuju tolpu, on voše-l vo
 Having.gone through dense crowd he PFV.come-PST.3S into
 dvor, gde stroi-l-i dom.
 courtyard where build-PST-3P house
 ‘Having gone through the dense crowd, he entered a courtyard where a
 house was being built’ (Karrer, Usy).

To better understand *konstatacija fakta*, some researchers have investigated the behavior of the Russian imperfective in question/answer pairs (Rassudova (1982), Glovinskaja (1982), Chaput (1990), Israeli (1996), Mehlig (2001), among others) and in narrative context (Hopper (1979, 1982), Chvany (1985), the collection of papers in Thelin (1990), Grønn (2003), among others). While many interesting and insightful generalizations have been made — some discussed in the next section — a sufficient meaning for the Russian imperfective has not been proposed because *konstatacija fakta* has led researchers astray.

To begin with, *konstatacija fakta* is defined based on an event’s ‘completion’, a notion that means different things in different examples (cf. *celostnost’* (‘entirety’) in Bondarko & Bulanin (1967) and ‘totality’ in Forsyth (1970)). For example, consider the oft-cited example from Tolstoy’s *Tri medvedja* below in (5). Here, the imperfective predicate *xlebal iz moej čaški* (‘supped from my bowl’) is said to exemplify *konstatacija fakta* because the event of supping from the bear’s bowl is

understood to be ‘completed.’ But what do we mean by ‘completed’? ‘Completed’ cannot mean the same thing in (5) as it does in (1), where ‘completed’ means that the event reached its *telos* — i.e. the father successfully entered the place where the speaker was situated.

- (5) Bol’šoj medved’ vzja-l svoju čašku, vzgljanu-l i
 Big bear PFV.take-PST.3S his bowl PFV.look-PST.3s and
 zareve-l strašnym golosom: —kto xleba-l iz moej čaški?
 PFV.roar-PST.3S terrible voice who eat.IPF-PST.3S from my bowl
 ‘The big bear took his bowl, looked inside and roared in a terrible voice:
 “Who supped from my bowl?”’ (Chvany 1985, 260)

In (5) — where *xlebal iz moej čaški* (‘supped from my bowl’) is not telic — ‘completed’ must mean something like a *supping from a bowl took place and then it stopped* (cf. the term ‘bounded’). But if that is right, then saying (5) exemplifies *konstacija fakta* is not very informative since past events in general can be characterized in this way, regardless of the aspect used.

Perhaps the main reason that *konstatacija fakta* has lead researchers astray is that it does not distinguish cases in which a ‘completion’ inference is defeasible or constitutes an entailment (cf. Grønn 2003). For example, the imperfective in (1) leads to the entailment that the described event was ‘completed’ — i.e. (1) is false if the father did not successfully enter the place where the speaker was situated. For this reason, (6) is infelicitous.

- (6) #K nam priezža-l otec, no on ne smog najti naš dom.
 To us arrive.IPF-PST.3S father but he not able find our house
 ‘Father came/had come to see us, but was unable to found our house.’

Things are less clear, however, in sentences like (7). According to Leinonen (1982), (7) exemplifies *konstatacija fakta* because the speaker is understood to have read *The Fortress* completely. Crucially, however, Leinonen further claims that this interpretation is contingent on there not being a disclaimer of the finishing in an appended remark.

- (7) Ja uže odnaždy čita-l Krepost’.
 I already once read.IPF-PST.3S Fortress
 ‘I have already read The Fortress once.’ (Leinonen 1982, 187).

What Leinonen has in mind is that follow-ups to (7), viz. in (8) and (9), are felicitous. This, in turn, shows that the ‘completion’ inference in (7) is defeasible and therefore does not constitute an entailment².

[2] The claim that *konstatacija fakta* constitutes a defeasible inference was also made by Durst-Andersen (1992) and Paducheva (2006); see Paducheva (1996) and Glovinskaja (1989), where such a claim is implied.

- (8) Xotja on ne *do-čita-l* do konca.
Even.though he not PF-read-PST.3S until end
'Even though he did not finish it.'
- (9) Xotja on *pro-čita-l* tol'ko neskol'ko stranic.
Even.though he PFV-read-PST.3S only few pages
'Even though he read only a few pages.'

If that is right, then the felicity of the follow-ups above also suggests that the English translation of (7) — which entails that the speaker read the novel in its entirety — is incorrect (or misleading). For this reason, I will — from here on out — translate sentences such as (7) as in (10), which contains a parenthetical *at least some of*.

- (10) Ja uže odnaždy *čita-l* Krepost'.
I already once read.IPF-PST.3S Fortress
'I have already read (at least some of) The Fortress once.'

A possible objection to using (8) and (9) to show that (7) does not have a 'completion' entailment is that these follow-ups could force an interpretation of the imperfective that is distinct from *konstatacija fakta* (see Grønn (2003) for an objection along these lines).³ For example, it is certainly possible that (8) and (9) trigger an interpretation of (7) that is translatable with the English progressive:

- (11) I was already reading The Fortress once.

Note, however, that the imperfective sentence in (12-b) is also an instance of *konstatacija fakta* that can be felicitously followed-up by (8) and (9). And as illustrated by the infelicity of (13-b) below, which is a continuation of (13-a), we could not say that (8) and (9) force an interpretation of (12-b) that is translatable with the English progressive.

- (12) a. Dudkin zna-et, kto takaja Nataša Rostova,
Dudkin know.IPF-NPST.3S who this Natasha Rostova
'Dudkin knows who Natasha Rostova is,
b. on *čita-l* 'Vojnu i mir' v prošlom godu.
he read.IPF-PST.3S 'War and Peace' in last year
'he read War and Peace last year'.
- (13) a. Dudkin knows who Natasha Rostova is,
b. #he was reading War and Peace last year.

[3] Thanks to an anonymous reviewer for pointing this out.

The strongest evidence for the view that the ‘completion’ inference is defeasible in examples like (7) comes from considering the imperfective in the scope of negation, viz. (14).

- (14) Ja ne čita-l Krepost’.
 I not read.IPF-PST.3S Fortress
 ‘I haven’t read (any of) The Fortress.’

If the affirmative counterpart of (14) were to entail the completion of the reading event, then we would expect that (14) would have the interpretation in (15) below, where negation of the perfective sentence results in the denial of the completion. However, as pointed out by Forsyth (1970), negation of the imperfective leads to the denial of the entire event.⁴

- (15) Ja ne pro-čita-l Krepost’.
 I not PFV-read-PST.3S Fortress
 ‘I haven’t read (all of) *The Fortress*.’

In sum, konstatacija fakta characterizes some key intuitions about the Russian imperfective that an analysis must account for. However, it is defined based on the unstable and often uninformative notion of ‘completion’ cf. (Klein 1994, 28) and it does not distinguish cases in which a ‘completion’ inference is an entailment or an implicature. This, in turn, has lead researchers to treat the imperfective as an unmarked member of an opposition with the perfective – the imperfective is thought to “posses no positive semantic mark which it would express constantly” (Bondarko (1971), cited from (Rassudova 1984, 14)). An important consequence of such an analysis is that “positive aspectuality is expressed in perfective verb forms” and therefore “the imperfective is in a sense ‘non-aspectual’, i.e. the meaning of a perfective form includes as one of its elements the expression of aspect, while an imperfective form carries no such element of meaning” (Forsyth 1970, 14). This has lead to the “widespread idea that aspect in Russian, and factual imperfective [=konstatacija fakta] in particular, does not lend itself to a semantic, truth conditional analysis” (Smith 1994, 8). A similar skepticism is not only recurrent in Slavic linguistics, where “truth-conditional semantics has never been fashionable” (Grønn 2003, 111), but it also expressed by semanticists who subscribe to a truth conditional analysis of aspect. For example, Paslawska & von Stechow (2003) write: “it is hopeless to find a few factors as triggers for the imperfective. Even if we could enumerate all the factors that trigger the imperfective, there seems to be no structural functional category that could somehow be linked with an imperfective feature in AspP... we follow the line indicated by

[4] The observed facts about negation extend to other non-veridical, truth-functional operators e.g. *otkazat’sja* (‘refuse’) and *bojat’sja* (‘be afraid’). See Altshuler (2010) for more discussion.

Jakobson and Forsyth: there is no such thing as the meaning of the imperfective; this ‘aspect’ is really a non-aspect” (Paslawska & von Stechow 2003, 336).

The goal of this paper is to provide a ‘positive’, truth-conditional meaning for the Russian imperfective that explains – in a straightforward way – why this aspect is similar to the perfective in some contexts but not others. To do so, I will focus on cases in which a verb phrase (VP) is inherently TELIC – i.e. where a VP describes an event’s TELOS – and it therefore makes sense to say whether a sentence ENTAILS or IMPLICATES that a described event CULMINATED – i.e. when an event reaches its TELOS (Parsons 1990). The core data comes from flashback discourses, which often involve retrospection of culminated events and their consequences. Moreover, they describe events that are temporally located relative to multiple coordinates giving the effect of “a plot within a plot” (Chvany 1990). And as will be clear in the next section, these complex temporal relations are helpful in seeing the difference between the perfective and the imperfective aspect, even in cases where they seem to have similar meanings. Besides the culmination properties of the two aspects, the differences that I will be concerned with in this paper deal with:

- (i) discourse connectivity to prior discourse
- (ii) discourse connectivity to subsequent discourse
- (iii) result vs. experiential perfect interpretation

A key motivation for the proposed analysis will be a comparison of the imperfective and perfective to the perfect and progressive in English.

[2] ASPECT IN FLASHBACK DISCOURSES

Consider the flashback discourses in (16) and (17), which are identical except that (16-b) and (16-c) constitute a series of perfective sentences, while (17-b) and (17-c) constitute a series of imperfective sentences. Just like (1) and (2) in the previous section, both flashback discourses entail that the described event culminated, i.e. they are false if one or more of the following conditions are not met: (i) Dudkin was kissed by Maria, (ii) Maria received flowers from Dudkin and (iii) Maria was invited to the theater by Dudkin.

- (16) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed Dudkin.'
- b. Za nedelju do toga on *po-dari-l* ej cvety
From week to that he PFV-give-PST.3S her flowers
'A week before that he had given her flowers'

- c. i *priglasil* ee v teatr.
and PFV-invite-PST.3S her to theater
and (then) had invited her to the theater.’
- (17) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
‘A week ago, Maria kissed Dudkin.’
- b. Za nedelju do toga on *dari-l* ej cvety
From week to that he give.IPF-PST.3S her flowers
‘A week before that he had given her flowers’
- c. i *priglašal* ee v teatr.
and invite.IPF-PST.3S her to theater
and had invited her to the theater.’

One difference between these flashbacks concerns how the flower giving event comes to be understood as preceding the kissing event. In (16), this is determined by the adverbial expression *za nedelju do toga* (‘a week before that’). We know this to be the case because without this adverb, the understood event ordering would be reversed: the flower giving would be understood to follow the kissing. In (17), however, *za nedelju do toga* (‘a week before that’) merely facilitates the interpretation in which the flower giving event precedes the kissing event. We know this to be the case because without this adverb, the understood event ordering would remain unaltered.

A second difference between these discourses is anaphora potential: the perfective clauses in (16-b) and (16-c) form a narrative progression, but the imperfective clauses in (17-b) and (17-c) do not (cf. Hopper (1982)). That is, the theater inviting is understood to follow the flower giving in (16-b) and (16-c), but in (17-b) and (17-c), there is no order that these events are understood to have occurred in. This illustrates the value of looking at extended flashbacks — i.e. simply looking at (16-a), (16-b), (17-a) and (17-b) would not reveal the difference in anaphora potential.⁵

A third and final difference between these discourses can be summarized as follows: the consequence of the flower giving and the theater inviting in (16-b) and (16-c) is understood to be more ‘significant’ at the time of the kissing than in (17-b) and (17-c). For example, in (16-c), the invitation is understood to be open at the time of kissing event, but not in (17-c). This illustrates another value of looking at flashback discourses, which often involve retrospection of culminated events and their consequences.

[5] To the best of my knowledge, Chvany (1985, 1990) was the first to discuss Russian aspect in flashback discourses. See also Kamp & Rohrer (1983) for a discussion of flashback discourses in French, and Kamp & Reyle (1993) and Parsons (2000) for English.

In sum, the flashback discourse in (16) suggests that the Russian past perfective is a hybrid between the English ‘simple past’ and the English ‘result perfect.’ It is similar to the English ‘simple past’ in that it triggers a narrative progression, cf. (18) below, and needs ‘help’ from, e.g. an adverbial expression, to locate the described event *PRIOR* to a salient event previously mentioned in the discourse; without this help, it locates the described event *AFTER* a salient discourse event, cf. (19) and (20) below. The Russian perfective is similar to the English ‘result perfect’ in requiring an event’s consequence to hold and be ‘especially significant’ at some salient time interval (cf. (Hulanicki 1973); see also (Mittwoch 2008)); cf. (21) below, which “is only in order as long as there is spilled coffee around” (Higginbotham 2008).

- (18) Dudkin gave Maria flowers and invited her to the theater.
- (19) A week ago, Maria kissed Dudkin. A week before that he gave her flowers.
- (20) A week ago, Maria kissed Dudkin. He gave her flowers.
- (21) I have spilled my coffee!

On the other hand, the flashback discourse in (17) suggests that the Russian imperfective is like the English ‘experiential perfect’ in not triggering a narrative progression, cf. (22), and not needing ‘help’ from an adverb to locate a described event *PRIOR* to some other salient discourse event, cf. (23) and (24). Moreover, the imperfective requires an event’s consequence to hold but not ‘be especially significant’ at a salient time interval (cf. Hulanicki (1973); see also Mittwoch (2008)); cf. (22) below, where the meaning “is, as it were, ‘been there, done that’ ” (Higginbotham 2008).

- (22) I have been to Pushkin and I have been to Pavlovsk.
- (23) A week ago, Maria kissed Dudkin. A week before that he had given her flowers.
- (24) A week ago, Maria kissed Dudkin. He had given her flowers.

It is important to note that the differences between the perfective and the imperfective described above are especially salient when culmination properties of the perfective and the imperfective appear to be the same — e.g. in (16) and (17), which entail that the described events have culminated. However, as is well-documented, the perfective and the imperfective are often distinguished by their ‘culmination’ properties. Compare, for example, the discourses below, in (25)–(27):

- (25) a. Dudkin za-še-l v zamok.
 Dudkin PFV-go-PST.3S into castle

- ‘Dudkin entered the castle.’
- b. Nedlju nazad on *pro-čita-l* brošjuru ob ètom zamke.
 Week ago he PFV-read-PST.3S brochure about this castle
 ‘A week ago, he had read a brochure about this castle.’
- (26) a. Dudkin za-še-l v zamok.
 Dudkin PFV-go-PST.3S into castle
 ‘Dudkin entered the castle.’
- b. Nedlju nazad on *čita-l* brošjuru ob ètom zamke.
 Week ago he read.IPF-PST.3S brochure about this castle
 ‘A week ago, he had read (at least some of) a brochure about this castle.’
- (27) a. Ja za-še-l v svoju komnatu.
 I PFV-go-PST.1S in self room
 ‘I came into my room.’
- b. Dudkin tam *čita-l* brošjuru.
 Dudkin there read.IPF-PST.3S brochure
 ‘Dudkin was there reading a brochure.’

While we infer in (25) and (26) that Dudkin read the brochure completely, this inference is defeasible in the latter example, but constitutes an entailment in the former. On the other hand, no such inference is found in (27), which describes a reading event that was ‘ongoing’ when the speaker came into his room.

The data above presents the following puzzle: unlike other aspectual markers, the Russian imperfective leads to an entailment that a described event culminated only in certain cases. That is, it seems to function like the English perfect in certain cases, but like the English progressive in others. In what follows, I propose a single meaning of the Russian imperfective, which not only accounts for its quirky culmination property, but also for its afformentioned differences with the Russian perfective, summarized below.

- (28) DISCOURSE CONNECTIVITY TO PRIOR DISCOURSE⁶
 The Russian perfective leads to an entailment that the described event FOLLOWS a salient event previously mentioned in the discourse; the Russian imperfective leads to an entailment that the described event DOES NOT FOLLOW a salient event previously mentioned in the discourse.
- (29) DISCOURSE CONNECTIVITY TO SUBSEQUENT DISCOURSE
 While the Russian perfective triggers narrative progression, the Russian

[6] As pointed out by an anonymous reviewer it seems possible to construct counterexamples to this generalization concerning the imperfective. Note, however, that the notion of ‘salience’ is purposely vague in this generalization and is meant to rule out cases in which the imperfective is not used in narrative discourses of the type considered here.

imperfective does not.

(30) 'PERFECT' INTERPRETATION

In certain contexts, the Russian perfective leads to a 'result perfect' interpretation while the Russian imperfective leads to an 'existential perfect' interpretation.

In section [4.1], I propose to relate the quirky culmination properties of the Russian imperfective to atomicity. The proposal is based on the observation that flashback discourses in (16)–(17) crucially differ from (25)–(27) in whether the base verb phrase (VP) denotes atomic events: While the base VPs in (16)–(17) denote atomic events (i.e. a kissing, a flower giving and a theater inviting), the base VPs in (25)–(27) do not (i.e. a brochure reading).⁷ I propose the generalization in (31)⁸ below and show how the culmination entailment is expected when the imperfective combines with VPs that denote atomic events because in such a case the only event that could make an imperfective sentence true is the (entire) VP-event. On the other hand, the culmination entailment does not arise when IPF combines with VPs that denote nonatomic events because such events have multiple parts by definition and any one of these parts makes an imperfective sentence true.

(31) 'CULMINATION' ENTAILMENT HYPOTHESIS

The Russian imperfective gives rise to an entailment that a described event culminated only when the imperfective combines with a VP that describes an atomic event.

In section [4.2], I extend the meaning of the imperfective to account for the generalizations about this aspect in (28) and (29). These generalizations are intimately related to how aspect constrains the temporal location of a VP-event. The standard view is to say that aspect locates an eventuality relative to a single parameter: a *TIME* that can be specified by a grammatical expression (e.g. an adverb) or the discourse context (cf. Reichenbach's (1947) *reference time* or Klein's (1994) *topic time*). However, based on data involving the Russian imperfective, I argue for what I call a *birelational analysis* in which the meaning of the Russian imperfective involves both temporal information and information about discourse connectivity (cf. Kamp & Reyle (1993), Nelken & Francez (1997)).

[7] As pointed out by an anonymous reviewer, *priglašal v teatr* ('invited to the theater') belongs to those verbs which are characterized by Maslov (2004) as "glagoly neposredstvennogo, nepreryvnogo éffekta" (Maslov 2004, 86). Maslov's idea is that such verbs have an 'instantaneous effect', even though they have flexible temporal constituencies (cf. Apresjan (1995) and Israeli (2001)). This, in turn, raises the question of whether *priglašal v teatr* ('invited to the theater') is, in fact, atomic. For the purposes of this paper, I assume that although a theater inviting may not be an instantaneous event, its 'instantaneous effect' is enough reason to think that the grammar treats it as atomic.

[8] According to Grønn (2008), Hobæk-Haff (2005) makes a similar claim w.r.t. *l'imparfait narratif* in French.

The proposed analysis raises several questions. Chief among them is whether the Russian perfective is also birelational. This issue is addressed in section [5], which proposes a ‘yes’ answer based on the generalization in (30) above: in order to account for the result perfect interpretation often found with the perfective, one needs to assume that the perfective requires (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps (cf. Grønn (2003)). In turn, I discuss how these requirements could explain (i) why the result perfect interpretation is found with the perfective in some contexts, but not others and (ii) how the meaning of the perfective aspect leads to the so-called ANNULLED result implicature with the imperfective.

In the next section, I briefly outline some assumptions about event structure and narrative progression that is assumed in the proposed analysis.

[3] BACKGROUND ASSUMPTIONS

[3.1] *Event structure*

Following Moens & Steedman (1988), I assume that events have the tripartite structure shown in Figure 1. The culmination point of an event is its telos. A preparatory process (viz. I in Figure 1) consists of a series of preparations leading to a culmination, which in turn leads to an event’s consequence or a consequent state (cf. the term ‘result state’ in Dowty (1979)).

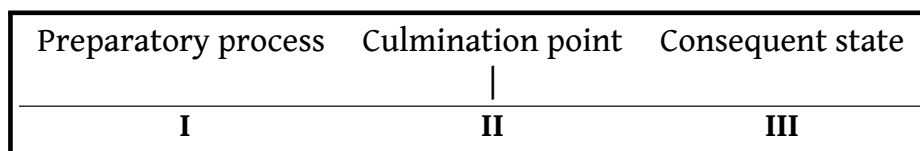


FIGURE 1: Moens & Steedman’s (1988) tripartite event structure

Aspectual markers provide evidence for a particular event structure. For example, the English progressive combines with a VP and makes reference to the preparatory process of the VP-event, thereby implying ‘non-culmination’ or ‘ongoingness’. The English perfect, on the other hand, makes reference to the consequent state of a VP-event and thereby implies a ‘consequence’ arising from an event’s culmination. For this reason we understand the letter writing event to be ongoing in (32-a), but in (32-b), the consequence of the letter writing event is what’s at issue.

- (32) a. Abelard is now writing a letter to Heloise’s uncle, the Canon.
 b. Abelard has now written a letter to Heloise’s uncle, the Canon.

While the event structure in Figure 1 can adequately account for the culmination

properties of the English progressive and the English perfect, the same cannot be said about the Russian imperfective: depending on whether the base VP describes an atomic event, it can behave like the progressive or the perfect (viz. the discussion in the previous section). In section [4.1], I show that we can make sense of its quirky behavior if we assume following (Moens & Steedman 1988, 18) that “Any or all of [parts of an event] may be compound: for example, the preparation leading to the culmination of *reaching the top of Mt. Everest* may consist of a number of discrete steps of climbing, resting, having lunch, or whatever...”. With regard to the compound structure of a preparatory process e — which will play a crucial role in the analysis — I shall refer to its ‘discrete steps’ as *stages* when they are “big enough and share enough with e so that we can call it a less developed version of e ” ((Landman 1992, 23); see also Landman (2008)). This is illustrated in Figure 2, where the preparatory process consists in a series of stages and their consequent states.⁹

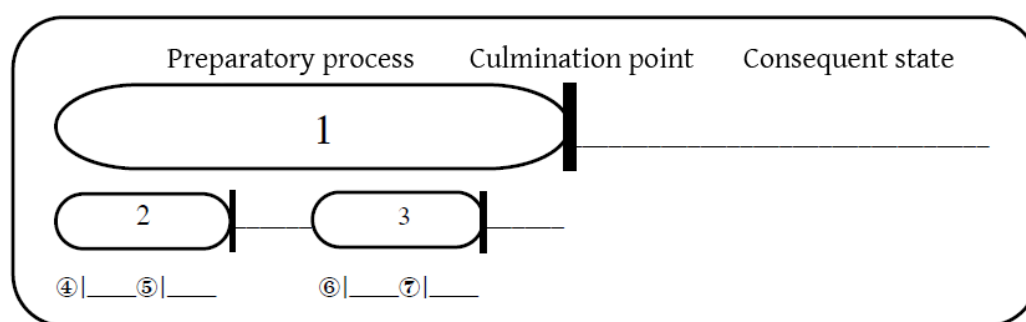


FIGURE 2: Fine-grained preparatory process

In order to better understand Figure 2, suppose we are considering an event of cleaning one’s room. The preparatory process of this event can be broken down into e.g. two stages: a stage of taking a stain out of the carpet and a stage of taking out the trash. Each of these stages can in turn be broken down into e.g. two stages: the stage of taking a stain out of the carpet can be broken down into a stage of spraying the carpet and a stage of rinsing the carpet with water; a stage of taking out the trash can be broken down into a stage of taking the trash bag from the trash can and a stage of dumping the trash into the trash bin. And so on, until we reach a point at which a stage that cannot be further broken down — e.g. winking would not constitute a stage of an event of cleaning one’s room because it would be odd to say that such events would ‘develop’ into an event that culminates when a room is clean.

Based on the event structure in Figure 2, I propose to relate the quirky cul-

[9] Note that the precise number and quality of the stages is not (typically) encoded in the lexicon and is determined by the context (cf. Dowty (1979)).

mination properties of the Russian imperfective in section [4.1] as follows. The culmination entailment is expected when the imperfective combines with VPs that denote atomic events because in such a case the only event that could make an imperfective sentence true is the (entire) VP-event. On the other hand, the culmination entailment does not arise when the imperfective combines with VPs that denote non-atomic events because such events have multiple stages and any one of these stages makes an imperfective sentence true.

[3.2] *Narrative progression*

It is generally held that temporal anaphora depends in part on the aspectual distinction between events and states (Kamp (1979), Hinrichs (1986), Partee (1984), Kamp & Rohrer (1983)). For example, consider the discourse below in (33), modeled after Partee's (1984) famous example. Here, the times of the described events (i.e. John's getting up, raising the blind and pulling the blind down) correlate with the order of appearance, i.e. a NARRATIVE PROGRESSION is invoked. On the other hand, the state described in (33) (i.e. being light out) holds throughout the described events, i.e. a NARRATIVE HALT is invoked.

- (33) John got up at 8 and raised the blind. It was light out. He pulled the blind down.

Narrative discourses like (33) motivate a notion of a reference time — i.e. a placeholder for where the narrative has developed. According to one influential analysis proposed by Webber (1988), a reference time could be either the time described by temporal location adverbials or the duration of the consequent state of a previously mentioned discourse event (cf. Partee's (1984) "time right after"). Moreover, following Partee (1984) and others, Webber proposed that aspect constrains the temporal location of an eventuality described by a VP in the following way: Whereas events occur within a reference time, states hold throughout that time.

Such an analysis accounts for the inferred temporal ordering in (33) as follows (see Figure 3 on the following page). The event of John getting up is located within the time denoted by *at 8*, which serves as the reference time. Subsequently, the event of John raising the blind is located within the duration of the consequent state of John getting up, which serves as the new reference time. This correctly predicts that John raised the blind *AFTER* he got up. With regard to the state described in (33), i.e. being light out, it holds throughout (rather than within) the reference time, namely the duration of the consequent state of John raising the blind. This correctly predicts that it was light out when John raised the blind. Moreover, the state of being light out does not serve as an antecedent for the next sentence, thus triggering the NARRATIVE HALT effect.

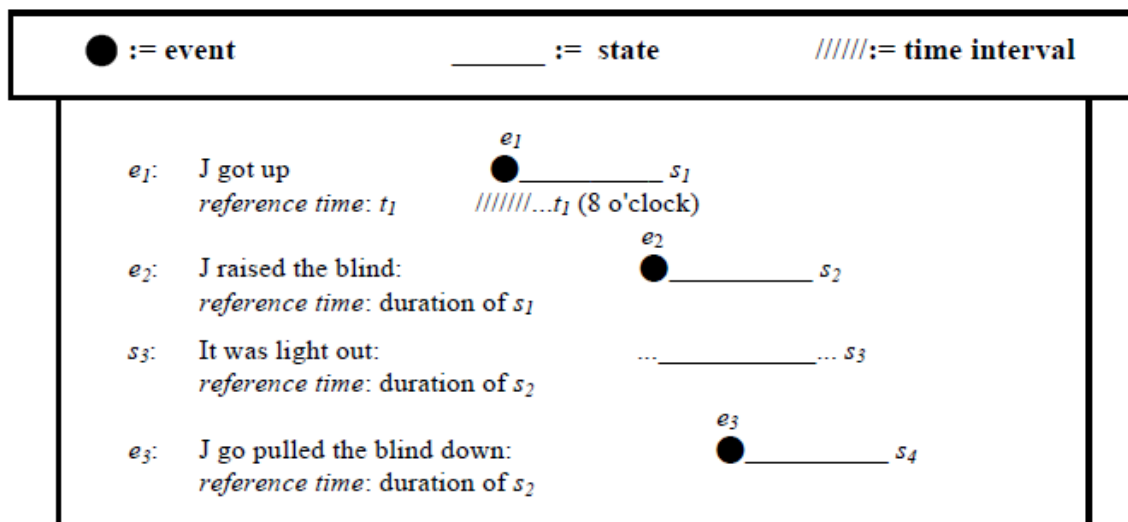


FIGURE 3: Narrative progression in (33)

In sum, Webber's analysis is elegant because (i) it makes use of an independently motivated event structure and (ii) it relates events to times specified by an adverbial in the same way it relates events to times provided by the discourse context, thereby preserving Reichenbach's (1947) unified notion of a reference time. Despite its elegance, however, Webber's analysis cannot account for the Russian imperfective aspect, which relates distinct event parts to the REFERENCE TIME. Which event part is at play depends on how the reference time is specified. If it is specified by an adverbial expression, then the Russian imperfective locates an EVENT relative to a reference time. However, if it is specified by the discourse context, then the Russian imperfective could locate the CONSEQUENT STATE of an event relative to a reference time. For example, re-consider the first part of the flashback discourse discussed in section [2], repeated below in (34).

- (34) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 'A week ago, Maria kissed Dudkin.'
- b. Za nedelju do toga on *dari-l* ej cvety...
 From week to that he give.IPF-PST.3S her flowers
 'A week before that he had given her flowers...'

Recall that like its perfective counterpart, (34-b) entails that a flower giving event culminated within the time denoted by the adverbial expression *za nedelju do toga* ('a week before that'). Within Webber's analysis, this means that the imperfective encodes the condition below:

- (35) HYPOTHESIZED RELATION ENCODED BY THE RUSSIAN IMPERFECTIVE
Described event is contained within the reference time

This condition, however, makes the wrong prediction when applied to the discourse below, in (36), which is like (34), except that there is no adverbial in (36-b). In particular, (35) predicts that a flower giving event described in (36-b) is contained within the consequent state of Maria's kissing. From this it follows that a flower giving event followed Maria's kissing. However, as pointed out in section [2], the salient interpretation in (36) is that a flower giving event took place prior to Maria's kissing.

- (36) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed Dudkin.'
b. On *dari-l* ej cvety...
He give.IPF-PST.3S her flowers
'He had given her flowers...'

One way to account for the event ordering in (36) is to treat the Russian imperfective on a par with the English perfect viz. (37) below.

- (37) HYPOTHESIZED RELATION ENCODED BY THE RUSSIAN IMPERFECTIVE
Consequent state of described event contains the reference time (cf. Moens & Steedman (1988)).

Relating (37) to the discourse in (36), we would say that the reference time in (36-b) – i.e. the duration of the consequent state of the kissing event – is contained within the duration of the consequent state of the described event – i.e. the flower giving. This would explain why the flower giving event is understood to precede the kissing event without an adverb; see Figure 4.

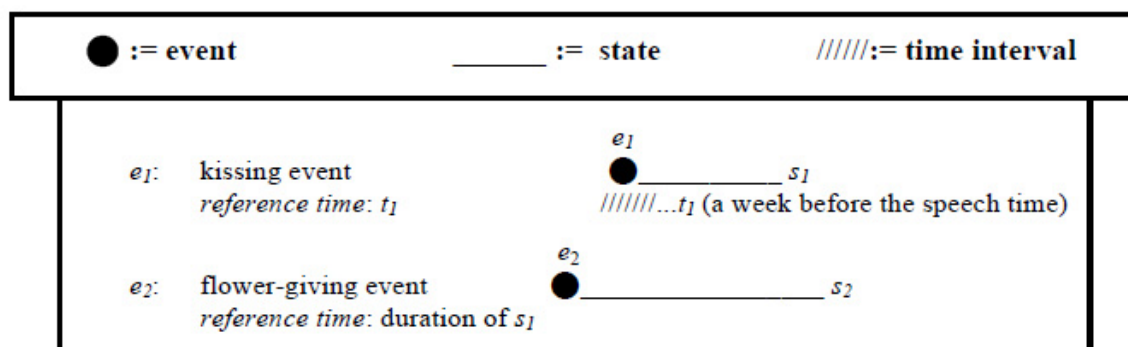


FIGURE 4: Event ordering in (36) given in (37)

Unfortunately, the hypothesized relations above in (35) and (37) cannot both be right on a UNIRELATIONAL ANALYSIS, in which aspect constitutes a single relation between a described event and a reference time. Therefore, in section [4.2] I propose to split the notion of a REFERENCE TIME into two distinct parameters (cf. Kamp & Reyle (1993) and Nelken & Francez (1997)). I propose a BIRELATIONAL ANALYSIS in which the meaning of the Russian imperfective involves both temporal information and information about discourse connectivity. In particular, I propose that the Russian imperfective requires information about a time within which a described event *e* is located, viz. the hypothesized relation in (35), and information about a salient discourse state which the consequent state of *e* contains, viz. the hypothesized relation in (37).

[4] MEANING OF THE RUSSIAN IMPERFECTIVE

The goal of this section is to account for the generalization in (38), discussed in section [2].¹⁰

[4.1] *Culmination properties of the Russian imperfective*

(38) ‘CULMINATION’ ENTAILMENT HYPOTHESIS

The Russian imperfective gives rise to an entailment that a described event culminated only when the imperfective combines with a VP that describes an atomic event.

The nuts and bolts of my proposal are as follows. An imperfective operator IPF combines with a VP — which denotes a set of events — and requires that a VP-event stage be contained within some grammatically constrained time interval. Following Kamp & Reyle (1993), I will call this time interval the *location time*. A perfective operator PFV, on the other hand combines with VP and requires that a VP-event be contained within the location time.¹¹

As an example of the proposed analysis, reconsider the first part of the flashback in (39) below: PFV combines with *celovat’ Dudkina* (‘kiss Dudkin’) and requires that a kissing event be contained within the time interval denoted by the adverbial that serves as the location time, namely *nedelju nazad* (‘a week ago’). Moreover, IPF combines with *darit’ cvety* (‘give flowers’) and requires that a stage of a flower giving event be contained within the time interval denoted by the adverbial that serves as the location time, namely *za nedelju do togo* (‘a week before that’).

[10] In what follows, I provide an informal sketch of an analysis. The reader is referred to Altshuler (2010) for details about the formal system.

[11] The requirements imposed by PFV should be seen as constraints imposed on the meanings of the 20-plus perfective prefixes in Russian. See Romanova (2006) for an overview.

- (39) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’
 b. Za nedelju do toga on *dari-l* ej cvety...
 From week to that he give.IPF-PST.3S her flowers
 ‘A week before that he had given her flowers...’

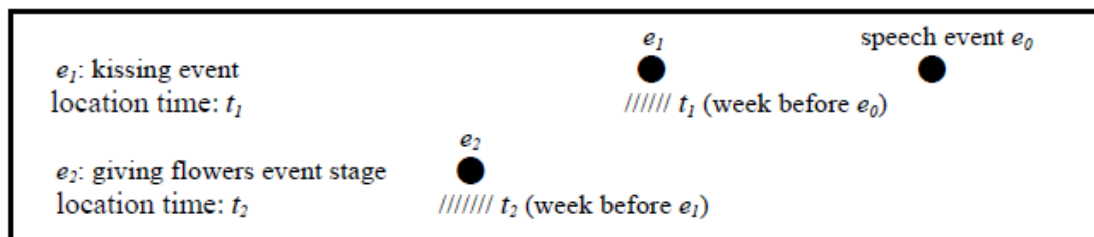


FIGURE 5: Locating a VP-event stage within the location time

Figure 5 illustrates the parallel between the Russian imperfective and perfective: in both cases, an event is contained within the location time. The crucial difference is that IPF makes reference to a VP-event STAGE rather than a VP-event. This difference is neutralized, however, if we assume that an atomic event constitutes an atomic stage, i.e. one that develops into itself in the world of evaluation and presumably every other possible world. For example, the base VP in (39-b) denotes a set of atomic events — i.e. flower giving events — and when IPF is applied to this VP, it leads to an entailment that the only VP-event stage was contained within the location time. This explains the fact that (39-b) entails that Maria successfully received flowers from Dudkin.¹²

IPF applied to an accomplishment denoting VP, however, does not lead to such an entailment assuming that (i) accomplishment events have at least two stages and (ii) IPF does not specify which stage is contained within the location time, i.e. any one of these stages makes an imperfective sentence true (cf. Landman’s (1992) analysis of the progressive operator).¹³ For example, re-consider (40-b) below, which has the accomplishment denoting VP *čitat’ brošjuru ob ètom zdanii* (‘read a brochure about this building’). This sentence entails that some VP-event stage culminated within the time described by *nedlju nazad* (‘a week ago’) and crucially

[12] As noted by Dickey (1995, 2000), imperfective of an achievement VP does not lead to an episodic interpretation in Western Slavic languages (Czech, Slovak, Slovene) and in Polish and Serbo-Croatian; this is only possible in Eastern Slavic languages (Russian, Ukrainian, and Bulgarian). Since achievement events are atomic by definition, the analysis proposed here should be seen as having wider cross-linguistic implications (see Altshuler (2010) for details).

[13] This idea is in spirit of Comrie’s (1976) claim — which in turn is inspired by Jakobson (1932) — that “the Imperfective expresses no specific reference to the completeness of the event” (Comrie 1976, 113).

not that the VP-event culminated within this time as is the case with its perfective counterpart, cf. (41).

- (40) a. Dudkin za-še-l v zamok.
Dudkin PFV-go-PST.3S into castle
'Dudkin entered the castle.'
- b. Nedelju nazad on čita-l brošjuru ob ètom zamke.
Week ago he read.IPF-PST.3S brochure about this castle
'A week ago, he had read (at least some of) a brochure about this castle.'
- (41) a. Dudkin za-še-l v zamok.
Dudkin PFV-go-PST.3S into castle
'Dudkin entered the castle.'
- b. Nedelju nazad on pro-čita-l brošjuru ob ètom zamke.
Week ago he PFV-read-PST.3S brochure about this castle
'A week ago, he had read a brochure about this castle.'

[4.2] *Discourse properties of the Russian imperfective*

The goal of this section is to extend the analysis of the Russian imperfective offered in the previous sub-section to account for the generalizations below, discussed in section [2].

- (42) DISCOURSE CONNECTIVITY TO PRIOR DISCOURSE
The Russian imperfective leads to an entailment that the described event does not follow a salient event previously mentioned in the discourse.
- (43) DISCOURSE CONNECTIVITY TO SUBSEQUENT DISCOURSE
The Russian imperfective does not trigger narrative progression.

I begin with the generalization in (42), which has received very little attention in the literature in comparison to (43) but which is nevertheless a core property of the imperfective aspect that any proper analysis must account for.

Re-consider the first part of the flashback discourse in (44) below, where we infer that the flower giving took place prior to the kissing event.

- (44) a. Nedelju nazad Marija po-celova-l-a Dudkina.
Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
'A week ago, Maria kissed me.'
- b. On dari-l ej cvety...
He give.IPF-PST.3S her flowers
'He had given her flowers...'

To account for this inference, I propose that IPF requires that a consequent state of a VP-event stage contain a salient consequent state, which I will henceforth refer to as the TOPIC STATE. The idea is, then, that the discourse properties of the Russian imperfective follow from relating two consequent states: one described by IPF and one supplied by the discourse context. Applying this idea to (44-b), we would say that IPF combines with *darit' cvety* ('give flowers') and requires that a consequent state of a flower giving event stage contain a topic state, which presumably refers to the consequent state of a kissing event in (44-a). Assuming that the containment relation is not proper, this leads to two possible situations in which (44-a) and (44-b) is true: (i) the kissing and the flower giving events overlap, which follows from the consequent state of the kissing event being identified with the consequent state of the flowering giving event stage, viz. Situation 1 in Figure 6, or (ii) the flower giving event precedes the kissing event, which follows from the consequent state of the kissing event being properly contained within the consequent state of the flowering giving event stage, viz. Situation 2 in Figure 6.

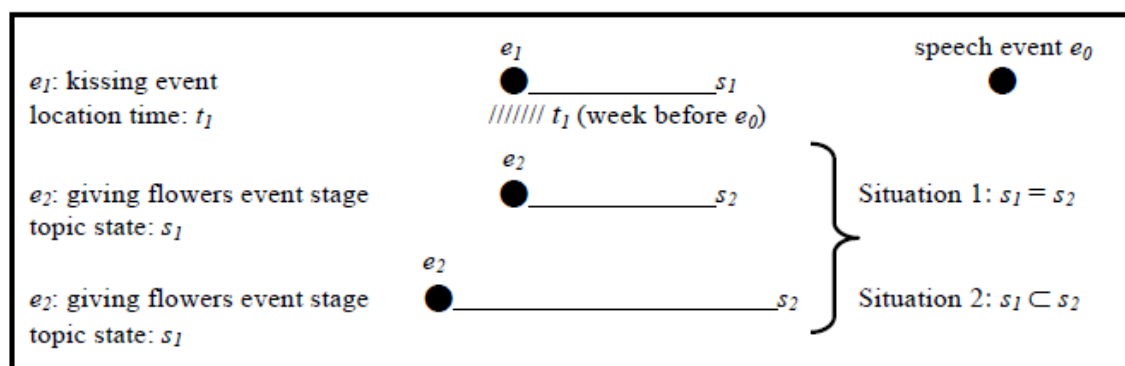


FIGURE 6: TOPIC STATE \subseteq consequent state of VP-event stage

Situation 2 is inferred in (44) due to world knowledge. It seems rather unlikely that one kisses someone as they are receiving flowers. Instead, one typically (i) chooses to give flowers as a consequence of being kissed or (ii) kisses someone as a consequence of receiving flowers. The former option is excluded by the meaning of IPF and required by PFV.

One could, of course, create a discourse where Situation 1 is inferred instead. For example, as mentioned in section [2], the most salient inference in (45) is one in which the coming in event overlaps the reading event.

- (45) a. Včera ja voše-l v svoju komnatu.
 Yesterday I PFV.came.in-PST.1S in self room
 'Yesterday, I came into my room.'

- b. Dudkin tam čita-l brošjuru.
 Dudkin there read.IPF-PST.3S brochure
 ‘Dudkin was there reading a brochure.’

This is expected since nothing about our knowledge of the world would rule out such a situation. However, it would be odd to think that the events described in (45-a) and (45-b) are somehow causally linked, as is the case in (44).¹⁴

In sum, the proposal is that in addition to requiring a VP-event stage to be contained within a grammatically constrained location time, the Russian imperfective requires a consequent state of a VP-event stage to contain a topic state, whose value is determined by the surrounding discourse. In this way, the meaning of the Russian imperfective is *BIRELATIONAL*: it involves both temporal information and information about discourse connectivity. As was shown in this section, the latter information accounts for the generalization in (42). In particular, it follows from the analysis that there are two situations that make an imperfective sentence true.¹⁵ I argued that world knowledge determines whether a VP-event stage *OVERLAPS* or *PRECEDES* a previously mentioned discourse event. The latter possibility typically involves an inference in which two events are causally related and this in turn can give rise to a defeasible culminated event inference. The former possibility, on the other hand, typically does not involve a causal relation and a culminated event inference typically does not arise.¹⁶

One question that is raised by the proposed analysis is whether the Russian perfective is also birelational. This issue is addressed in the next section, which proposes a ‘yes’ answer based on the aforementioned *RESULT* perfect interpretation often found with the perfective. I argue that this interpretation motivates an analysis in which the meaning of the perfective aspect involves (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps.

I end this section by addressing the generalization in (43), mentioned at the outset of this section. Recall that this generalization is concerned with how a described eventuality relates to *SUBSEQUENT* discourse. The basic idea is that that even though IPF makes reference to the consequent state of a VP-event stage, this state cannot serve as an antecedent (i.e. as a topic state) and therefore narrative progression is not triggered — e.g. there is no order that the events described in (46-b) and (46-c) are understood to have occurred in because the consequent state

[14] One could, of course, imagine a situation in which e.g. the speaker is a detective and comes into his own room to figure out whether Dudkin was there earlier. In such a context, however, the event ordering in (45) would be analogous to (44).

[15] The claim is crucially not that imperfective sentences are ambiguous, cf. the sentence the *boys walked* is not ambiguous, but is true in case the boys walked together or separately (see Schwarzschild (1992)).

[16] For an explicit theory of how causality and other rhetorical relations play a role in fixing event ordering in a discourse see e.g. Lascarides & Asher (1993) and Kehler (2002). See Altshuler (2010) for a proposal that synthesizes Kehler’s theory with the analysis of the Russian imperfective proposed here.

of the giving event stage in (46-b) is not available for anaphoric pick-up in (46-c).

- (46) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 'A week ago, Maria kissed Dudkin.'
- b. Za nedelju do toga on *dari-l* ej cvety
 From week to that he give.IPF-PST.3S her flowers
 'A week before that he had given her flowers'
- c. i *priglaša-l* ee v teatr.
 and invite.IPF-PST.3S her to theater
 and had invited her to the theater.'

Altshuler (2010) makes this idea formally precise by appealing to the syntax of IPF within Discourse Representation Theory (Kamp 1981, et seq): only a VP-event and a stage of this event are introduced into the so-called "universe" of the formal representation language which hosts antecedents; the consequent state of a VP-event stage is not introduced into the "universe" because it is defined in terms of a VP-event.

[5] MEANING OF THE RUSSIAN PERFECTIVE

In section [2] I discussed how in certain cases, the perfective/imperfective contrast in Russian is analogous to the contrast between the result/experiential perfect in English. This discussion was motivated by the following observation concerning the flashback discourse above, in (46), and below, in (47-b): the consequence of the flower giving and the theater inviting in (47-b) and (47-c) is understood to be more 'significant' at the time of the kissing than in (46-b), (46-c).

- (47) a. Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 'A week ago, Maria kissed Dudkin.'
- b. Za nedelju do toga on *po-dari-l* ej cvety
 From week to that he PFV-give-PST.3S her flowers
 'A week before that he had given her flowers'
- c. i *priglas-l* ee v teatr.
 and PFV-invite-PST.3S her to theater
 and (then) had invited her to the theater.'

To account for these inferences, I first assume that the result/experiential perfect distinction reduces to a difference in the type of consequent state that overlaps a salient eventuality (cf. Higginbotham (2008)). In particular, I assume a difference between (i) a PERMANENT CONSEQUENT STATE¹⁷ which doesn't have an end-

[17] Cf. the term *resultant state* in Parsons (1990).

ing (e.g. having been kissed) and (ii) a TEMPORARY CONSEQUENT STATE¹⁸ which has an ending (e.g. being invited to the theater).¹⁹ This dichotomy has been used to characterize the sentences in (48) and (49) as follows: the truth conditions of (48) require that a temporary consequent state of a coffee spilling event hold at the speech time. This consequent state feels ‘especially significant’ at the speech time because it will not continue to hold forever — i.e. the coffee spill can easily be wiped up. In contrast, the truth conditions of (49) require a permanent consequent state of a going to Japan event to hold at the speech time. This consequent state does not feel ‘especially significant’ at the speech time because it will continue to hold forever, i.e. the experience of having been to Japan lasts forever.

(48) I have spilled my coffee! *result perfect*

(49) I have been to Japan. *experiential perfect*

Applying this analysis to (46) and (47) above, we could say that in (46-b), (46-c), the permanent consequent states of a flower giving and a theater inviting event overlap the kissing event in (46-a). In (47-b), (47-b), however, the temporary consequent states of a flower giving and a theater inviting event overlap the kissing event in (47-a). If this is right, then the following question arises: what are the meanings of PFV and IPF that would guarantee these temporal relations? With regard to IPF, things are relatively simple; only a minor modification needs to be made to the meaning proposed in the previous section: instead of saying that a CONSEQUENT STATE of VP-event stage contains a topic state, we would say a PERMANENT CONSEQUENT STATE of VP-event stage contains a topic state. This modification is harmless as far as I can see.

With regard to PFV, things are more complex. In section [4.1], it was proposed that PFV requires a VP event to be contained within a location time. Such a relation, however, is independent of the result perfect interpretation. A reasonable hypothesis — given the proposed meaning of IPF — is to say that PFV requires a temporary consequent state of a VP-event to overlap the TOPIC STATE (cf. (Grønn 2003, 231–235)). In this way, PFV would be of the same ‘semantic type’ as IPF — i.e. their meanings would involve a grammatically constrained LOCATION TIME and a TOPIC STATE, whose value is determined by the surrounding discourse. Applying such an analysis to (47-b) above, we would accordingly say that the temporary consequent state of the flower giving (viz. s_2 in Figure 7 on the next page) overlaps the topic state (viz. s_1 in Figure 7), namely the consequent state of the kissing event described in (47-a). Since the flower giving precedes the kissing, this entails that the temporary consequent state of the flower giving event overlaps the kiss-

[18] Cf. the term *reversible result state* in Dowty (1979) and *target state* in Parsons (1990).

[19] In Slavistics the differentiation between temporary and permanent consequent state is termed as *resul'tat* vs. *effekt* (Glovinskaja 2001, 231).

ing event as desired.

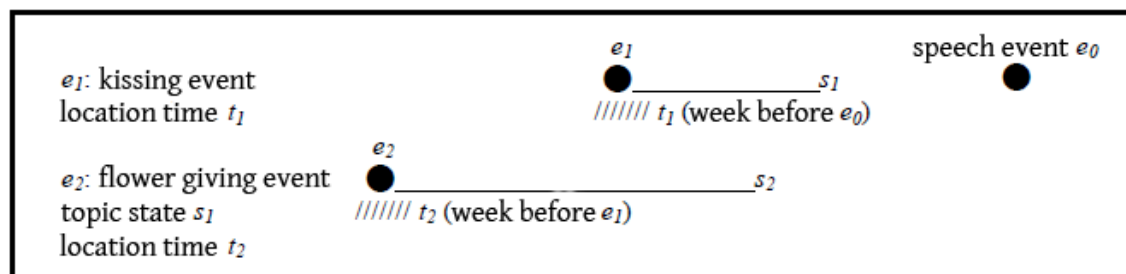


FIGURE 7: Temporal ordering of eventualities in (47)

Recall that when (47-b) does not have an adverb, the event ordering is reversed. As illustrated in Figure 8, the temporary consequent state of the flower giving s_2 still overlaps the topic state s_1 in this case. The crucial difference is that (i) the flower giving event e_2 is now contained within the topic state s_1 and (ii) the location time t_2 is unspecified.

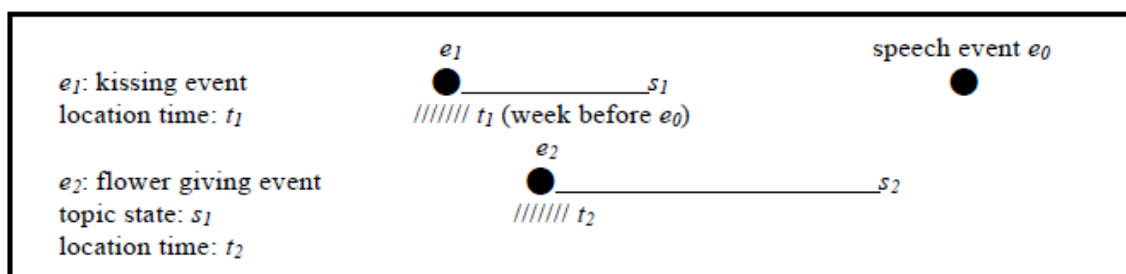


FIGURE 8: Temporal ordering of eventualities without the adverb in (47-b)

An important consequence of the proposed analysis is that it can also account for discourse initial, perfective sentences where the consequent state is understood to be ‘significant’ at the speech event rather than a previously mentioned discourse event — e.g. the invitation in (50) is understood to be open at the speech event.

- (50) Nedelju nazad Dudkin *pri-glasi-l* menja v teatr.
 Week ago Dudkin PFV.invite-PST.3S me to theater
 ‘A week ago Dudkin invited me to the theater (and the invitation is still open).’

According to the proposed analysis, the difference between e.g. (47-b) and (50) reduces to the choice of a topic state, which is determined by independent rules of anaphora resolution. In (50), the topic state must be the consequent state of the

speech event since it is the only available antecedent state for a discourse initial sentence. Given the restrictions imposed by PFV, this topic state (viz. s_1 in Figure 9), overlaps the temporary consequent state of the theater inviting event (viz. s_2 in Figure 9). Since the theater inviting precedes the speech event (i.e. it is located a week before the speech event), this entails that the temporary consequent state of the theater inviting event overlaps the speech event as desired.

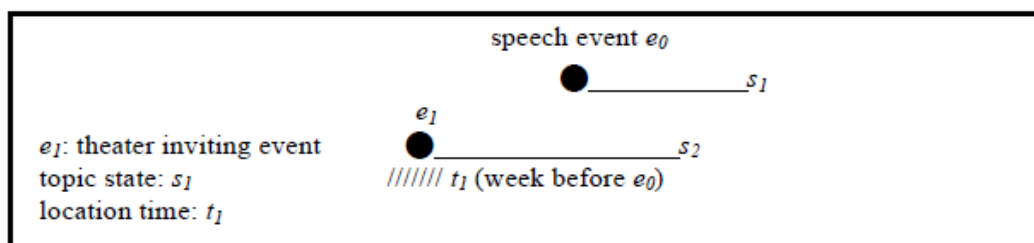


FIGURE 9: Temporal ordering of eventualities in (50)

Another important consequence of the proposed analysis is that it accounts for the so-called ANNULLED RESULT implicature associated with imperfective sentences (cf. (Grønn 2003, 235–238)). Consider, for example, the discourse in (51), which entails that the guests arrived at Krylov’s residence and implicates that they left prior to the cleaning.

- (51) a. Krylov ubra-l kvartiru.
Krylov PFV-clean-PST.3S apartment.
‘Krylov cleaned up the apartment.’
b. Za čas do togo, k nemu *prixodi-l-i* gosti.
From hour to that to him come.IPF-PST-3P guests
‘An hour before that guests had visited him (and then left).’

We can say that (51-b) has the annulled result implicature because its perfective counterpart entails that a temporary consequent state of the arrival (e.g. the guests being at Krylov’s house) holds at the time of the cleaning event; see below, where (52) is a bit odd because people don’t typically clean when they have guests over.

- (52) a. Krylov ubra-l kvartiru.
Krylov PFV-clean-PST.3S apartment.
‘Krylov cleaned up the apartment.’
b. ?Za čas do togo, k nemu *priš-l-i* gosti.
From hour to that to him PFV.come-PST-3P guests
‘An hour before that guests had visited him.’

In other words, we can derive the annulled result implicature in the following way:

- (53) DERIVING THE ANNULLED RESULT IMPLICATURE IN (51) (*to be amended*)
- a. If we wanted to assert that a temporary consequent state of the arrival held at the time of the cleaning event, then we would use the PFV, which would entail this.
 - b. We did not use the PFV.
 - c. Therefore, a temporary consequent state of the arrival did not hold at the time of the cleaning event.

I end this section with two challenges for the proposed analysis. The first concerns the observation that the perfective sentence in (46-a)/(47-a), repeated below in (54), does not lead to an inference in which the consequent state of the kissing event is ‘significant’ at the speech event.

- (54) Nedelju nazad Marija *po-celova-l-a* Dudkina.
 Week ago Maria PFV-kissed-PST.3S-FEM Dudkin
 ‘A week ago, Maria kissed Dudkin.’

An explanation for this fact may have to do with the following observation: the property of having a well-defined TEMPORARY consequent state is characteristic of some VPs, but not others (Dowty 1979, 255). This is especially easy to see in Russian. As shown by Grønn (2003) in (55) below, modifying a perfective predicate like *otkryl magazin* (‘opened the store’) with *na dva časa* (‘for two hours’) leads to the entailment that the store was open for two hours (and not that it took two hours to open the store). However, when a *na*-phrase modifies the perfective predicate *smotrel fil’m* (‘watched a movie’) as in (56) below, the resulting sentence is ungrammatical (cf. Piñón’s (1999) discussion of similar phenomena in German and Hungarian). This is expected, according to Grønn, if we assume that *na*-phrases measure consequent states and unlike store openings, movie watchings do not have well-defined consequent states that can be measured (i.e. ones that are TEMPORARY).

- (55) Kupec *otkry-l* magazin na dva časa.
 Shopkeeper PFV-open-PST.3s store for two hours
 ‘The shopkeeper opened the store for two hours.’ (Grønn 2003, 233)
- (56) #Ivan Petrovič *po-smotre-l* fil’m na dva časa.
 Ivan Petrovich PFV-watch-PST.3s movie for two hours
 ‘Ivan Petrovich watched the movie for two hours.’ (Grønn 2003, 233)

In the light of this data, Grønn (2003) proposes that perfective aspect makes reference to a temporary consequent state only if defined. Applying this insight to the analysis proposed in this section, we would say the following:

- (57) HYPOTHESIS ABOUT PFV (*to be amended*)²⁰
 PFV requires the temporary consequent state of a VP-event to overlap the topic state if such a consequent state is defined; otherwise PFV requires the permanent consequent state of a VP event to overlap the topic state.

According to the hypothesis above, the perfective aspect makes reference to a temporary consequent state in examples such as (47-b), (47-c) and (50) above because such a consequent state is defined for VPs that describe flower giving and theater inviting events. In examples such as (54), however, the perfective aspect makes reference to a permanent consequent state because only such a consequent state is defined for a VP that describes a kissing event.

A problem with the hypothesis in (57) comes from Rassudova's (1968) example below, discussed at the outset of this paper. In (58-a), we see the perfective predicate *priexal* ('arrived') for which a temporary consequent state — i.e. the state of being present at the speaker's location — is defined. Therefore, given (57) and the fact that (58-a) is discourse initial, this temporary consequent state should be understood to overlap the speech event, viz. (50). This is not the case, however, given (58-b).

- (58) a. K nam *priexa-l* otec,
 To us PFV.arrive-PST.3S father
 'Father came/had come to see us,
 b. no vskore *u-exa-l*.
 but in.a.rush PFV-go-PST.3S
 but he went away again soon.'

One possible response is to say to revise the hypothesis in (57) as follows:

- (59) HYPOTHESIS ABOUT PFV (*final version*)
 PFV requires the most informative consequent state of a VP-event to overlap a topic state.

Given (59), a temporary consequent state would be inferred in (58-a) if (58-b) were not present because it is the most informative. Given (58-b), however, such a consequent state would lead to a contradiction and therefore a permanent consequent state is inferred instead. Moreover, given (59), we would revise the annulled result derivation in (53) as follows:

[20] This hypothesis is reminiscent of Keenan's (1974) analysis of the adjective "flat": "flat N" means an N whose solid surface is not bumpy, if defined; otherwise it means... e.g. "flat boat" vs. "flat beer".

- (60) DERIVING THE ANNULLED RESULT IMPLICATURE IN (51) (*final version*)
- a. If we wanted to assert that a temporary consequent state of the arrival held at the time of the cleaning event, then — given (59) — we would use PFV.
 - b. We did not use the PFV.
 - c. Therefore, a temporary consequent state of the arrival did not hold at the time of the cleaning event.

[6] CONCLUSION

In this paper I provided a single meaning for the Russian imperfective that explained — in a straightforward way — why this aspect is similar to the perfective in some contexts but not others. To do so, I focused on cases in which a verb phrase (VP) was inherently TELIC and it therefore made sense to talk about an event's 'culmination.' I proposed to relate the culmination properties of the Russian imperfective to atomicity. I showed how the culmination entailment is expected when the imperfective combines with VPs that denote atomic events because the imperfective must refer to the entire VP-event in such cases. This entailment doesn't arise when the imperfective combines with VPs that denote nonatomic events because such events constitute multiple stages and any one of them makes an imperfective sentence true. This explains why the culmination differences between the perfective and imperfective aspect are neutralized with VPs that denote atomic events, but not with other types of VPs.

Subsequently, I accounted for the discourse properties of the Russian imperfective. These properties are intimately related to how the imperfective constrains the temporal location of a VP-event. The standard view is to say that aspect locates an eventuality relative to a single parameter: a TIME that can be specified by a grammatical expression (e.g. an adverb) or the discourse context. However, based on data involving the Russian imperfective, I argued for a BIRELATIONAL ANALYSIS in which an imperfective operator imposes two requirements: (i) a VP-event stage is contained within a grammatically constrained location time and (ii) the consequent state of a VP-event stage contains a topic state, whose value is determined by the discourse context. I showed how it follows from this analysis that there are two situations that make an imperfective sentence true and argued that world knowledge determines whether a VP-event stage OVERLAPS or PRECEDES a previously mentioned discourse event. The latter possibility typically involves an inference in which two events are causally related and this in turn can give rise to a culminated event inference. The former possibility, on the other hand, typically does not involve a causal relation and a culminated event inference typically does not arise.

The proposed analysis raised several questions. Chief among them was whether

the Russian perfective is also birelational. This paper proposed a ‘yes’ answer: in order to account for the result perfect interpretation often found with the perfective, one needs to assume that the perfective requires (i) temporal information about the time at which an event *e* occurred and (ii) information about a previously mentioned discourse eventuality that the consequence of *e* overlaps. In turn, I discussed how these requirements could explain (i) why the result perfect interpretation is found with the perfective in some contexts, but not others and (ii) how the meaning of the perfective aspect leads to the so-called ANNULLED RESULT implicature with the imperfective.

I end this paper by coming back to Rassudova’s (1968) examples below, which was discussed at the outset of this paper.

- (61) K nam *priežža-l* otec, no *vskore* u-exa-l.
 To us arrive.IPF-PST.3S father but in.a.rush PFV-go-PST.3S
 ‘Father came/had come to see us, but he went away again soon.’
- (62) K nam *priexa-l* otec, no *vskore* u-exa-l.
 To us PFV.arrive-PST.3S father but in.a.rush PFV-go-PST.3S
 ‘Father had came/came to see us, but he went away again soon.’

Given the analysis developed in this paper, there are a number of differences between the imperfective and perfective aspect. These differences are concerned with

- (i) the culmination entailment property
- (ii) discourse connectivity to prior discourse
- (iii) discourse connectivity to subsequent discourse
- (iv) result vs. experiential perfect interpretation

The difference with regard to (i) is neutralized in the examples above because the base VPs denote a set of atomic events. There cannot be a difference with regard to (ii) because the sentences are discourse initial. The difference with regard to (iii) is neutralized by *no vskore* (‘but in a rush’), which triggers a narrative progression. Finally, the difference with regard to (iv) is neutralized by the follow-up *no vskore uexa-l* (‘but left in a rush’). That is, (61) describes a permanent consequent state of the father’s arrival analogous to (62) because a TEMPORARY consequent state of an arrival is incompatible with *no vskore uexa-l* (‘but left in a rush’). Given the neutralization, it is extremely difficult (perhaps impossible) to state the difference between these two sentences.

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COMPLEMENT TENSE IN CONTRAST: THE SOT PARAMETER IN RUSSIAN AND ENGLISH

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ABSTRACT

In an SOT-language like English, “past under past” may have a simultaneous interpretation, i.e., we have temporal agreement. In a non-SOT language like Russian, we get the shifted interpretation. In English, the temporal morphology of the embedded verb can be determined by the matrix tense via a binding chain through verbal quantifiers such as ‘say’ or ‘think’. In Russian, these attitude verbs break the binding chain, hence the morphology of the embedded verb is determined locally by an embedded relative PRESENT or PAST. The main tense of an attitude complement will be a semantically empty PRO. We propose that the difference between English and Russian is derived from the SOT-parameter, saying that *a language L is an SOT-language if and only if the verbal quantifiers of L transmit temporal features*.

The paper gives a precise formulation of the syntax and semantics of the constructions involved. The essential idea is that temporal features are transmitted via semantic binding; following the SOT-parameter, verbal quantifiers may or may not act as barriers for feature transmission.

The paper takes up a recent challenge by Daniel Altshuler and Olga Khomitshevich against existing accounts: verbs of perception and, occasionally, attitude verbs and factive verbs in Russian may express simultaneity by “past under past”. For attitude verbs, we show that the problem is in fact non-existent when the complement is imperfective. Concerning factives, we argue that the complement tense is an independent *de re* past. Finally, perception verbs are normally not verbal quantifiers and hence not subject to the SOT-parameter.

[1] INTRODUCTION TO COMPLEMENT TENSE

The role of tense is ubiquitous in natural language, yet many phenomena pertaining to subordinate tense remain to be properly investigated and understood. In this paper we will provide a semantically motivated explanation – the SOT parameter – which is intended to capture the difference between tense agreement and non-agreement languages. In other words, we explain the distribution of complement tense in sequence-of-tense languages (notably Germanic and Romance languages) and non-sequence-of-tense languages like Russian. The proposal restores

the traditional view of Russian as a non-SOT language despite the challenging data, notably from factives and perception verbs, recently discussed by Altshuler and Khomitsevich. In future work, we intend to extend the theory to capture adjunct tense, as well.

In this section, we will introduce the SOT parameter, our general tense architecture, and some key notions central to the theory – dependent (vs. independent) tense, verbal quantifiers, and zero (vs. fake) tense. In section [2], we will introduce the basic patterns found in Russian and English complement tense. Our methodology is based on retrieval of authentic data from parallel corpora. Next, in section [3], we give a formal implementation of our theory. Finally, in section [4], we show that Russian “past under past” with imperfective complements and/or matrix factives and perception verbs are compatible with our theory and the proposed SOT parameter.

[1.1] *The SOT parameter*

The contrast in (1) illustrates the difference between sequence of tense found in Germanic languages, and non-sequence of tense characteristic of Russian¹.

- (1) R On skazal_{PAST-PF}, što živet_{PRES} pod Moskvoj.
 (Viktor Pelevin, “Pokolenie P”)
 E He said he was living just outside Moscow.
 N Han fortalte_{PAST} at han bodde_{PAST} utenfor Moskva.

Tenses express relations between times: backward shift (precedence), simultaneity (overlap), or forward shift (succession). Russian apparently represents the most natural form-meaning mapping. The embedded tense in (1R) is a (relative) present tense – expressing simultaneity with the higher past tense of the *verbum dicendi*. In our feature system, the present tense morphology is licensed by a relative PRESENT operator in complements of attitude verbs in Russian (Ogihara 1989), (Kusumoto 1999), (Schlenker 1999) and (von Stechow 2003). Since the feature transmission is done locally in the complement in non-SOT languages, Russian morpho-syntax neatly matches the semantics in this domain. (We speak of the feature “present” originating with the semantic PRESENT and transmitted to the finite verb; the mechanism will be explained in detail below, notably in section [3]).

In sequence-of-tense languages like English and Norwegian, morphology is not in a one-to-one relation with semantics due to the phenomenon of temporal agreement: the past tense morphology (“was” (Eng.), “bodde” (Nor.)) in the complement in (1E)/(1N) is semantically void and simply agrees with the past tense operator in the matrix. This fact requires syncategorematic rules (here: long-

[1] E = English, F = French, G = German, N = Norwegian, R = Russian.

distance transmission of temporal features following the SOT parameter, i.e., non-local binding).

The difference between English and Russian is tentatively illustrated in Figure 1.

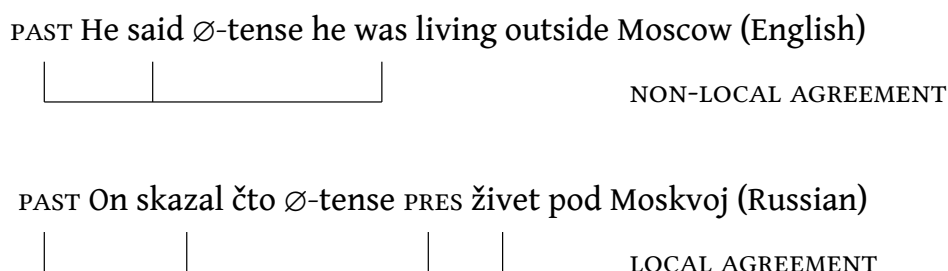


FIGURE 1: Local vs. non-local agreement of tenses

We adopt a feature theory whose conceptual attractiveness comes from the explicit encoding of every detail in the morpho-syntax and the corresponding dependence on semantic operators. The system gives us a precise formulation of the syntax and semantics of the constructions involved. The basic machinery is the following (more details are given below in section [3]): Every verb has a temporal argument. The temporal argument is satisfied by a variable coming from the tense morphology with an uninterpretable feature. The interpretation of this variable is determined by a binding relation with a SEMANTIC OPERATOR having a corresponding interpretable feature. With complements in SOT languages we get agreement throughout the c-command domain, with a semantic operator checking several instances of the same uninterpretable feature (a kind of Multiple Agree). In non-SOT languages, the morphology is licensed locally by a corresponding semantic operator.

Khomitsevich (2007) adopts a framework with feature checking as well but seeks primarily a syntactic explanation of subordinate tense data. Following the work of Abusch (1994b), Schlenker (1999), von Stechow (2003) among others, we focus on the semantics of the matrix verb in our explanation of the data.

The difference between English and Russian is derived from the SOT parameter:

A LANGUAGE *L* IS AN SOT LANGUAGE IF AND ONLY IF THE VERBAL QUANTIFIERS OF *L* TRANSMIT TEMPORAL FEATURES. (The SOT parameter)

In English, the temporal morphology of the embedded verb is determined by the matrix tense via a binding chain through verbal quantifiers such as “say”. In Russian, “skazat” (“say”) breaks the binding chain. The morphology of the embedded verb is determined by an embedded relative PRESENT or PAST.

The *SOT* parameter gives the right predictions and explains the different distribution of subordinate tenses in *SOT* and non-*SOT* languages such as the expression of simultaneity in (1) as “past under past” in *SOT* and “present under past” in non-*SOT* languages.

[1.2] *Architecture of tenses*

For an easier understanding of our paper, the following remarks on our view of the architecture of tenses may be helpful. Tenses have the structure schematically presented in Figure 2.

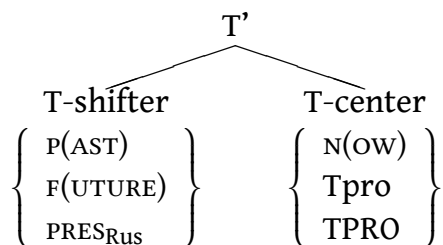


FIGURE 2: Architecture of tenses

Partee (1973) proposed to treat tenses in general as *PRONOUNS* – deictic or anaphoric. In our theory, a semantic tense consists of an obligatory *TEMPORAL PRONOUN* (T-center, perspective time, local evaluation time) and an optional *SHIFTER*. The pronoun *N(OW)* is deictic and refers to the speech time. *Tpro* is an anaphoric pronoun bound by a higher tense. *TPRO* is a semantically empty pronoun and must be moved for type reasons. This movement creates a λ -operator binding the temporal variable in the T-center. *TPRO* is what has been called *ZERO TENSE* (λ -tense) in the literature, cf. (Kratzer 1998), (von Stechow 1995).

The shifters are existential quantifiers based on the temporal center and temporal relations such as “before”, “after” and “identical” and possibly others. *P(AST)* means “there is a time before the temporal center *T*”, *F(UTURE)* means “there is a time after the temporal center *T*” and *PRES_{Rus}* means “there is a time identical with the temporal center *T*”. We assume that the temporal center is the same in all languages. We further think that the quantifying force of the shifters is always existential, but the relations may vary across languages: for instance, English has no *PRES_{Rus}*, German and Japanese use the relation “not before” for the present; there might be temporal overlap, temporal inclusion, “no after” and others.

If the center is *N*, we have a *DEICTIC TENSE*; this is the tense found in the matrix clause. If the center is *Tpro*, we have an *ANAPHORIC TENSE* bound by some higher tense; this kind of tense is found in relative clauses and other adjuncts. If the center is *TPRO*, we have a *BOUND TENSE*, i.e., a temporal variable locally bound by a λ -operator.

[1.3] *Dependent vs. independent tense*

The SOT parameter applies to dependencies between matrix tense and subordinate tense. Obviously, tense in subordinate clauses often has a different status from matrix tense, since the former can be DEPENDENT on the latter. In deictic tenses, the pronominal T-center refers to the NOW of the context, but in dependent tenses, the pronominal center may be anaphoric, as in relative clauses, or λ -bound as in complements.

The distinction between independent (deictic) and dependent tense is crucial in our survey. When we consider complex data from subordinate tense, we should keep in mind the possibility of the lower complement tense being independent of the higher matrix. In such cases, the morphology of the subordinate tense is licensed by the speaker's deictic NOW in the utterance situation or by a *de re* past, and the SOT parameter does not directly apply to the construction.

The difference between dependent and independent tense is illustrated below:

- (2) N Var_{PAST} det ikke de gamle romerne som sa_{PAST} at alt er_{PRES} i evig forandring? (independent) (Nikolaj Frobenius, "Latours katalog")
 E Wasn't it the ancient Romans who said that everything was in a process of eternal flux? (dependent)
 F Les vieux Grecs ne disaient_{-PAST-IMPF} ils pas que tout est_{-PRES} en perpétuel changement? (independent)
 R Razve drevnie rimljane ne govorili_{PAST-IMPF}, čto vse nepreryvno izmenjaetsja_{PRES}? (dependent or independent)

The embedded present in the Norwegian original and French translation requires an independent interpretation²: the complement reports a universal truth which was true at the time of the ancient Romans and remains true for the author at the moment of writing – a kind of "double access" interpretation. Arguably, we have an independent *de re* extended NOW in the complement (Abusch 1997). For SOT languages like Norwegian and French, a dependent interpretation in (5N)/(5F) would have required tense agreement, hence past tense morphology both in the matrix and complement. This tense agreement is precisely what we find in the English translation.

Concerning the Russian translation, we cannot distinguish between a dependent and independent ("double access") reading. The surface syntax in (5R) matches the Norwegian original, but since Russian is not a tense agreement language, the present tense in the Russian complement remains indistinguishable between a relative present (a simultaneous interpretation dependent on the matrix) and an independent present.

[2] Germanic and Romance languages do not have a relative PRESENT of the Russian kind, see section [3.4].

[1.4] *Verbal quantifiers*

Verbal quantifiers quantify over times³ (e.g. the future auxiliary *will*) or world-time pairs (e.g. *verba dicendi*). In order to avoid temporal paradoxes analysed in (von Stechow 1981), (Heim 1994a), (von Stechow 1995), among others, attitude verbs cannot be simply quantifiers over worlds.

The paradox is illustrated in the following sentence:

- (3) At 5 o'clock Mary thought it was 6 o'clock.

The sentence is coherent and makes perfect sense although Mary is obviously wrong about the time in the context of (3). However, if the complement is analysed in the Hintikka-style as a proposition (set of worlds) we end up attributing the absurd belief to Mary that “5 o'clock = 6 o'clock”.

The solution is to let attitudes quantify over worlds and times (and individuals, neglected here). Hence the complements must be properties of times, whose highest semantic tense is a ZERO TENSE (a temporal abstract), cf. (Kratzer 1998). Our semantics for attitude predicates follows the insights of Lewis (1979):

- (4) $\llbracket \text{believe} \rrbracket$ type $(s(it)), (i(et))$
 $= \lambda w \lambda P_{s(it)} \lambda t \lambda y. (\forall w_1) (\forall t_1) [(w_1, t_1) \text{ is compatible with everything } y \text{ believes of } (w, t) \text{ in } w \text{ at time } t \rightarrow P(w_1)(t_1)]$

In order to understand complement tense under attitudes, it must be stressed that the semantics of attitudes gives us an abstraction over the highest temporal variable in the complement. This subtle fact is a permanent source of confusion, and we will return to this point below.

We will not try to give an exhaustive list of verbal quantifiers in natural language,⁴ but we will make one demarcation in the next subsection.

[1.5] *Zero tense vs. fake tense*

A ZERO TENSE embedded under an attitude verb is semantically void, it does not have any meaning. However, some caution is called for. Consider the following sentence, with an embedded counterfactual:

- (5) E John believes_{PRES} that Mary would_{PAST-MODAL} come_{INF} if she was_{PAST} invited_{PART}.
 G John glaubt_{PRES} dass Marie käme_{PAST-SUBJ}, wenn sie eingeladen_{PART} würde_{PAST-SUBJ}.
 R Vanja verit_{PRES}, što Maša prišla_{PAST-PF} by_{SUBJ.PART}, esli by_{SUBJ.PART} ee priglasili_{PAST-PF}.

[3] i.e., “there is a time in the future/past ...”. Formally, these verbs embed a lambda abstract over times.

[4] The future auxiliaries “will/would” (Eng.) and “budet” (Rus.) as well as their mirror operator – the perfect auxiliary “have” (Eng.) – are quantifiers over times, hence verbal quantifiers in our understanding.

Although the embedded verbs have past morphology, it is obvious that this is not a real past tense, since the embedded counterfactual is not evaluated at a time preceding the subjective now but at a time succeeding the subjective now. The embedded tenses cannot be in a relation of temporal agreement with the matrix tense (attitude verb), since the latter is in the present tense. So (5) is a case of what Iatridou (2000) calls *FAKE PAST*: past tense morphology does not point to anteriority. The verb form does not have its normal temporal feature, but a feature pointing to a subjunctive interpretation. This is what we see more clearly in German (4G) and Russian (4R), where the fake past is translated by forms of subjunctive past (Konjunktiv 2), a mood used in counterfactuals. In English and many other languages, the subjunctive is lost and we have a sort of tense-mood syncretism. Thus, fake tense needs a different treatment, and is not to be confused with zero tense.

The example in (4E) shows that there is no 1-to-1 correspondence between semantic features and morphology. The same morphology may encode different semantic features.⁵ For the purposes of this study we will rely on an intuitive and informal distinction between zero tense and fake tense exemplified above. Verbal quantifiers which transmit their mood features as fake tense morphology (e.g. the counterfactual operator *would*) are not directly relevant for the SOT parameter.

[2] COMPLEMENT TENSE IN PARALLEL AND CONTRAST

The examples⁶ in our study are naturally occurring data taken from two searchable parallel corpora developed at the University of Oslo – the Oslo Multilingual Corpora (OMC) and the RuN corpus, as well as the English-Russian parallel corpus provided by the Russian National Corpus. The first item listed in the examples is the original source – typically a Norwegian or Russian fiction text – then follow the translations made by professional translators. Our main focus will be on Russian and English, but we will occasionally also comment on examples from other languages, notably Norwegian, German and French.

[2.1] *Simultaneous interpretation under past attitudes*

The simultaneous interpretation under past attitudes is expressed by a “past under past” configuration in SOT languages and “present under past” in non-SOT languages.

[5] The opposite is also true: the same semantic feature may be encoded by different morphological means even in one single language. To give an example: the German past form *war* ‘was’ and the present perfect form *bin gewesen* ‘have been’ mean the same.

[6] Glossing is reduced to a minimum in the examples, making use of the following abbreviations: AUX = auxiliary, COND = conditional mood, FUT = future tense, IMPER = imperative mood, IMPF = imperfective aspect, INF = infinitive, PART = participle, PF = perfective aspect (including *le passé simple* in French), PRES = present tense, REL.PRON = relative pronoun, SUBJ = subjunctive, SUBJ.PART = subjunctive particle.

- (6) N De sa_{PAST} at Hanna var_{PAST} Stines unge.
 (Herbjørg Wassmo, “Dinas bok”)
 E They said Hanna was Stine’s child.
 G Die Leute sagten_{PAST}, daß Hanna Stines Kind war_{PAST}.
 F On disait_{PAST-IMPF} que Hanna appartenait_{PAST-IMPF} à Stine.
 R Vse govorili_{PAST-IMPF}, što Channa – dočka Stine.

SOT languages include Germanic languages (here: English, German, and Norwegian) and Romance languages (here: French). The present tense in the complement of the Russian sentence (6R) is a zero copula, cf. Figure 3.

PAST They said \emptyset -tense Hanna was Stine’s child (English)



NON-LOCAL AGREEMENT

PAST Vse govorili što \emptyset -tense Ch PRES \emptyset -copula dočka S (Russian)



LOCAL AGREEMENT

FIGURE 3: Simultaneous interpretation under past attitude

The intensional nature of attitude verbs shows up in German, in which the embedded complement can display different versions of the subjunctive, instead of the expected “past under past”. Accordingly, German attitude verbs optionally have a feature like *SUBJUNCTIVE*, which is transmitted to the complement verb. For instance, in (7G), the subjunctive present is used in German:

- (7) N Han sa_{PAST} at han ikke kjente_{PAST} noen ting.
 (Nikolaj Frobenius, “Latours katalog”)
 E He [. . .] said he couldn’t feel anything.
 G Er sagte_{PAST}, er spüre_{SUBJ} nichts.
 F Il m’a_{PRES-AUX} dit_{PART} qu’il ne sentait_{PAST-IMPF} rien.⁷
 R On skazal_{PAST-PF}, što ničego ne čuvstvuet_{PRES}.

If the matrix tense is expressed by a present perfect in an SOT language, we expect to find a present tense in the complement – in agreement with the present auxiliary of the matrix. This pattern is found in the Norwegian translation (8N) – “present under present_perfect” – which contrasts with the English (8E) “past under past”.

[7] The French translation in (7F) poses interesting questions. The auxiliary *a* has present morphology, but it licenses the past morphology of the embedded *sentait*. In our theory we will have to express this by stipulating the feature combination *uN*, *iP* for the auxiliary *a*. In this respect, French (and other Romance languages like Italian) differs from English.

- (8) R Ty ne skazal_{PAST-PF}, čto ljubiš'_{PRES} menja ...
 (Ljudmila Ulitskaja, "Medeja i ee deti")
 E You didn't say you loved me.
 N Du har_{PRES-AUX} ikke sagt_{PART} at du er_{PRES} glad i meg ...

In this respect, it should be noted that feature transmission carries on through non-finite verb forms like past participles as in (8N) or the infinitive "say" in (8E).

The translator's choice of lexical aspect (Aktionsarten) or grammatical aspect can influence the tense configuration, blurring the expected "past vs. present" dichotomy between SOT and non-SOT. The following example illustrates this point.

- (9) N Folk sa_{PAST} at ville dyr bebodde_{PAST} gemakkene.
 (Nikolaj Frobenius, "Latours katalog")
 E It was rumoured that wild beasts had taken up residence there.
 G Man erzählte_{PAST} sich, daß inzwischen wilde Tiere in den Zimmern hausten_{PAST}.
 R Ljudi govorili_{PAST-IMPF}, budto v dome poselilis'_{PAST-PF} dikie zveri.

The Norwegian original in (9N) displays "past under past" with a stative complement verb "bebo". The German translation follows this pattern, but the English translation makes use of the inchoative VP "take up residence", which excludes a simultaneous interpretation with the matrix. Hence, the English construction displays an additional second layer of past tense⁸: the past tense suffix of "had" is empty and agrees with the matrix past, while the perfect operator – the lexical content of "have" – expresses the required tense transposition by converting the VP into a stative. This gives the wanted result: The resultant state of the VP "take up residence" is simultaneous with the matrix event. Note that also the Russian translator has chosen an inchoative perfective verb, a choice which requires tense transposition and a "past under past" in Russian.

The various strategies employed in the translations of (9) can be easily accounted for by our theory once we incorporate aspect – and we will do so in section [4] (see also section [2.4] for an analysis of eventive/perfective embeddings). The literature on SOT has mostly been concerned with embeddings of stative and imperfective complements, where the opposition SOT vs. non-SOT is (apparently) more transparent in the canonical case of a simultaneous interpretation: "past under past" vs. "present under past". However, in section [4] we will address data in Russian which complicate this picture, notably constructions involving factive matrix verbs and perception verbs.

Below we give some examples with factives that correspond to the "expected" pattern for non-SOT languages, i.e., "present under past" with a simultaneous in-

[8] But see some examples below. If the complement is eventive, a simple "past under past" construction in Germanic can often have a backward shifted interpretation.

terpretation.⁹

- (10) N Han visste_{PAST} at hun sto_{PAST} der. (Herbjørg Wassmo, “Dinas bok”)
 E He knew she was standing there.
 G Er wußte_{PAST}, daß sie dort stand_{PAST}
 F Il savait_{PAST-IMPF} qu’elle était_{PAST-IMPF} là
 R On znal_{PAST-IMPF}, čto ona stoit_{PRES} u okna.
- (11) N Mor Karen gjennomskuet_{PAST} at ferdighetene ikke var_{PAST} så over-
 vettes i tysk. (Herbjørg Wassmo, “Dinas bok”)
 E Mother Karen discovered that his proficiency in German and French
 was quite limited.
 G Mutter Karen durchschaute_{PAST}, daß die Fertigkeiten in Deutsch und
 Französisch nicht überwältigend waren_{PAST}.
 F Mère Karen s’était_{PAST-IMPF} bien rendu_{PART} compte que ses connais-
 sances en allemand et en français n’étaient_{PAST-IMPF} pas excessives.
 R Matuška Karen bystro raskusila_{PAST-PF}, čto ego poznanija vo fran-
 cuzskom i nemeckom ostavljajut_{PRES} želat’_{INF} lučšego.
- (12) N Mor Karen forsto_{PAST} at Dina neppe kunne_{PAST-MODAL} oppøves_{INF} i
 filosofiske diskusjoner. (Herbjørg Wassmo, “Dinas bok”)
 E Mother Karen sensed that philosophical discussions or theological
 topics were not the way to train Dina.
 G Mutter Karen begriff_{PAST}, daß Dina für philosophische Diskussionen
 und theologische Themen wenig Verständnis hatte_{PAST}.
 F Mère Karen comprit_{PAST-PF} qu’on pouvait_{PAST-IMPF-MODAL} difficilement
 entraîner_{INF} Dina dans des discussions philosophiques ou théologi-
 ques.
 R Matuška Karen ponjala_{PAST-PF}, čto Dina vřjad li mořet_{PRES-MODAL} pod-
 njat’sja_{INF} do filosofskich diskussij ili bogoslovskich besed.
- (13) N Mor Karen innså_{PAST} at Jacob måtte_{PAST-MODAL} til kyndig behandling.
 (Herbjørg Wassmo, “Dinas bok”)
 E Mother Karen realized that Jacob required expert treatment.
 G Mutter Karen kam_{PAST} zu der Einsicht, daß Jacob eine sachgemäße
 Behandlung brauchte_{PAST}.
 F Mère Karen se rendit_{PAST-PF} compte que Jacob demandait_{PAST-IMPF} des
 soins qualifiés.
 R Matuška Karen ponimala_{PAST-IMPF}, čto Iakovu trebuetsja_{PRES} umelaja
 pomošč’.
- (14) R Medeja ponjala_{PAST-PF}, čto emu očen’ chočetsja_{PRES} pojti_{INF} s nej v étot
 samyj “Kavkaz”. (Ljudmila Ulitskaja, “Medeja i ee deti”)

[9] See section [4.3] and our analysis of these cases.

- E Medea understood that he really was very keen to take her to this restaurant of his.
- N Medea forsto_{PAST} at han hadde_{PAST} veldig lyst til å gå_{INF} på dette “Kaukasus”-stedet sammen med henne.

Note that the distinction between factives and other verbs of attitudes such as verbs of speech can be quite subtle. In the context of (15) below, the factive verb “learn” means “be told” (+ a factive presupposition):

- (15) N Latour lærte_{PAST} at det var_{PAST} udannet å drikke_{INF} suppe fra skålen.
(Nikolaj Frobenius, “Latours katalog”)
- E Latour learnt that it was unseemly to drink soup from the bowl.
- G Latour lernte_{PAST}, daß es ungezogen war_{PAST}, Suppe aus der Schale zu schlürfen_{INF}.
- F Ainsi Latour put_{PAST-PF}-il apprendre_{INF} que c’était_{PAST-IMP} manquer_{INF} au bon usage que de boire_{INF} la soupe à l’assiette.
- R Latur uzna_{PAST-PF}, što neprilično pit’_{INF} sup iz miski.

[2.2] Forward shifted interpretation under past attitudes

A forward shifted interpretation may require the insertion of a covert future operator at LF in SOT languages.

- (16) E I asked what time the attack was to be and they said as soon as it was dark. (Ernest Hemingway, “A Farewell to Arms”)
- R Ja sprosil_{PAST-PF}, v ktorom času načnetsja_{FUT-PF} ataka, i mne skazali_{PAST-PF}, što kak tol’ko sovsem stemneet_{FUT-PF}.

The covert future operator does not break the checking relation, as we see in Figure 4.

PAST they said \emptyset -tense as soon as it was FUT dark (the attack was to be) (English)



PAST skazali što \emptyset -tense kak tol’ko FUT stemneet (Russian)



FIGURE 4: Forward shifted interpretation under past attitude

Viewpoint aspect is not represented in Figure 4, but a full analysis requires two perfective like operators in the Russian sentence, one in the matrix and one in the complement. Perfective verbs with present tense morphology like “stem-

neet – becomes dark” receives a future (and perfective) interpretation, since the combination PF(N) – perfective and present – is semantically inconsistent. Accordingly, the usual PF operator is replaced by a semantic tense FUT_{RUS}, which has its own feature iF.¹⁰

In example (17), the forward shifted meaning is explicitly conveyed by a modal or periphrastic construction in the complement of the SOT languages. The Russian (17R) displays the familiar “perfective_future under past”:

- (17) N Dina sa_{PAST} at Tomas og hun skulle_{PAST-MODAL} kjøre_{INF} Jacob over fjellet til doktor. (Herbjørg Wassmo, “Dinas bok”)
 E Dina announced that she and Tomas would drive Jacob across the mountain to the doctor.
 G Dina sagte_{PAST}, daß Tomas und sie Jacob über das Gebirge zum Doktor fahren_{INF} würden_{PAST-SUBJ-MODAL}.
 F Dina déclara_{PAST-PF} que Tomas et elle-même allaient_{PAST-IMPF} amener_{INF} Jacob par la montagne chez le docteur.
 R Dina skazala_{PAST-PF}, čto oni s Fomoj otvezut_{FUT-PF} Iakova k doktoru.

Verbs of control like “promise” and “convince” have a relative future in the complement:

- (18) R Dogovorilis’_{PAST-PF} o vstreče čerez nedelju, Sergej obeščal_{PAST-IMPF}, čto k ètomu vremeni budet_{PRES-COPULA} gotov scenarij rolika. (Viktor Pelevin, “Pokolenie P”)
 E They agreed to meet again in a week’s time; Sergei promised the scenario for the video would be ready by then.
 N De avtalte_{PAST} å møtes_{INF} om en uke. Sergej lovte_{PAST} at scenarioet til videoklippet skulle_{PAST-MODAL} være_{INF} ferdig til den tid.
 (19) R Djadja poobeščal_{PAST-PF} emu, čto v samoe bližajšee vremja ego posadjat_{FUT-PF} v tjur’mu. (Ljudmila Ulitskaja, “Medeja i ee deti”)
 E His uncle assured him that he would land himself in jail in the very near future
 N Onkelen lovte_{PAST} ham at han nokså snart skulle_{PAST-MODAL} sørge_{INF} for å få_{INF} ham i fengsel.

With a non-finite complement, as the Russian (20R), the relative future is covert:

- (20) N Hun overbeviste_{PAST} Goupils om at de burde_{PAST-MODAL} sette_{INF} ned rentene. (Nikolaj Frobenius, “Latours katalog”)

[10] Note that our treatment of the synthetic Russian “perfective future” is different from our analysis of the periphrastic future in English and Russian inasmuch as auxiliaries like “will” and “budet” are verbal quantifiers with a feature uN, hence subject to the SOT parameter. The English auxiliary “have” is a verbal quantifier as well.

- E She persuaded Goupils that they should lower their interest rates.
 G Sie überredete_{PAST} Goupils, die Zinsen herabzusetzen_{INF}.
 F Elle persuada_{PAST-PF} Goupil qu'ils devaient_{PAST-IMPF-MODAL} abaisser_{INF} leurs taux d'intérêt.
 R Ona ubedila_{PAST-PF} Gupilja snizit'_{INF} procenty.

Forward shifted interpretations under factives are always encoded with “future under past” in Russian:

- (21) N Jacob skjønte_{PAST} at hun kom_{PAST-MODAL} til å dra_{INF} alene om han ikke føyde_{PAST} henne. (Herbjørg Wassmo, “Dinas bok”)
 E Jacob realized she would go alone if he did not accompany her.
 G Jacob begriff_{PAST}, daß sie allein hinfahren_{INF} würde_{PAST-SUBJ-MODAL}, wenn er sich nicht fügte_{PAST}.
 F Jacob comprit_{PAST-PF} qu'elle était_{PAST-IMPF} capable d'y aller_{INF} seule s'il ne se pliait_{PAST-IMPF} pas à sa volonté.
 R Iakov ponjal_{PAST-PF}, što ona poedet_{FUT-PF} odna, esli on ej ne ustupit_{FUT-PF}.

[2.3] Backward shifted interpretation under past attitudes

In Russian, “past under past” is expected to have the shifted reading, meaning that the time of the complement precedes the matrix. In SOT languages, where “past under past” by default produces a simultaneous interpretation, the backward shifted interpretation is normally conveyed through tense transposition using a past perfect in the complement. A typical example is given in (22) with a feature analysis as sketched in Figure 5.

- (22) R Ona [. . .] sprosila_{PAST-PF} spal_{PAST-IMPF} li on.
 (Lev Tolstoj, “Anna Karenina”)
 E She [. . .] asked him if he had slept.
 N Hun [. . .] spurte_{PAST} om han hadde_{PAST-AUX} sovet_{PART}.

PAST She asked him \emptyset -tense if he had slept (English)



PAST Ona sprosila \emptyset -tense PAST spal li on (Russian)



FIGURE 5: Backward shifted interpretation under past attitude

The English auxiliary “had” is a verbal quantifier.¹¹ It has the same semantics as the PAST operator. In our example, its morphology is checked by the higher PAST associated with the matrix. The semantic precedence relation in the SOT languages thus comes from the perfect “have” operator in (22E) and (22N).

In non-SOT languages like Russian, the past tense morphology in the complement points to a local semantic past operator. Recall from our introductory remarks above that tenses are shifters, i.e., quantifiers based on temporal relations, and that the highest tense under the attitude is a zero tense, bound by lambda abstraction. Thus, when we have a semantic PAST under a verbal quantifier as in (22R), it is not the “past variable” that is bound, but the “perspective variable” to which this variable is related.

The same patterns as in (22) occur frequently in the parallel corpora. Example (23) below is similar, except for an aspectual difference in Russian: In (23R), the matrix is imperfective and the complement is perfective, while in (22R) the matrix was perfective and the complement imperfective. In the examples under discussion, this aspectual distinction does not seem to make any difference for the temporal ordering of the events – in both cases the complement event/state precedes the matrix event/state, hence a shifted reading (but see section [4.1] below on the role of aspect in Russian non-SOT configurations).

- (23) N Kokka mente_{PAST} at lensmannen hadde_{PAST-AUX} nok ikke spart_{PART} på kruttet. (Herbjørg Wassmo, “Dinas bok”)
 E The cook remarked that the sheriff obviously had not spared gunpowder when he fired his cannon.
 G Die Köchin meinte_{PAST}, daß der Lehnsman wohl nicht mit dem Schießpulver gespart_{PART} habe_{PRES-SUBJ-AUX}, als er feuerte_{PAST}.
 R Kucharka sčitala_{PAST-IMPF}, čto lensman ne požalel_{PAST-PF} porochu.

Here are some examples with factive attitude verbs and backward shift:

- (24) N Men de visste_{PAST} at han endelig hadde_{PAST-AUX} tatt_{PAST-PART} sin avslutningseksamen. (Herbjørg Wassmo, “Dinas bok”)
 E But they knew he had taken his final examinations at last.
 G Aber sie wußten_{PAST}, daß er endlich sein Abschlußexamen gemacht_{PART} hatte_{PAST-AUX}.
 F Mais on savait_{PAST-IMPF} qu’il avait_{PAST-AUX} enfin passé_{PART} ses derniers examens.
 R No rodnye znali_{PAST-IMPF}, čto on sdal_{PAST-PF} svoj poslednij ékzamen.
 (25) N Han visste_{PAST} at han hadde_{PAST-AUX} vært_{PART} den betydeligste i red-

[11] The present form “has” has a special semantics as it may express the “extended now”; cf. (Dowty 1979, chap. 7).

- ningsarbeidet. (Herbjørg Wassmo, “Dinas bok”)
- E He knew he had done more than anyone else to save the barn.
- G Er wußte_{PAST}, daß er bei den Rettungsarbeiten der Wichtigste gewesen_{PART} war_{PAST-AUX}.
- F Il savait_{PAST-IMPf} qu’il avait_{PAST-IMPf-AUX} eu_{PART} le rôle le plus important dans la lutte contre le feu.
- R On znal_{PAST-IMPf}, što na požare igral_{PAST-IMPf} samuju važnuju rol’.

While “past under past” typically has a simultaneous interpretation in SOT languages, the context can also license a shifted interpretation similar to the Russian “past under past” construction. In fact, it is well-known from the SOT-literature that “past under past” leads to a shifted interpretation for Germanic and Romance languages when the embedded sentence is perfective (or eventive).¹² This is illustrated in the English translation in (26E) with a simple “past under past” – in contrast to the past perfect found in the Norwegian translation (26N).

- (26) R Varen’ka skazala_{PAST-PF} što Anna Pavlovna prisylala_{PAST-IMPf} skazat’_{INF} što vy ne poedete_{FUT-PF} (Lev Tolstoj, “Anna Karenina”)
- E Varenka said that Anna Pavlovna sent word you were not going.
- N Varenka sa_{PAST} at Anna Pavlovna hadde_{PAST-AUX} sendt_{PART} bud at det ikke ble_{PAST} noe av turen.

The fact that the translators in (26) have chosen different forms is “accidental” – both English and Norwegian have both constructions. Thus, a simple past in English and Norwegian *can* have the same meaning as a past perfect, but it need not, cf. Figure 6.

| | |
|----------------------------|--|
| ... Ø-tense A.P. sent | } synonymous – backward shifted interpretation |
| ... Ø-tense A.P. PAST sent | |
| ... Ø-tense A.P. had sent | |

FIGURE 6: Embedded simple past vs. past perfect

Although (26E) and (26N) are truth-conditionally indistinguishable, only the latter relies on the SOT parameter for the licensing of the verb form (the auxiliary “hadde” with past morphology, and not “har” with present morphology) embedded under the highest *verbum dicendi*. The past tense morphology on the auxiliary “hadde” is thus semantically void, the anteriority being conveyed by the lexical semantics of the verbal quantifier “ha” – “have”.

[12] This forced backward shifted interpretation has a certain parallel in the well-known fact for all speakers of Russian that the combination of present tense + perfective aspect requires a *shifted* future interpretation due to the incompatibility of the perfective complete event configuration with a punctual present topic time.

For the second embedding under “sent word”, both (26E) and (26N) require the insertion at LF of a silent FUTURE. The feature transmission for the English sentence in (26E) is shown in Figure 7.

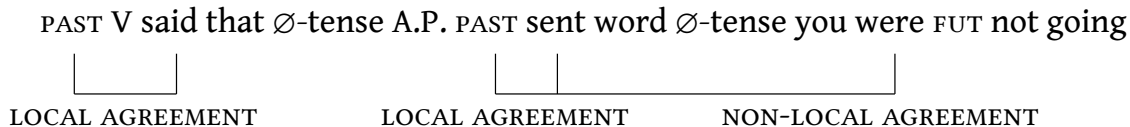


FIGURE 7: Local and non-local agreement in English

Thus, the two embeddings in (26E) demonstrate both local (p – “said” and p – “sent word”) and non-local (“were”) agreement.¹³

The Russian original in (26R) also deserves special mention. We have two *verba dicendi* – the first embeds a relative past and the second a relative future. As expected for a non-SOT language, the relative future is expressed with a perfective future. On the other hand, surprisingly, the relative past is expressed with an IMPERFECTIVE PAST, “prisylala_{PAST-IMPF}” (“sent”), instead of the perfective aspect. This peculiar use of the imperfective with a “perfective” complete event interpretation – the so-called *konstatacija fakta* (“the factual imperfective”) – is quite common in Russian and was treated extensively in (Grønn 2003), see also (Altshuler this volume).

[2.4] *Simultaneous interpretation under future attitudes*

We ignore data with a present tense matrix since the dependent/independent distinction is typically blurred in this environment. On the other hand, configurations with a future matrix attitude verb are expected to comply with the SOT parameter. We observe “present under future” both in English and Russian:

- (27) E Hanging around like this, people will think you’re up to something.
(Joanne K. Rowling, “Harry Potter and the Sorcerer’s Stone”)
- R Esli vy budete_{PRES-IMPF-AUX} raschaživat’_{IMPF-INF} s tainstvennym vidom,
to vse podumajut_{FUT-PF}, čto vy opjat’ čto-to zatevaete_{PRES-IMPF}.

Despite the apparent similarities between the temporal surface structures in (27E) and (27R), the SOT parameter forces different LFs for the two languages. This is depicted in Figure 8 on the next page. In English, both “will” and “think” are verbal quantifiers which transmit the feature N from the deictic utterance situ-

[13] We will, however, see that our implementation of feature transmission enables us to maintain obligatory feature transmission in SOT-languages. The feature uP originating in the highest matrix PAST is transmitted to the TEMPORAL CENTER of an embedded semantic PAST. Here its voyage ends. The embedded PAST associated with “sent word” transmits its own feature uP to the embedded verb “were”. In the case of temporal agreement, as between “sent word” and “were”, the feature is transmitted to the variable created by a zero tense (TPRO) and further transmitted to the verb.

N people will think \emptyset -tense you're up to something (English)



NON-LOCAL AGREEMENT

FUT vse podumajut čto \emptyset -tense PRES vy opjat' čto-to zatevaete (Russian)



LOCAL AGREEMENT

FIGURE 8: Simultaneous interpretation under future attitude

ation. In Russian, the checking relation is broken by the verbal quantifier “du-mat’/think”, hence a relative PRESENT must be inserted in the complement to li-cense the present tense morphology of “zatevaete – be up to something”.

Many examples of English and Russian in the parallel corpora display a similar pattern as in (27), i.e., “present under future”. However, the context typically suggests an independent (deictic) interpretation of the complement, hence the data are not directly related to the SOT parameter. An example of independent complement tense is given in (28).¹⁴

- (28) R Mne ne veriš’_{PRES-IMPF}, sprosi_{IMPER-PF} starikov; každyj tebe
skažet_{FUT-PF}, čto ryba teper’ sovsem ne ta, čto byla_{PAST-IMPF}.
(Anton Čechov, “Svirel”)
E If you don’t believe me ask the old people; every old man will tell you
that the fish are not at all what they used to be.

[2.5] Forward Shifted interpretation under future attitudes

With a forward shifted interpretation under a future matrix we expect to find an additional FUTURE operator in the complement. The pattern is illustrated in two examples below:

- (29) E ‘Well,’ said the gipsy, ‘I’ll tell you what I will do.’
(Kenneth Grahame, “The Wind in the Willows”)
R Ladno, skazal_{PAST-PF} cygan, ja tebe skažu_{FUT-PF}, čto ja sdelaju_{FUT-PF}.
(30) E I am going to reply to Mark Darcy’s invitation and say quite clearly
and firmly that I will be unable to attend.
(Helen Fielding, “Bridget Jones’s Diary”)
R Sejčas otveču_{FUT-PF} na priglašenje Marka Darsi i vežljivo, no tverdo
zajavlju_{FUT-PF}, čto pridti_{INF} ne smogu_{FUT-PF-MODAL}.

[14] The present tense complement in the English translation (“the fish are not ...”) of this example corresponds to a present tense zero copula in Russian (“ryba teper’ sovsem ne ta”).

[2.6] *Backward shifted interpretation under future attitudes*

The backward shifted interpretation is highly frequent in the parallel corpora. As expected, Russian expresses the relative past with past tense morphology: “past under future”. In SOT languages of the Germanic type we typically find “present_perfect under future” in this environment (with feature transmission through the infinitive complement of “will”). Compare the constructions in (31) and their temporal feature checking in Figure 9.

- (31) E “When I have caught forty fish,” said he, “then I will tell people that I have caught fifty, and so on.”
(Jerome K. Jerome, “Three Men in a Boat”)
R “Kogda ja pojmaju_{FUT-PF} sorok štuk”, govoril_{PAST-IMPF} on, “ja budu_{PRES-IMPF-AUX} vsem rasskazyvat’_{IMPF-INF}, što pojmal_{PAST-PF} pjat’-desjat, i tak dalee.”

N I will tell people that Ø-tense I have caught fifty (English)



NON-LOCAL AGREEMENT

N ja budu vsem rasskazyvat’ što Ø-tense PAST pojmal 50 (Russian)



LOCAL AGREEMENT

FIGURE 9: Backward shifted interpretation under future attitude

The “present_perfect under future” competes with the “past under future” in SOT languages, as witnessed by (32N) vs. (32E):

- (32) R Ja skažu_{FUT-PF} im, što prosto na nočleg zašel_{PAST-PF}.
(Ljudmila Ulitskaya, “Medeja i ee deti”)
E I’ll tell them I just came in to find a room for the night, no more than that.
N Jeg skal_{PRES-AUX} si_{INF} til de typene at jeg ganske enkelt har_{PRES-AUX} tinget_{PART} meg natteløsji her.

The analysis of the “present_perfect under future” in (32N) is straightforward – the present tense auxiliary in the complement gets its morphology from the deictic N in the matrix through the verbal quantifiers “skal – will” and “si – say”. The English “past under future” shows that we must allow for the insertion of a relative PAST in the complement also in SOT languages, similar to what we observed with a backward shifted “past under past” in section [2.3] (importantly, a relative PRES like in Russian cannot be inserted in the same environment in English).

Constructions like the “past under future” or “present_perfect under future” are often ambiguous between a dependent and independent (deictic) interpretation of the complement (Abusch 1994a). A dependent interpretation amounts to the precedence relation “complement tense < matrix tense”. However, the context may pragmatically license a stronger interpretation, viz. the precedence relation “complement tense < utterance time”.

[3] ANALYSIS

The data in section [2] convincingly show that:

- English is a clear SOT language – simultaneity under attitudes is expressed by temporal agreement.
- Russian is a non-SOT language – simultaneity under attitudes is expressed by the present.

We will now present the details of a formal analysis. We also refer the reader to (von Stechow 2009) for an introduction to tense semantics and feature theory.

[3.1] *Temporal structure of simple sentences*

Our LFs are expressions of an intensional λ -language, which is based on the types e (individuals), i (times), v (events), t (truth-values), s (world histories). “Intensional” means that expressions of type a express meanings of type (sa) , i.e., “a-intensions”. For details see section [3.3] below.

- (33) a. John called.
b. Mary is happy.

- (34) Tenses
- a. Present, type i : $\llbracket N \rrbracket = \lambda w.s^*$
b. Past, type $i(it,t)$: $\llbracket P \rrbracket = \lambda w \lambda t \lambda Q_{it}.(\exists t_1)[t_1 < t \ \& \ Q(t_1)]$ (Heim 1997)

s^* is the speech time. Thus the semantic present simply denotes the speech time. P is an indefinite relative past.¹⁵ The argument of P is always N in matrix clauses. In subordinate clauses, P can have a time variable t as argument that is bound by a higher tense or locally bound by a λ -operator.

- (35) a. $\llbracket \text{John}_e \rrbracket = \lambda w.\text{John}$
b. $\llbracket \text{called}_{i(et)} \rrbracket = \lambda w \lambda t \lambda x.x \text{ calls in } w \text{ at } t.$ feature: uP
c. $\llbracket \text{happy}_{i(et)} \rrbracket = \lambda w \lambda t \lambda x.x \text{ is happy in } w \text{ at } t.$ no tense feature

[15] For the Partee Problem, see (von Stechow 2009).

The time argument is the first by convention. Like “happy”, “called” has a tenseless semantics! The morphology of the latter is checked by a semantic tense.

At deep structure (DS), the time argument is filled by the semantically empty pronoun PRO, which is moved for type reasons at LF (cf. the PRO-theory of (Heim & Kratzer 1998, 226–228)). PRO-movement is an essential ingredient for the construction of binding chains for feature transmission.

(36) Derivation of (33a)

DS: $[_{TP} [_{T} P N] [_{VP} \text{John} [\text{called PRO}]]]$

PRO movement (with subsequent PRO deletion)

LF: $N \lambda_0 [_{TP} [_{T} P t_0] \text{PRO} \lambda_1 [_{VP} \text{John} [\text{called } t_1]]]$

$= \lambda w. (\exists t < s^*) \text{John calls in } w \text{ at } t.$

(37) The temporal auxiliary BE:

type $i(it, t)$

$\llbracket \text{IS} \rrbracket = \lambda w \lambda t \lambda P_{it}. P(t)$

feature: uN

Copulas are trivial verbal quantifiers. In English, they transmit temporal features, in Russian they do not. In most cases feature transmission by copulas does not matter for the analysis of the data.

(38) Derivation of (33b)

DS: $[_{TP} N [_{VP} [_{V} \text{is PRO}] [_{AP} \text{Mary happy PRO}]]]$

PRO movement (with subsequent PRO deletion)

LF: $[_{TP} N \lambda_1 [_{VP} [_{V} \text{is } t_1] \lambda_2 [_{AP} \text{Mary happy } t_2]]]$

$= \lambda w. \text{Mary is happy in } w \text{ at } s^*$

The perfect temporal auxiliary HAVE is a verbal quantifier, which has the same meaning as the semantic past. But as a verb it has its own morphology, which has to be licensed by a semantic tense. (The EXTENDED NOW meaning for HAVE_{pres} is ignored here).

(39) HAS/HAD: type $i(it, t)$

features: HAS uN; HAD uP

$\lambda w \lambda t \lambda P_{it}. (\exists t_1) [t_1 < t \ \& \ P(t_1)]$

(40) John had called.

$[_{it, t} P N] [\lambda_1 [[\text{had } t_1] [\lambda_2 [\text{John} [\text{called } t_2]]]]]$

$= \lambda w. (\exists t_1) [t_1 < s^* \ \& \ (\exists t_2 < t_1) [\text{John calls in } w \text{ at } t_2]]$

The future auxiliary WILL is the mirror image of HAVE:

(41) WILL: type $i(it, t)$

feature uN

$\lambda w \lambda t \lambda P_{it}. (\exists t_1) [t_1 > t \ \& \ P(t_1)]$

The temporal auxiliary WOULD has the same meaning but the feature uP.

- (42) John will call.
 $N [\lambda_1 [[\text{will } t_1] [\lambda_2 [\text{John} [\text{call } t_2]]]]]$
 $= \lambda w. (\exists t) [t > s^* \& \text{John calls at } t]$

Russian BUDET (“will”) has the same semantics as English WILL, and it has the feature uN. In addition it SUBCATEGORISES for an imperfective verb, hence the embedded infinitive is always in the imperfective.¹⁶ This subcategorisation merely serves the purpose to implement aspect selection and is purely syntactic, cf. the traditional notion of “status government”. The phenomenon is similar to the requirement (in English) that modals like “must” and “can” subcategorise for an infinitive, while “have” subcategorises for a past participle. This kind of subcategorisation can be captured by special subcategorisation features.

[3.2] Feature Theory: Temporal agreement

Following Chomsky (1995), Zeijlstra (2004), among others, we assume the following theory of features: There are two sorts of features, interpretable ones [iF] and uninterpretable ones [uF]. Interpretable features check uninterpretable features.

Finite verb forms have uninterpretable temporal features. Present forms of a verb have the feature [uN] “uninterpretable Present/Now”. The semantic Present N has the feature [iN] “interpretable Present/Now”. Past forms of a verb have the feature [uP] “uninterpretable Past”, while the semantic past tense P has the feature [iP]. Below are some verb forms in English with spell out:

- (43) Present: *call/calls* [uN]
 Past: *called* [uP]
 Past Participle: *called* (no inherent temporal feature)
 Infinitive: *call* (no inherent temporal feature)
 Meaning of all these: $\lambda w \lambda t \lambda x. x$ calls in w at time t

Our principles of feature transmission under semantic binding follow (Heim 1994b) and (Heim 2005): A semantic tense P or N transmits a feature [uP]/[uN] to the time variable it binds. If the variable is an argument of a tensed verb form, the feature has to agree with the tense feature of the verb, i.e., with the verbal morphology.

We furthermore assume the conventions for semantic binding outlined in (Heim & Kratzer 1998). In particular, a phrase or operator α may bind a variable via a λ -operator. In addition to quantifier raising (QR), λ -abstracts are created by PRO- and WH-movement. As said above, our theory makes crucial use of PRO-movement, as can be seen by comparing the deep structure (DS) and logical form (LF) of a toy sentence in Figures 10 and 11 on the following page.

First, a note to the percolation of tense features. Features percolate along the

[16] Imperfective verbs must be licensed by a semantic imperfective operator, but this operator is not subcategorised by “budet” directly.

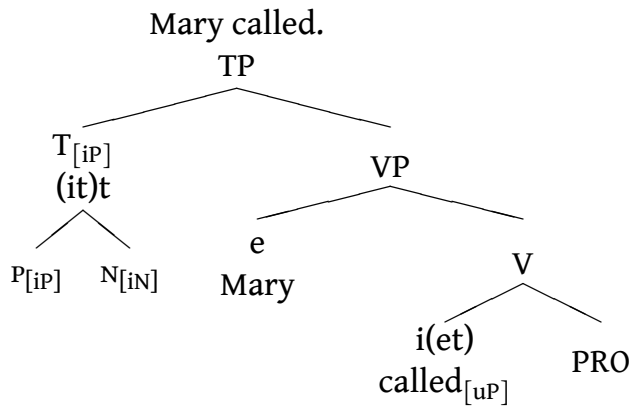


FIGURE 10: DS (not interpretable)

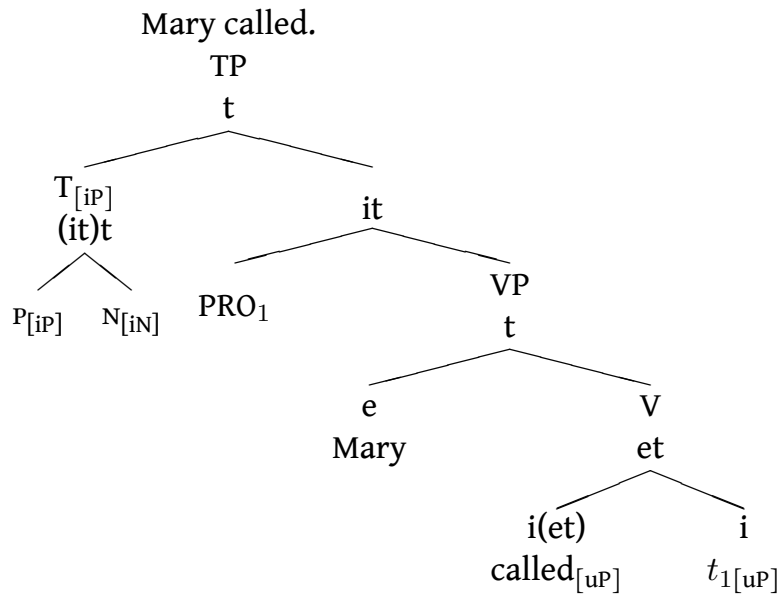


FIGURE 11: LF (interpretable)

head line. The feature of a temporal variable either agrees with the inherent feature of the head (as in finite verbs) or it is transmitted to the head (and percolates to the phrase). Since the semantic past is the head of the semantic tense [_P N], the feature [_{iP}] percolates to the phrase [_P N].

The LF in Figure 11 is created by PRO-movement: PRO is semantically void and has to be moved for type reasons. Assuming Heim & Kratzer's QR conventions, PRO leaves the variable t_1 in situ. The movement index of PRO is interpreted as the λ -operator. Given that PRO is semantically empty, it is deleted at LF by Chomsky's principle of Full Interpretation (our trees do not represent the deletion). Thus PRO_{*i*} can be read as λ_i . Note that the transmission mechanism sends the feature *iP* of the semantic past *P* to the bound variable t_1 . Here the feature locally agrees with the inherent temporal feature *uP* of *called*. Non-finite forms

have a temporal feature on their variable as well, but since they lack inherent temporal morphology, we do not need the features for licensing the morphology. We may need them instead for feature transmission to further embedded tenses.

[3.3] *Intensions*

We introduce an intensional λ -language with the following recursive definition of the interpretation function based on a function F that interprets the lexicon and a variable assignment g , $\llbracket \cdot \rrbracket_{F,g}$:

- (i) Let α be a lexical entry of type a . Then $\llbracket \alpha \rrbracket^{M,g} = F(\alpha)$.
- (ii) Let x be a variable of type a . Then $\llbracket x \rrbracket^{M,g} = \lambda w.g(x), g(x) \in D_a$.
- (iii) FA: Let α have type b and daughters β of type ab and γ of type a .
 $\llbracket \alpha \rrbracket^{M,g} = \lambda w.\llbracket \beta \rrbracket^{M,g}(w)(\llbracket \gamma \rrbracket^{M,g}(w))$ (functional application)
- (iv) IFA: Let α have type b and daughters β of type $(sa)b$ and γ of type a .
 $\llbracket \alpha \rrbracket^{M,g} = \lambda w.\llbracket \beta \rrbracket^{M,g}(w)(\llbracket \gamma \rrbracket^{M,g}(w))$ (intensional functional application)
- (v) PM: Let α have the daughters β and γ , all of type at , and let x be of type a .
 $\llbracket \alpha \rrbracket^{M,g} = \lambda w \lambda x.\llbracket \beta \rrbracket^{M,g}(w)(x) \& \llbracket \gamma \rrbracket^{M,g}(w)(x)$ (predicate modification)
- (vi) ABSTRACTION: Let x be a variable of type a and α an expression of type b .
 $\llbracket \lambda x \alpha \rrbracket^{M,g} = \lambda w \lambda u \in D_a.\llbracket \alpha \rrbracket^{M,g[x/u]}(w)$

[3.4] *Tense under Attitudes*

Attitudes are verbal quantifiers and quantify over worlds and times (and individuals, neglected here). We repeat the core semantics here in the style of (Lewis 1979):

- (44) $\llbracket \text{believe}_{(s(it))(i,et)} \rrbracket = \lambda w \lambda P_{s(it)} \lambda t \lambda y. (\forall w_1)(\forall t_1)[(w_1, t_1) \text{ is compatible with everything } y \text{ believes of } (w, t) \text{ in } w \text{ at time } t \rightarrow P(w_1)(t_1)]$

Hence complements must be properties of time, type $s(it)$. The properties are generated by assuming a temporal PRO (or TPRO) as the highest semantic tense (“zero-tense”). PRO has to be moved for type reasons and thus creates a temporal abstract. This follows from the logical type of the attitude verb. Details aside, the analysis follows Kratzer (1998).

Verbs of speech (“say”, “tell”) and verbs of thought (“think”, “believe”) follow this scheme. The same also holds for factive verbs (“know”, “understand”), which have an additional factive presupposition that the complement is true. We will say more about their semantics in section [4.3]. Control verbs like “promise” or “convince” behave similarly with the additional proviso that we find a covert relative future in non-finite complements:

- (45) a. John promised Jane he would vote for Obama.
 b. John promised Jane to vote for Obama.
 c. John convinced Jane to vote for Obama.

The sentence in (45a) has an explicit relative future (“would”) in the complement. Since (45b) means the same, we must assume a covert future *FUTURE* in the complement of the latter. (45c) is analysed analogously to (45b), i.e., with a covert *FUTURE* as well. Control verbs are rarely discussed in the *SOT* literature, so we give the relevant lexical entries here for the interested reader:

- (46) a. *promise* with finite complement:¹⁷
 $\lambda w \lambda P_{s(i(et))} \lambda x \lambda y \lambda t. (\forall w_1) [w_1 \in \text{Acc}(y, w, t) \rightarrow P(y)(w_1)(t)]$
 b. *convince* (object control):¹⁸
 $\lambda w \lambda P_{s(i(et))} \lambda x \lambda y \lambda t. (\forall w_1) [w_1 \in \text{Acc}(x, w, t) \rightarrow P(x)(w_1)(t)]$

These are the LFs for the sentences in (45):

- (47) a. $N \lambda_1 P(t_1) \lambda_2 \text{John promised}(t_2) \text{Jane} \lambda_4 \text{HE} \lambda_6 \text{would}(t_4) \lambda_5 x_6 \text{vote}(t_5)$
 for Obama.
 b. $N \lambda_1 P(t_1) \lambda_2 \text{John promised}(t_2) \text{Jane PRO} \lambda_4 \text{PRO} \lambda_6 \text{FUT}(t_4) \lambda_5 x_6 \text{to}$
 vote(t_5) for Obama.
 c. $N \lambda_1 P(t_1) \lambda_2 \text{John convinced}(t_2) \text{Jane PRO} \lambda_4 \text{PRO} \lambda_6 \text{FUT}(t_4) \lambda_5 x_6 \text{to}$
 vote(t_5) for Obama.

The HE in (47a) is a *de se* pronoun. Like PRO it is semantically void and has to be moved for type reasons.¹⁹ This gives a parallel analysis for finite and non-finite complements, a desideratum pronounced in (Katz 2002).

English attitudes

Thus, attitude verbs are verbal quantifiers. The *SOT* parameter says that these verbs in English transmit their temporal features under binding to the temporal variable in the clausal complement.

Here are the relevant LFs:

- (48) At 5 o'clock Mary thought it was 6 o'clock.²⁰

The temporal variable of the subordinate “was” inherits its feature from the

[17] The formula ignores the fact that the subject (y) addresses the indirect object (x).

[18] The causative component of *convince* is ignored here, hence the rule does not make explicit that the subject (y) exercees pressure on the object (x).

[19] The *de re* case with mistaken identity has to be analysed differently, say, with the method of structured propositions; see e.g. (von Stechow & Cresswell 1982).

[20] Identity ($t_1 = 6$ o'clock) is transcendental, i.e., not dependent on worlds. Therefore the abstraction over worlds (λw_1) applies vacuously in Figure 12 on the next page.

$$\begin{array}{cccc}
N \lambda_0 P(t_0) \lambda_1 t_1 \text{ at } 5 & \text{Mary thought}(t_1) & \text{PRO } \lambda_4 t_4 \lambda_2 \text{ was}(t_2) & \lambda_3 t_3 \text{ at } 6 \\
\text{iP} & & \text{uP} & \text{uP}
\end{array}$$

$$= \lambda w. (\exists t < s^*) [t = 5 \text{ o'clock} \& \text{Mary thinks in } w \text{ at } t [\lambda w_1 \lambda t_1. t_1 = 6 \text{ o'clock}]]$$

FIGURE 12: “Past under past” in English (simultaneous)

matrix P via feature transmission through “thought”, cf. Figure 12. The temporal adverb at “5 o’clock” means $\lambda w \lambda t. t$ is 5 o’clock. It is composed with the VP by Predicate Modification; for details, see section [3.3] above.

Next, in Figure 13, we analyse the shifted reading.

(49) Mary thought Bill left.

$$\begin{array}{cccc}
N \lambda_0 P(t_0) \lambda_1 \text{ Mary thought}(t_1) & \text{PRO } \lambda_2 P(t_2) \lambda_3 \text{ Bill left}(t_3) \\
\text{iP} & \text{uP} & \text{iP} & \text{uP}
\end{array}$$

$$= \lambda w. (\exists t_1 < s^*) \text{ Mary thinks in } w \text{ at } t_1 [\lambda w_1 \lambda t_2. (\exists t_3 < t_2) \text{ Bill leaves in } w_1 \text{ at } t_3]$$

FIGURE 13: “Past under past” in English (anterior)

The complement contains its own relative past that checks the uP of the past verb form “left”. Hence we get the shifted interpretation.²¹

Russian Attitudes

The Russian verbal quantifier *BUDET* and verbs of attitudes do not transmit temporal features. This is what the SOT parameter says for non-SOT languages.

The relative *PRESENT* plays an important role in Russian complements:

(50) Russian Present

$$[\text{PRES}_{\text{Rus}}] = \lambda w \lambda t \lambda P_{\text{it}}. P(t) \quad \text{feature iN}$$

Semantically PRES_{Rus} is identity, i.e., void. The trivial operator merely serves the purpose to assign the feature uN to the temporal variable it binds. This is the *PRESENT* analysis for non-SOT languages of Ogihara (1996).²²

PRES_{Rus} has the same semantics as the copula (e.g. English *IS* or Russian *BYL*). Therefore it is natural to assume that the Russian (covert) present copula has the feature iN and the Russian past copula has the feature iP. Accordingly, the Russian copulas always have two features, i.e., uN/iN and uP/iP. The u-feature marks the morphology and the i-feature marks the fact that the copula is a verbal quantifier. In a way, this is equivalent to saying that the Russian copula does not block feature

[21] A remark to the notation in Figures 12 and 13: “Mary thinks in w at $t [\lambda w_1 \lambda t_1. P(w_1)(t_1)]$ ” is, of course, equivalent with the notation used elsewhere in this paper: $(\forall w_1, t_1) \in \text{DOX}_{\text{Mary}}(w, t) \rightarrow P(w_1)(t_1)$.

[22] Ogihara’s PRES_{jap} is $\lambda w \lambda t \lambda P_{\text{it}}. (\exists t_1) [t_1 = t \& P(t_1)]$. This is equivalent to our formulation.

transmission. In our examples, the feature assignment by copulas plays no role and is ignored.

English-type languages seem to lack a relative PRES_{RUS} of the Russian kind, otherwise we cannot explain the impossibility in English of “present under past” with a simultaneous, dependent interpretation (cf. example (1) above):

- (51) He said that he lives outside Moscow.
 *simultaneous, dependent interpretation. (only “double access”)

In addition to PRES_{RUS}, Russian has the deictic present N, which also checks the feature uN. In complement clauses, N is ruled out for type reasons. Therefore, the temporal argument of PRES_{RUS} at DS is always PRO.

- (52) Vanja skazal_{PAST-PF}, čto Maša v opere.
 (lit.) John said that Mary is in the opera.

$$\begin{array}{ccccccc} \text{N } \lambda_1 \text{P}(t_1) \lambda_2 \text{ John said}(t_2) \text{ PRO } \lambda_3 \text{ PRES}_{\text{RUS}}(t_3) \lambda_4 \text{ IS}(t_4) \lambda_5 \text{ Mary in opera}(t_5) \\ \text{iP} & & \text{uP} & & \text{iN} & & \text{uN} \end{array}$$

$$\lambda w. (\exists t < s^*) \text{ John says in } w \text{ at } t [\lambda w_1 \lambda t_1. \text{ Mary be in the opera in } w_1 \text{ at } t_1]$$

FIGURE 14: “Present under past” in Russian (simultaneous)

The morphological present of the (silent) copula is locally licensed by PRES_{RUS} in (52). Consider now the anteriority construction in (53) below. Since Russian is a non-SOT-language, the verbal quantifier “skazal” (“said”) does not transmit its feature uP. Therefore we need an additional P in the complement, which gives us the backward shifting.

- (53) Vanja skazal_{PAST-PF}, čto Maša byla_{PAST-IMPF} v opere.
 (lit.) John said that Mary was in the opera.

$$\begin{array}{ccccccc} \text{N } \lambda_1 \text{P}(t_1) \lambda_2 \text{ John said}(t_2) \text{ PRO } \lambda_3 \text{P}(t_3) \lambda_4 \text{ was}(t_4) \lambda_5 \text{ Mary in opera}(t_5) \\ \text{iP} & & \text{uP} & & \text{iP} & & \text{uP} \end{array}$$

$$\lambda w. (\exists t < s^*) \text{ J. says in } w \text{ at } t [\lambda w_1 \lambda t_1. (\exists t_2 < t_1) \text{ M. be in the opera in } w_1 \text{ at } t_2]$$

FIGURE 15: “Past under past” in Russian (anterior)

[3.5] Insertion of covert past

As shown in (von Stechow 2005), we must allow for the insertion of covert future operators in modal contexts. We have seen in section [2.3] above that this can also be the case in the complements of intensional attitude verbs. To a certain extent, we must make a similar allowance for covert past operators. As argued in

(Paslawska & von Stechow 2003) and (Grønn 2007), we need a covert relative past operator in a language like Russian which lacks a composite perfect. We can insert a RELATIVE PAST under past or future to obtain a semantic PLUPERFECT or FUTURE PERFECT. An illustration from subordinate tense is provided below, cf. example (54) and Figure 16.

- (54) I my nadeemsja_{PRES} na to, čto uže do prazdnika každyj veteran polučit_{FUT-PF} svoj order. (Internet)
 ‘We hope that already before the anniversary each veteran will have received his warranty for living accommodation.’ (*our translation*)

N nadeemsja, čto Ø-tense FUT PAST uže do prazdnika polučit (Russian)

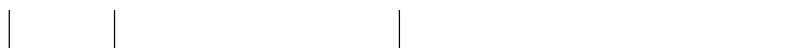


FIGURE 16: Insertion of covert relative past in Russian complements

How do we know that we have to insert a covert PAST in this construction? The particle *uže* (“already”) requires a stative as evidenced by the following contrast in English:

- (55) Every veteran will already *receive/OK have received warranty.

The perfect HAVE converts the achievement “receive warranty” into a stative. Without the perfect the sentence is ungrammatical.

[4] CHALLENGES TO RUSSIAN AS A NON-SOT LANGUAGE

According to the SOT parameter, “past under past” in Russian should give us a shifted anteriority reading. Claims in the literature to the contrary – i.e., that “past under past” in Russian sometimes allows for a simultaneous interpretation – at first seem to challenge our theory. We will show that three kinds of explanations in defence of the SOT parameter are available depending on the data under discussion:

- It follows from our semantics of aspect that complements which carry imperfective aspect may still be compatible with a simultaneous event interpretation despite the topic time in the complement being backward shifted. Hence these cases are not in contradiction with the SOT parameter.
- The matrix is not a verbal quantifier, hence not subject to the SOT parameter.

- The past tense complement has an independent *de re* interpretation, hence not subject to the SOT parameter.

[4.1] *Shifting under attitudes and aspect in Russian*

Altshuler (2008) objects against the traditional view that “past under past” means backward shifting in non-SOT languages like Russian. He says that embedded imperfectives in the past can have a simultaneous or a backward shifted reading. Embedded perfectives are always anterior.

To simplify the exposition, we have not given a semantic analysis of aspect so far. The fact that we can have a kind of “simultaneity” with “past under past” in Russian if the embedded verb is imperfective is straightforwardly explained by considering the meaning of the imperfective.

(56) Aspect

a. Imperfective

$$\llbracket \text{IMPF} \rrbracket = \lambda w \lambda E_{vt} \lambda t. (\exists e)[E(e) \& t \subseteq \tau(e)] \quad \text{type (vt, it)}$$

b. Perfective

$$\llbracket \text{PF} \rrbracket = \lambda w \lambda E_{vt} \lambda t. (\exists e)[E(e) \& \tau(e) \subseteq t] \quad \text{type (vt, it)}$$

We use E for properties of events. $\tau(e)$ is the running time of the event e . The meaning of the imperfective is crudely simplified, but good enough for our purposes.²³

Here are some examples of the kind which motivated Altshuler’s objections to the treatment of Russian as a non-SOT language:

- (57) E Harris said that, to himself, it was always a mystery how people managed to get sick at sea. (Jerome K. Jerome, “Three Men in a Boat”)
 R Garris skazal_{PAST-PF}, čto lično dlja nego vseгда bylo_{PAST-IMPF} zagadkoj, kak éto ljudi uchitrjajutsja_{PRES-IMPF} stradat’_{INF} morskoy bolezni’ju.
- (58) E Poor fellow, I thought my own trouble was bad enough, but his ... (Bram Stoker, Dracula)
 R Bednyj malyj, ja dumal_{PAST-IMPF}, čto moe sobstvennoe gore bylo_{PAST-IMPF} dostatočno veliko, no ego!
- (59) R S magistratskoj bašni primetili_{PAST-PF} tol’ko časovye, čto potjanu-

[23] The imperfective has at least three different uses:

- Progressivity: this interpretation needs an intensionalisation in the style of (Dowty 1979).
- Habituality; for recent proposals, see (Bary 2009) and (Deo 2006).
- For Russian, one also has to consider the general-factual interpretation, see (Grønn 2003).

It is a matter of dispute whether a unified account can be given for all these readings.

las'_{PAST-PF} čast' vozov za les; no podumali_{PAST-PF}, čto kozaki gotovilis'_{PAST-IMPF} sdelat'_{INF} zasadu; tože dumal_{PAST-IMPF} i francuzskij inženjer. (Nikolaj Gogol', "Taras Bul'ba")

- E From the tower of the town hall the sentinel only perceived that a part of the waggon had been dragged into the forest; but it was thought that the Cossacks were preparing an ambush – a view taken by the French engineer also.

In the examples above, we have “past under past”, but the imperfective state in the complement clearly holds *before*, *at* and, perhaps, *after* the matrix event. This allows for an analysis where the topic time of the complement (a proper subinterval of the (progressive) state) precedes the topic time of the matrix. We show how this works by giving an analysis of the last example above:²⁴

- (60) podumali_{PAST-PF}, čto kozaki gotovilis'_{PAST-IMPF} sdelat'_{INF} zasadu
(it was thought that the Cossacks were preparing an ambush)
 $N \lambda_0 P(t_0) \lambda_1 \text{podumali}(t_1) \text{PRO}_2 P(t_2) \lambda_4 \text{IMPF}(t_4) \lambda_5 \text{gotovilis'}(t_5)$
 $= \lambda w. (\exists t < s^*) \text{they thought in } w \text{ at } t [\lambda t_1 \lambda w_1. (\exists t_2 < t_1) (\exists e) [t_2 \subseteq \tau(e) \ \& \ e$
is preparing of an ambush in $w_1]]]$

We have backward shifting in the embedded clause. But since the VP expresses a progressive state and the topic time is in the time of the state, the state might continue at the “subjective now” t_1 . This gives us the feeling that the reading is simultaneous. This is a point stressed emphatically in (Klein 1994).

Note that according to our theory, the past progressive in the English translation (58E) can, strictly speaking, also get its simultaneous reading – in terms of temporal overlap between the matrix and complement events – through a backward shifted topic time, as in Russian. As formulated above in section [1.1], our SOT parameter does *not require* long-distance feature transmission for English, hence it does *not* by itself *block* the insertion of a local semantic past in the complement. Our theory does not say where the semantic tense is located at LF.²⁵ The two simultaneous readings for English obtained through non-local or local agreement are indeed hard to distinguish. For Russian, on the other hand, the SOT parameter forces local binding from a semantic PAST in the complement.

As pointed out by a reviewer, temporal feature transmission from the matrix forces a simultaneous interpretation for the English sentence (58E), while the proposed truth conditions for (58R) do not. We think that this is as it should be. Indeed, although (58E) is an adequate translation of (58R), the two constructions are not completely equivalent. While the English translation (in principle)

[24] Recall from section [3] that PRO_i can be read as λ_i . The official notation would have an erased PRO and λ_i . Often we simply write λ_i .

[25] In our system, feature transmission is not optional, but there may be different possible licensors.

allows for two different tense configurations (cf. previous paragraph), the Russian original (in principle) allows for two different aspectual configurations. As argued in (Grønn 2007), the so-called “factual” imperfective past in Russian (i.e., IMPF with a complete event interpretation) is, again in principle, i.e., semantically, compatible with a backshifted relative past configuration. However, due to competition from the perfective past, which explicitly encodes a proper backward shifted reading under attitudes, the imperfective is pragmatically strengthened to encode a simultaneous (progressive) reading.

Thus, if the embedded past VP in Russian is in the perfective aspect, we always have the anterior reading. This was confirmed by our survey of the data in section [2]. We give the analysis of one example here:

- (61) E I’ve told them I’ve found someone.
(Helen Fielding, “Bridget Jones’s Diary”)
R Ja uže skazala_{PAST-PF} im, čto našla_{PAST-PF} koj-kogo.
- (62) $N \lambda_0 P(t_0) \lambda_1$ ja skazala (t_1) PRO₂ $P(t_2) \lambda_4$ PF $(t_4) \lambda_6$ našla koj-kogo (t_6)
= $\lambda w (\exists t < s^*)$ I tell in w at $t [\lambda t_1 \lambda w_1. (\exists t_2 < t_1) (\exists e) [\tau(e) \subseteq t_2 \&$
I find someone (e) in $w_1]]$

It is clear that the reading has to be anterior because the backward shifted interval contains a complete or “quantised” event. A property of events is “quantised” if it does not apply to subintervals of its running time.

[4.2] *Tense under perception verbs in Russian*

Not every verb that selects a CP is a verbal quantifier. Perception verbs are not verbal quantifiers in their prototypical use; hence we should not be surprised to find “past under past” with a simultaneous interpretation in Russian. Nevertheless, constructions with perception verbs often follow the familiar patterns predicted by the SOT parameter. We will review the different data below.

Simultaneous interpretation under past perception verbs: “past under past”

Khomitsevich (2007) observes that “past under past” frequently expresses simultaneity in perception constructions even for embedded achievements or accomplishments. She correctly claims that this is an effect of the semantics: on the default, direct perception reading, the fact/event perceived must be simultaneous with the perception. In this construction, the complementiser in Russian is typically “kak” (“how”) instead of “čto” (“that”). Here are some examples from our parallel corpora:

- (63) N Han så_{PAST} tuppen av en pisk som falt_{PAST} mot Valéries kropp, og han hørte_{PAST} at mannen roste_{PAST} det stygge trynet hennes.
(Nikolaj Frobenius, “Latours katalog”)

- E He saw the whip descending on Valérie's body and heard the man extolling her ugly face.
- G Nun ließ_{PAST} der Mann die Peitsche auf Valéries Körper herabsausen_{INF}, und Latour hörte_{PAST}, wie er dabei unablässig ihr häßliches Gesicht lobte_{PAST}.
- F Il vit_{PAST-PF} l'extrémité d'un fouet s'abattre_{INF} sur le corps de Valérie et entendit_{PAST-PF} la voix de l'homme qui louait_{PAST-IMPF} son affreux groin.
- R Iz-pod krovati Latur videl_{PAST-IMPF}, kak pletka opuskalas'_{PAST-IMPF} na telo Valeri, i slyšal_{PAST-IMPF}, kak mužčina voschiščalsja_{PAST-IMPF} ee ne-krasivym licom.
- (64) N Til og med da han så_{PAST} at hun red_{PAST} ut av gården, kunne_{PAST-MODAL} han ha_{INF-AUX} gjort_{PART} det. (Herbjørg Wassmo, "Dinas bok")
- E Even when he saw her riding out of the courtyard, he could have done it.
- G Sogar als er sah_{PAST}, daß sie fortritt_{PAST}, hätte_{PAST-SUBJ-AUX} er noch etwas tun_{INF} können_{PAST-SUBJ-MODAL}.
- F Même quand il la vit_{PAST-PF} partir_{INF}, il avait_{PAST-IMPF} encore une chance.
- R Nakonec on uvidel_{PAST-PF}, kak ona vyechala_{PAST-PF} so dvora, no daže togda ešče možno bylo_{PAST-IMPF} ostanovit'_{INF} ee.
- (65) N Det siste han kjente_{PAST} var_{PAST} at mannen fjernet_{PAST} papirene fra frakkelommen hans. (Nikolaj Frobenius, "Latours katalog")
- E His last conscious perception was of the man removing the papers from his coat pocket.
- G Das letzte, was er spürte_{PAST}, war_{PAST}, daß ihm der Mann etwas aus der Jackentasche zog_{PAST}.
- F La dernière chose qu'il sentit_{PAST-PF} était_{PAST-IMPF} que l'homme extrayait_{PAST-IMPF} les papiers de la poche de sa redingote.
- R I počuvstvoval_{PAST-PF}, kak neznakomec vytaščil_{PAST-PF} u nego iz karmana dokumenty.

Simultaneous interpretation under past perception verbs: "present under past"

With a "present under past" in Russian, the perception verb construction is reminiscent of verbs of attitudes. The perspective is not that of the speaker, but of the perception holder, hence we get a kind of evidential reading.

- (66) N Men han så_{PAST} at hun ikke var_{PAST} helt seg selv. (Herbjørg Wassmo, "Dinas bok")
- E But he saw that she was not completely herself.
- G Aber er sah_{PAST}, daß sie nicht ganz sie selbst war_{PAST}.

- F Mais il vit_{PAST-PF} bien qu'elle n'était_{PAST-IMPf} pas tout à fait elle-même.
 R No on videl_{PAST-IMPf}, čto ona sovsem ne takaja, kak vseгда.

Note also that the distinction between perception verbs and factives is sometimes very subtle. Evidence for knowing can be visual or acoustic. The Russian translator in (66R) below can therefore use a perception verb to convey the meaning of the factive verb in the original:

- (67) N Bou-Bou visste_{PAST} at han løy_{PAST}.
 (Nikolaj Frobenius, "Latours katalog")
 E Bou-Bou knew he was lying.
 G Doch Bou-Bou wußte_{PAST}, daß er log_{PAST}.
 R Bu-Bu videla_{PAST-IMPf}, čto on lžet_{PRES-IMPf}.

The evidence for him being a liar in (66R) can be indirect. Constructions with perception verbs are therefore often ambiguous between direct perception and indirect perception.

In analogy with complements of attitude verbs, we find the expected complementiser "čto" ("that") in the two previous Russian examples. The facts are more complicated though, as witnessed by the next example:

- (68) N De hørte_{PAST} at hun gikk_{PAST} ute og inne.
 (Herbjørg Wassmo, "Dinas bok")
 E They heard her pacing outside and inside.
 G Man hørte_{PAST} sie drinnen und draußen herumlaufen_{INF}.
 F On l'entendait_{PAST-IMPf} aller_{INF} et venir_{INF}.
 R Ljudi slyšali_{PAST-IMPf}, kak ona to vychodit_{PRES-IMPf} iz domu, to snova vozvraščaetsja_{PRES-IMPf} v dom.

In (68), only the Norwegian original ("past under past") and the Russian translation ("present under past") have a finite complement clause. With the non-finite complements in the English, German and French translations, the perception construction can only have a direct perception reading. The Russian complementiser "kak – how/as" – instead of "čto – that" – is also an indication of direct perception. Given a Higginbotham style analysis of perception verbs (see below), one would expect a "past under past" construction also in Russian. The translator's choice of "present under past" makes the construction more "vivid" and similar to attitude verbs: the complement is reported from the perspective (acoustic alternatives) of the perception holder.

Analysis of tense under perception verbs

Thus, perception verbs express simultaneity either by embedding a past or a present. If these verbs were analysed like attitudes, present would be expected, with

a sort of evidential reading. If past and present were freely interchangeable in these constructions without a change in meaning, then that would be a problem. We suggest that the alternation may to some extent reflect an ambiguity between direct perception from the speaker's perspective (\Rightarrow "past under past") and visual/acoustic alternatives from the perception holder's perspective (\Rightarrow "present under past").

Our analysis of direct perception closely follows (Higginbotham 1983).²⁶ Higginbotham analyses perceptions as a relation between an individual and an event, the eventive reading. The analysis will entail that these verbs are (normally) not verbal quantifiers and hence not subject to the SOT parameter. Let us relate the discussion to a toy example from Altshuler (2004):

- (69) a. Dina videla_{PAST-IMP}, kak (čto) voda lilas'_{PAST-IMP} iz vedra.
 'Dina saw how (that) water was pouring [poured] from the basket'
 b. Dina videla_{PAST-IMP}, čto (kak) voda l'ětsja_{PRES-IMP} iz vedra.
 'Dina saw that (how) water was pouring [pours] from the basket'

The complement in (69a) describes an event and may, of course, localise it in time. We expect a *de re* past in the complement, given that the truth-condition of (69a) is something like this:

- (70) There was a water pouring e & Dina saw e .

On this account, it is obvious that "see" is not a (normal) verbal quantifier, at least when the verb is used to denote direct perception. This analysis of the construction has interesting consequences for the semantics of aspect. Here is the result we want for (69a) (in Altshuler's Russian example the perception verb itself is also in the imperfective aspect):

- (71) $\lambda w(\exists e)(\exists t < s^*)[t \subseteq \tau(e) \ \& \ \text{water pouring}_w(e)]$
 $\& (\exists t_1 < s^*)(\exists e_1)[t_1 \subseteq \tau(e_1) \ \& \ \text{see}_w(\text{Dina}, e_1, e)]$

We have two independent deictic pasts, so no temporal agreement is needed. Furthermore, the existential quantifier on top binds the variable e that occurs as an argument of the aspect in the subordinate clause and as the direct object of the matrix verb. This means that the event variable in the aspect is not always locally bound by an existential quantifier. Accordingly, we have to modify the logical type of the aspectual operator:

- (72) Aspect
 a. usually: $\llbracket \text{IMP} \rrbracket = \lambda w \lambda E_{vt} \lambda t. (\exists e)[E(e) \ \& \ t \subseteq \tau(e)]$ type (vt, it)

[26] Factive verbs have a related analysis but exhibit an additional complication and are therefore considered later.

- here: $\llbracket \text{IMPF} \rrbracket = \lambda w \lambda e \lambda t \lambda E_{vt}. E(e) \ \& \ t \subseteq \tau(e)$ type $(v(i(vt,t)))$
 b. usually: $\llbracket \text{PF} \rrbracket = \lambda w \lambda E_{vt} \lambda t. (\exists e)[E(e) \ \& \ \tau(e) \subseteq t]$ type (vt, it)
 here: $\llbracket \text{PF} \rrbracket = \lambda w \lambda e \lambda t \lambda E_{vt}. E(e) \ \& \ \tau(e) \subseteq t$ type $(v(i(vt,t)))$

We can regain the familiar existential analysis for aspect by existential closure of the variable e .

The complement clause is headed by “kak” (“how”), here analysed as an existential quantifier over events, as in (73). The compositional build up of the LF for the complement clause is depicted in Figure 17.

- (73) $\llbracket \text{kak} \rrbracket = \lambda P_{vt} \lambda Q_{vt} (\exists e)[P(e) \ \& \ Q(e)]$ type $(vt(vt,t))$

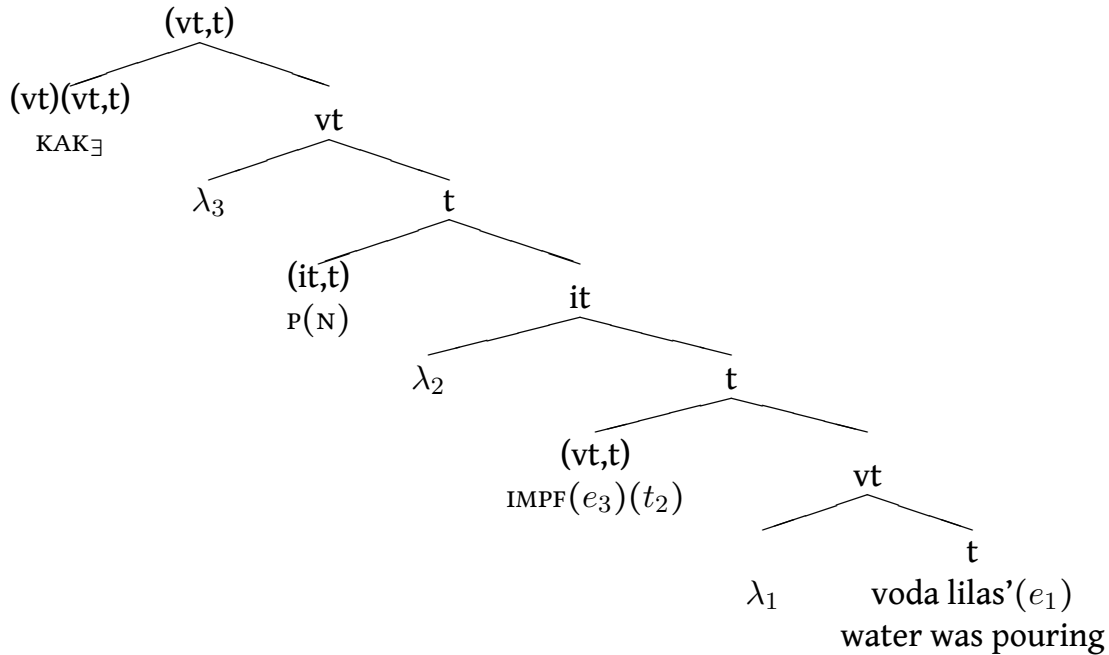


FIGURE 17: Compositional derivation of the past complement in (69a)

The “kak”-clause is the object of the perception verb *videla*¹, which has the following semantics:

- (74) $\llbracket \text{videla}^1 \rrbracket = \lambda w \lambda e_1 \lambda e_2 \lambda x. e_2 \text{ is a seeing of } e_1 \text{ by } x \text{ in } w$ type $(v(v(et)))$
 features: uP, uIMPF

In order to be able to have the “kak/how”-clause as an object, we must QR the generalised quantifier from the object position. We end up with the LF in Figure 18 on the facing page, which eventually brings us back to the truth-conditions which we started out with in (71).

A note concerning feature transmission is in order: Temporal features are transmitted across the aspect operator to the variable that the latter binds. Thus

$$\begin{array}{c}
[\text{CP KAK}\exists \lambda_3 \text{P(N)} \lambda_2 \text{IMPF}(e_3)(t_2) \lambda_1 \text{voda lilas'}(e_1)] \\
\text{iP} \quad \text{iIMPF} \quad \text{uP} \quad \text{uP, uIMPF} \\
\\
\lambda_4[\text{S P(N)} \lambda_5(\exists_6) \text{IMPF}(e_6)(t_5) \lambda_7 \text{Dina videla}(e_4)(e_7)] \\
\text{iP} \quad \text{iIMPF} \quad \text{uP} \quad \text{uP, uIMPF}
\end{array}$$

FIGURE 18: LF of (69a) with temporal and aspectual features

the aspect operator transmits two kinds of features: its own aspect feature and the temporal feature inherited from the semantic tense of the sentence.

This analysis explains the fact that “past under past” may express simultaneity, i.e., direct perception, in perception constructions. Let us now turn to “present under past” and example (69b).

Indirect perception verbs are verbal quantifiers. Their analysis is similar to believing or knowing. The possible difference is that the attitude is based on visual, acoustic or other sensomotoric evidence. For instance, for the truth of (69b) it is sufficient to see that the desk under the basket gets more and more wet. In the limiting case the evidence is direct, in which case the “seeing that” is something like realizing by direct visual evidence. There might be a *de re* variant as well, similar to our *de re* analysis of factive verbs (See section [4.3] below).²⁷

Thus, since perception verbs with subordinate present are verbal quantifiers, they have the standard semantic assumed for attitudes. For concreteness, we indicate the lexical entry for *videla* in (69b):

$$(75) \quad \llbracket \text{videla}^2 \rrbracket = \lambda w \lambda P_{s(\text{it})} \lambda t \lambda x. (\forall w_1) (\forall t_1) [(w_1, t_1) \in \text{Acc}_x(w, t) \rightarrow P(w_1)(t_1)],$$

where $\text{Acc}_x(w, t)$ are the world-times compatible with the visual evidence that x has in w at time t .

We assume that “kak/čto” is a complementiser without meaning in constructions involving these verbs. Under these assumptions, (69b) is analysed exactly as any belief-sentence and means:²⁸

[27] The relevant paraphrase for the double access reading of “present under past” is this: “There is a state s of water pouring and she saw s ”. A present state of water pouring may have had its beginning some time ago, and she saw that very state in the past. This is precisely the idea behind the double access reading of “John believed that Mary is pregnant.”, cf. (Abusch 1997).

[28] We ignore the event arguments and aspects in (76). Concerning tense, we repeat from above what should be clear by now: Since the complement clause is tenseless, it has to be controlled by the matrix tense, hence we have dependent tense and the *soT* parameter applies. As we did for present tense complements under normal attitude verbs in Russian, we must insert the identity function PRES_{RUS} in order to license the present tense morphology in the complement.

- (76) $\llbracket (69b) \rrbracket = \lambda w. (\exists t)[t < t_0 \ \& \ (\forall w_1)(\forall t_1)[(w_1, t_1) \in \text{Acc}_{\text{Dina}}(w, t) \rightarrow \text{water}$
 is pouring out of the basket in w_1 at t_1]]

If the cognitive evidence is reliable, the complement of a perception verb is true and there is virtually no difference in truth conditions between the direct and indirect perception construction. This is witnessed by the fact that both constructions can be conjoined, i.e., we find alternation between “past over past” and “past over present”, as in (77):

- (77) R Ona gljadela_{PAST-IMPf}, kak sizye kol’ca ot sigary Azarello
 uplyvali_{PAST-IMPf} v kamin i kak kot lovit_{PRES-IMPf} ich na konec špagi.
 (Michail Bulgakov, “Master i Margarita”)
 E She watched as Azarello blew (Rus: past!) smoke-rings at the fire-
 place and the cat spiked (Rus: present!) them on the end of his sword.
 N Hun så_{PAST} på Azazello, som sendte_{PAST} ringer av sigarrøk inn i peisen,
 og på katten, som fanget_{PAST} dem opp med kordespissen.

[4.3] *Tense under factive verbs*

Our informal corpus study in section [2] shows that many authentic examples with factives comply with the patterns characteristic of attitude verbs in Russian, i.e., “present under past” is used for a simultaneous interpretation.

However, as with perception verbs, we find data with “past under past” and a “simultaneous” interpretation also in factive constructions. We will argue that these data are not counterexamples to our SOT theory, since factives have a special semantics which is responsible for this vacillation. Here are some relevant data with “past under past” in Russian:

- (78) N Alle visste_{PAST} at lensmannsfrua var_{PAST} flere måneder på vei da hun
 ble_{PAST-AUX} skoldet_{PART} i hjel. (Herbjørg Wassmo, “Dinas bok”)
 E Everyone knew the sheriff’s wife was several months pregnant when
 she was scalded to death.
 G Alle wußten_{PAST}, daß die Lehnsfrau schon mehrere Monate schwang-
 er war_{PAST}, als sie zu Tode verbrüht_{PART} wurde_{PAST-AUX}.
 R Vse znali_{PAST-IMPf}, što žena lensmana byla_{PAST-IMPf} beremenna, kogda
 obvarilas’_{PAST-PF} ščeloč’ju.
 (79) R On ponjal_{PAST-PF}, što ona echala_{PAST-IMPf} v Ergušovo so stancii železnoj
 dorogi. (Lev Tolstoj, “Anna Karenina”)
 E He understood that she was driving to Ergushovo from the railway
 station.
 N Han skjønnte_{PAST} at hun var_{PAST} på vei til Jergusjovo fra jernbane-
 stasjonen.

- (80) R Nynče byla_{PAST-IMPF} subbota, i on znal_{PAST-IMPF}, što soderžaniem pis'ma byli_{PAST-IMPF} upreki v tom, što on ne vernulsja_{PAST-PF} vovremja. (Lev Tolstoj, "Anna Karenina")
- E Today was Saturday, and he knew that the letter contained reproaches for not being back at the time fixed.
- N I dag var_{PAST} det lørdag, og han visste_{PAST} at brevet inneholdt_{PAST} bebreidelser over at han ikke var_{PAST-AUX} kommet_{PART} hjem i rett tid.

Khomitsevich (2007) writes that embedded past and present are freely interchangeable in Russian in these constructions without change in meaning. Indeed, the difference in truth conditions may be negligible, but the derivation at LF must still be different. Note that as a first try we could naïvely adopt the same explanation for these data as for the examples discussed in section [4.1] above where a simultaneity reading occurred with imperfective past complements under attitude verbs. For those cases we pointed out that the *SOT* parameter only requires *the topic time* of the complement to precede the topic time of the matrix, hence we can still have a kind of simultaneity of *the events* described in the matrix and complement. However, this approach would not do justice to the semantics of the factive construction. Our semantics for factives will make it clear that we have an independent *de re* past in the complement of examples like (78) – (80), similar to what we observed with “past under past” and perception verbs in the previous section. Thus, we agree with Khomitsevich that “past under past” with factives is never a (non-local) tense agreement phenomenon in Russian.

Our analysis of these readings will follow Kratzer (1990)'s analysis of factual belief, according to which one of the roles of the complement clause is to describe the known fact. This will bring the complement clause in a transparent position and explain why the subordinate tense is interpreted independently from the matrix tense. In other words, the temporal locations of the two facts are described independently, which does not exclude the two facts from overlapping in time (simultaneity).

In order to understand the semantic rationale behind these findings, we remind the reader of the analysis of facts given in (Kratzer 1990). Consider the following sentence and its analysis:

- (81) John knew that it was raining.
- (82) a. There was a state/event *e*, which was a raining, and
 b. John was acquainted with *e*, and
 c. John believed of *e* the property of raining.

The complement clause is used in condition (a) and in condition (c). (a) is a purely extensional environment and the interpretation of the past tense is independent of the tense of the main clause. (c) is an intensional environment, where the com-

plement clause serves for the description of a tenseless property (a zero tense; a relative bound present in Russian).

Given that the complement clause has to fulfil two roles for getting the content right, we face a dilemma of expressibility: if the complement is in the present, the complement can describe only condition (c) correctly. If the complement is in the past, it can describe only condition (a).

In order to implement the two strategies of projecting the complement clause, we will adopt a trick: if the visible complement clause is in the past, it will describe the *res*, i.e., the event/situation the subject holds the attitude of, and the property believed of the *res* will be represented by a free property variable, which is supposed to be the tenseless counterpart of the complement. If the complement is in the present, it will be the property attributed to the *res* and the tensed counterpart will be represented by a free property variable. Now, let us see how this works with a minimal pair from Russian (cf. example (10) above):

- (83) a. On znal_{PAST-IMPF}, čto ona stojala_{PAST-IMPF} u okna.
'He knew she was standing by the window.'

The analysis is sketched in Figure 19 on the next page. The crucial points to notice are the following: We are flexible in choosing between the two versions of the aspects from (72). In the complement, we have the new version where the event argument is not locally bound, while in the matrix, aspect has its traditional logical type. In the end, the structure gives us existential closure of the event argument in both cases. The complementiser "čto" is a λ -operator (an abstraction over the event variable). We assume that Q in (83a) gets the following interpretation:

- (84) $Q = \lambda w \lambda e \exists t [\tau(e) \supset t \ \& \ \text{stand_at_window}(\text{she}, e, w)]$

The relevant semantic rule is this:

- (85) $\text{de re knowledge } 1 \llbracket \text{know}_Q^1 \rrbracket = \lambda w \lambda e \lambda P_{sv,t} \lambda x. (\exists e_1) [P(w)(e_1) \ \& \ \text{acquainted}(x, e_1, w) \ \& \ \text{believe_of}(x, e, e_1, Q, w)]$

This is the version where the past in the complement denotes a tense that is independent from the matrix tense. Hence we can have simultaneity, cf. the result we obtain from computing the derivation in Figure 19 on the facing page:

- (86) $\lambda w. (\exists t < s^*) (\exists e) [\tau(e) \supset t \ \& \ (\exists e_1) (\exists t_1 < s^*) [\tau(e_1) \supset t_1 \ \& \ \text{stand_at_window}(\text{she}, e_1, w)] \ \& \ \text{acquainted}(\text{he}, e_1, w) \ \& \ \text{believes_of}(\text{he}, e, e_1, Q, w)]$

The relation $\text{believes_of}(\text{he}, e, e_1, Q, w)$ can be analysed further in the style of (Lewis 1979). This is rather complicated because it involves the particular relation

$\lambda w.(\exists t < s^*)(\exists e)\tau(e) \supset t \ \& \ (\exists e_1)(\exists t_1 < s^*)$
 $\tau(e_1) \supset t_1 \ \& \text{stand_at_window}(\text{she}, e_1, w)$
 $\ \& \text{acquainted}(\text{he}, e_1, w)$
 $\ \& \text{believes_of}(\text{he}, e, e_1, Q, w)$

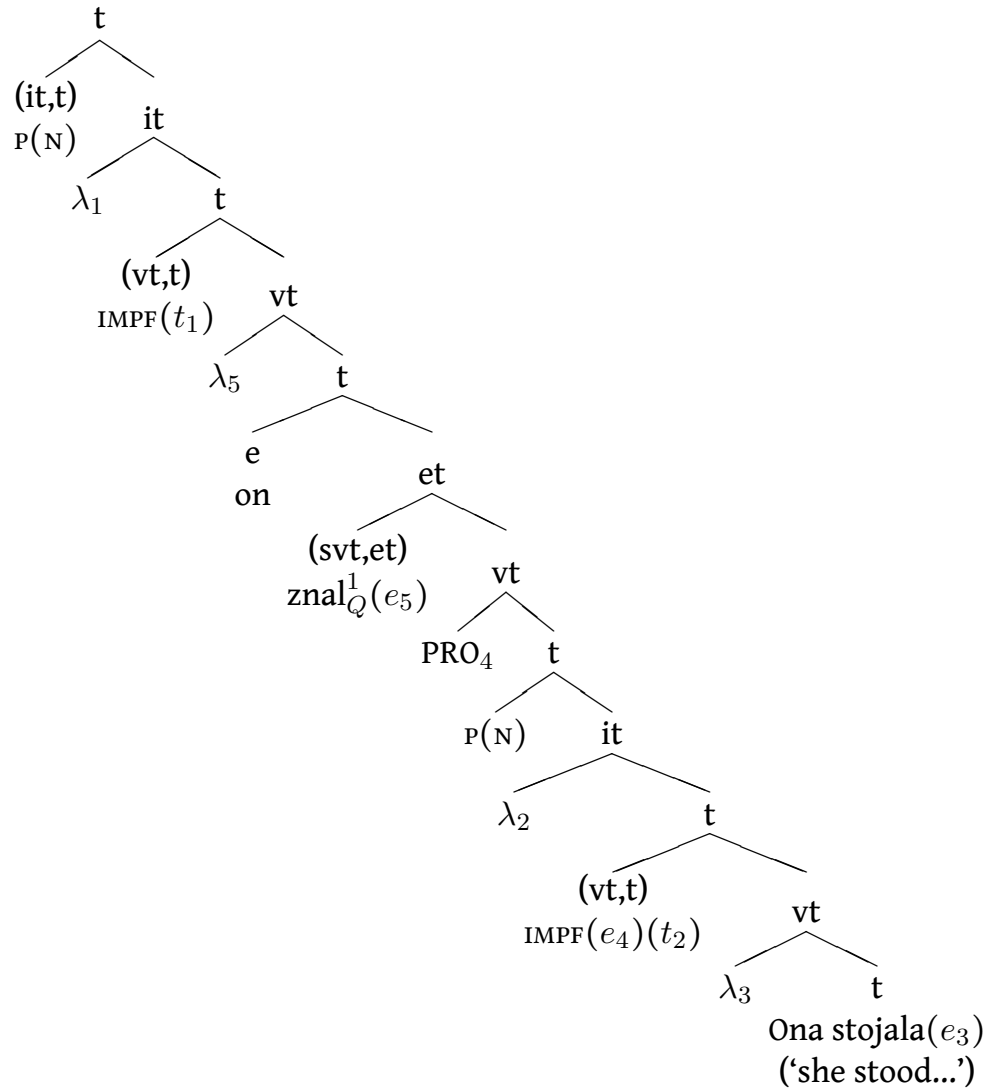


FIGURE 19: Compositional derivation of “past under past” in (83a).

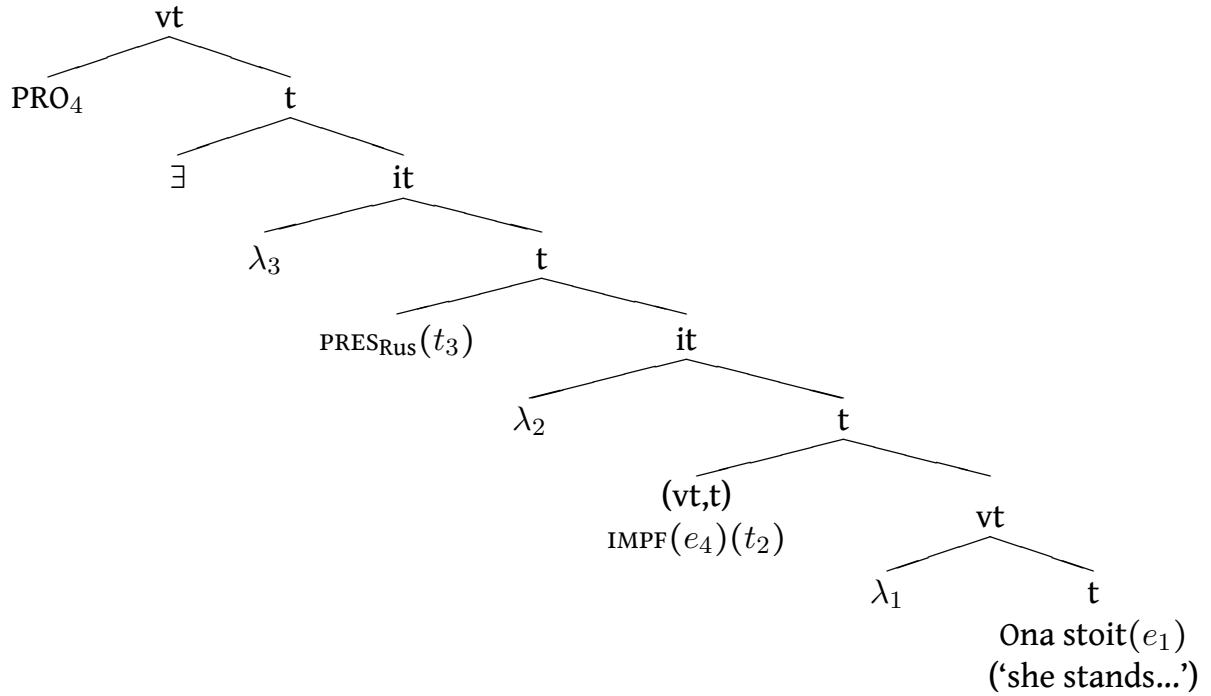


FIGURE 20: Compositional derivation of the present complement under factives

of acquaintance in question. Here it can be paraphrased roughly as “he believed being in a state of acquaintance with a situation that was a standing at the window of her”.

Next, consider the case where we have present tense in the complement clause:

- (87) a. On znal_{PAST-IMPF}, čto ona stoit_{PRES-IMPF} u okna.

The upper part of the LF tree is exactly as before, but the complement clause is in the present. Thus, the complement depicted in Figure 20 is the overt version of our former property Q . We now need a new rule where Q plays the role of the past tensed counterpart of this property:

- (88) $de\ re\ knowledge\ 2\ [\![know_Q^2]\!] = \lambda w \lambda e \lambda P_{sv,t} \lambda x. (\exists e_1)[Q(w)(e_1) \& acquainted(x, e_1, w) \& believe_of(x, e, e_1, P, w)]$

If we evaluate the LF for (87a) we find that the following proposition is expressed:

- (89) $\lambda w. (\exists t < s^*) (\exists e)[\tau(e) \supset t \& (\exists e_1)[Q(w)(e_1)] \& acquainted(he, e_1, w) \& believe_of(he, e, e_1, \lambda w_1 \lambda e_2 (\exists t_1)[\tau(e_2) \supset t_1 \& stand_at_window(she, e_2, w_1)], w)]$

By assumption, Q is the following property:

(90) $Q = \lambda w \lambda e. (\exists t < s^*) [\tau(e) \supset t \ \& \ \text{stand_at_window}(\text{she}, e, w)]$

Therefore, the proposition is the same as before, and we have an explanation of why we can express simultaneity either by “past under past” or by “present under past”.

There are of course other factive verbs than knowing, e.g., the emotive factive. We cannot go into these here. We hope that similar explanations are available. For the time being we conclude that factive verbs do not constitute counterexamples to the SOT parameter.

The SOT parameter thus provides a nice diagnostics, indicating how the constructions in question should be analysed. Given that Russian is a non-SOT language, we have been guided in section [4] by the SOT parameter in the following sense: If we have a “present under past”, the matrix is likely to act as a verbal quantifier (i.e., a kind of attitude verb). On the contrary, a “past under past” with a simultaneous reading in the strict sense of temporal overlap between the topic times of the matrix and complement is not possible in Russian on the assumption of tense dependency between the complement and the matrix. This is what the SOT parameter tells us, and our findings and analysis of perception verbs and factives with a “past under past” indeed confirm that different factors conspire to produce an independent tense interpretation in these cases.

[5] FUTURE EXTENSIONS

In the study of tense dependencies and subordinate tense, three syntactic environments are particularly interesting:

- Tense in complements
- Tense in relative clauses
- Tense in adverbial clauses

We have only dealt with complement tense in this article, but we intend to further explore the SOT parameter with respect to tense dependencies in adjuncts, both relative and adverbial clauses. This issue is less explored in the literature since adjuncts are not syntactically dependent on the matrix in terms of c-command. Indeed, adjunct tense is often independent of the matrix, hence deictic. Still, certain configurations – notably with the verbal quantifier *WILL* in English – clearly display tense dependency and tense agreement in SOT languages.

[6] SUMMARY

Below, we sum up some of our main claims and findings.

- The temporal features of finite verbs are licensed through semantic binding by a semantic tense.
- Non-local tense agreement in English complements is licensed by verbal quantifiers such as *WILL/WOULD*, *HAVE* and verbs of attitude. The feature transmission is achieved via binding chains that are created by PRO-movement.
- In Russian, no feature transmission across temporal quantifiers is possible. This fact motivates the formulation of the *SOT* parameter, according to which Russian is a non-*SOT*-language.
- There are obvious differences between the English and the Russian tense systems. Russian has no perfect auxiliary *HAVE* and may therefore require the insertion of a covert past. Another difference is the assumption of a relative *PRES_{RUS}* for Russian. English does not have such a tense. The need for this local licenser in Russian follows directly from the *SOT* parameter and the requirement that tensed forms have to be licensed by a semantic tense. In English, embedded tenses can be licensed from semantic tenses in the matrix across temporal quantifiers, but this is not possible in Russian.
- Recent objections against the view that Russian is a non-*SOT*-language are refuted by a more careful investigation of the semantics of the verbs involved. Not all verbs with complements are verbal quantifiers.
 - Verbs of perception are normally not verbal quantifiers and therefore not subject to the *SOT* parameter. The syntactic complement serves the purpose to describe the event perceived. There is no temporal subordination.
 - Factive verbs like “knowing” are more complicated. There the complement serves two purposes: (a) it describes the *res* situation, and this description is not subordinated to the main verb; (b) it describes the tenseless property ascribed to the *res*. The visible complement may relate to the (a) purpose or the (b) purpose. In the first case, the factive behaves like a perception verb and we find “past under past” for simultaneity. In the second case, the factive behaves like a verb of attitude, i.e., a verbal quantifier, and we find “present under past”.

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CONVERBS IN TRANSLATION: THE ROLE OF AKTIONSART IN THE INTERPRETATION AND TRANSLATION OF RUSSIAN CONVERB CONSTRUCTIONS INTO ENGLISH AND NORWEGIAN

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ABSTRACT

My ongoing investigation of the role of Aktionsart in the interpretation and translation of Russian sentences with converb constructions (cf. (Krave in progress)) suggests that the lexical aspect of a particular converb construction in the source data (Russian) may trigger a specific interpretation restricting the range of possible translation patterns found in the target data (i.e. English and Norwegian). For example, it was found that coordinate clauses (e.g. VP coordination – by means of the conjunction ‘og’ (‘and’) linking the main event and the event expressed by the converb) occur most frequently in the Norwegian translations of the ‘achievement’ type of converbs (including the semelfactive lexical type). This pattern is contrasted with the preference for the Norwegian construction with ‘etter’ (‘after’) followed by either a DP or a Perfect Infinitive construction – ‘å ha’ (‘to have’) + past participle – found in translations of the delimitative Aktionsart of the converb construction

[1] INTRODUCTION

Corpus research shows a relatively high frequency of converbs in Russian of the semelfactive and the delimitative Aktionsart (compared to other Aktionsarten). This article investigates Norwegian and English translations of all instances of converbs of these two semantically distinct types in our Russian-Norwegian-English corpus (the RuN corpus)¹. First of all, the aim of this detailed analysis is to provide convincing evidence that the differences in the lexical semantics of converbs of these two types do affect the translator’s interpretation of the converb

[1] Examples from the corpus are presented in the following way: on the first line is the original Russian sentence (source text), then the Norwegian or/and the English authorized translation (target text).

sentences in the source text and restrict the choice of the corresponding constructions in the target text. The second aim of this analysis is to compare the Norwegian and English translations of the same Russian constructions. Differences between the target languages can shed new light on language-specific features in English and Norwegian.

The article is structured as follows: after a brief data description in section [2], section [3] compares the Norwegian translations of the semelfactive [3.1] vs. the delimitative [3.2] type of Russian converbs, while section [4] compares the two types based on the English target data. Section [5] discusses similarities and differences between the English and Norwegian translation patterns. In section [6] we discuss the differences in the lexical aspect of delimitative vs. semelfactive converbs that underlie the different translation patterns. Summary and conclusions are presented in section [7].

[2] THE DATA

Following the classification of Russian verbs in (Zaliznjak & Šmelev 2000), the semelfactive lexical type of converbs (expressing a single occurrence of events) is marked in Russian by the suffix *-nu-*. A search for converbs with this formal marking in combination with the converb suffix *-v* (PF form) in the Russian-Norwegian-English parallel corpus (RuN) returned 164 Russian sentences and their corresponding translations in Norwegian and English. Examples of the converbs found are:

- *vzgljanuv* – ‘having glanced’ – 42 occurrences;
- *vzdohnuv* – ‘having sighed’ – 10;
- *vspyhnuv* – ‘having flushed’ – 9;
- *vzdrognu* – ‘having shuddered’ – 5;
- *povernuv* – ‘having turned’ – 4;
- *zagnuv* – ‘having bent / crooked (a finger)’ – 4;
- *kivnuv* – ‘having nodded’ – 3;
- *skinuv* – ‘having thrown down’ – 3;
- *zapahnuv* – ‘having wrapped around’ – 3;
- *mahnuv* (*rukoj*) – ‘having waved (with one’s hand)’ – 3;
- *hlopuv* – ‘having slammed’ – 2 etc.

Due to the specific semantics of semelfactive verbs, which denote a single occurrence of a momentaneous event, it is often difficult to determine whether the event expressed by the verb construction temporally overlaps with the main clause event or precedes it. It is assumed here that the meaning of the verb suffix *-v* is ‘anteriority’. However, events expressed by verbs of the semelfactive type are often interpreted as partially simultaneous with the main clause event: e.g. in the sentence *Vzdrognu, on skazal ...* – ‘Shuddering (PF), he said ...’ – the event of shuddering may be interpreted as preceding the event of saying or as simultaneous with it. This vagueness in interpretation is arguably due to the fact that prototypical semelfactives do not have well-defined “target” states.

The delimitative Aktionsart (also known in Russian aspectology as the *po-*fective) is marked by the prefix *po-* and denotes events of limited duration – e.g. events that last ‘for some time’. For example, *poguljat’* means ‘to walk for some time’. Importantly, applied to verb constructions, the meaning of ‘*po-*fectivity’ (or delimitativity) has two components: (i) the precedence relation (coming from the meaning of the verb suffix *-v*): i.e. the verb event is ended before the start of the main clause event; and (ii) the event goes on for some (explicitly specified or contextually implied) time interval (the meaning of *po-*).

Although in general, verbs marked by *po-* are numerous in the data, not all these cases can be attributed to this specific semantic interpretation (e.g. *položiv* – ‘having put’ is clearly not a *po-*fective). 49 sentences with verbs interpreted as a delimitative have been found in the corpus with their corresponding translations into English and Norwegian. Some examples of such verbs are:

- *pomolčav* – ‘having been silent for some time’ – 14 occurrences;
- *podumav* – ‘having thought for some time’ – 9;
- *pogovoriv* – ‘having talked for some time’ – 7;
- *pogljadev* – ‘having looked at something for some time’ – 5;
- *postojav* – ‘having stood for some time’ – 2;
- *pobyvav* – ‘having been (somewhere) for some time’ – 2 etc.

[3] ANALYSIS OF THE NORWEGIAN TRANSLATIONS

[3.1] Norwegian translations of Russian sentences with semelfactive verbs

The Norwegian translation patterns for 164 Russian sentences containing 69 different semelfactive verbs (lexemes) are here listed in the order of decreasing frequency:

- (i) Coordinate Past clauses with ‘og’ (‘and’): converb event + *og* / comma + main event (65 tokens, hence approx. 40 %):
- (1) *Vzgljanuv iz okna, ona uvidala ego koljasku.*
(Lev Tolstoj, “Anna Karenina”)
Hun så ut av vinduet og fikk øye på kalesjen hans.
Glancing out of the window, she saw his carriage.
- (ii) Coordinate Past clauses: main event + *og* / comma + converb event (50 tokens, hence approx. 30%):
- (2) – Ja ne vovremja, kažetsja, sliškom rano, – skazal on, *ogljānuv* pustuju gostinuju. (Lev Tolstoj, “Anna Karenina”)
“Jeg er ikke presis, ser det ut til, det er visst altfor tidlig,” sa han *og så seg om* i det tomme rommet.
“It’s not time yet; I think I’m too early,” he said *glancing round* the empty drawing room.
- (iii) Past (main event) + *med* (‘with’) + nominal expression (converb event) / *med* + nominal expression (converb event) + Past (main event) – 9 tokens, approx. 5%:
- (3) ... govorila v osnovnom Lena, Sergej sidel v uglu, *zakinuv* nogu na nogu, i kuril ... (Viktor Pelevin, “Generation P”)
... hvor det hovedsakelig var Lena som førte ordet, mens Sergej satt *med korslagte bein* i et hjørne og røykte ...
... Lena did most of the talking; Sergei sat in the corner *with his legs crossed*, smoking ...
- (iv) Relative clauses in the Past tense: Past (main event) + *som* (relative pronoun) + Past (converb event) – 5 tokens, approx. 3%:
- (4) – Da, ja pišu vtoruju čast’ “Dvuh načal”, – skazal Goleniščev, *vspyhnuv* ot udovol’stvija pri etom voprose ... (Lev Tolstoj, “Anna Karenina”)
“Ja, jeg holder på med annen del av “De to prinsipper”,” sa Golenisjt-sjev *som ble fyr og flamme* i glede over dette spørsmålet ...
“Yes, I’m writing the second part of the Two Elements,” said Golenishtchev, *coloring* with pleasure at the question ...
- (v) Coordinate Past Perfect (converb event) *og* / comma + main event in the Past form (5 tokens, approx. 3%):

- (5) Šurik, *vsporhnuv* k nemu na grud', obnjal ego za šēju.
(Ljudmila Ulitskaja, "Medea and her children")
Sjurik *hadde hoppet opp* og hang nå om halsen på ham.
Shurik *flew up* to his chest and hugged him around the neck.
- (vi) Temporal adverbial clauses introduced by *da* ('when') in the Past (converb event), following or preceding the matrix clause in the Past tense – 5 tokens, approx. 3%:
- (6) *Vzgljanuv* v ego starčeskie milye glaza, Levin ponjal daže čto-to ješčo novoe v svojom sčastje. (Lev Tolstoj, "Anna Karenina")
Da han så inn i de kjære gammelmannsøynene hans, gikk endog en ny side ved lykken hans opp for Levin.
Looking into his kindly old eyes, Levin realized even something new in his happiness.
- (vii) Temporal adverbial clauses introduced by *da* ('when') with Past Perfect (converb event) preceding or following a simple Past form (main event) – 5 tokens, approx. 3%:
- (7) – Mne žal'ko, čto ja rasstroil vaše ženskoe tsarstvo, – skazal on, nedovol'no *ogljenuv* vseh ... (Lev Tolstoj, "Anna Karenina")
"Så synd at jeg har brakt uro inn i kvinnes verden," sa han *da han hadde sett seg rundt* på alle sammen ...
"I'm sorry I've broken in on your feminine parliament," he said, *looking round* on every one discontentedly ...
- (viii) Temporal adverbial clauses introduced by *mens* ('while') in the Past (converb event) following or preceding the matrix clause in the Past tense – 4 tokens, approx. 3%:
- (8) – A, da! – skazal on na to, čto Vronskij byl u Tverskih, i, *blesnuv* svoimi čornymi glazami, vzjalsja za levij us ... (Lev Tolstoj, "Anna Karenina")
"Å, ja!" sa han til det at Vronskij hadde vært hos Tverskojs, og *mens det glimt*et i de sorte øynene, grep han fatt i den venstre barten ...
"Ah! yes," he said, to the announcement that Vronsky had been at the Tverskoys'; and *his black eyes shining*, he plucked at his left mustache ...
- (ix) Temporal adverbial clauses introduced by *idet* ('while') in the Past (converb event) following or preceding the matrix clause in the Past tense – 3 tokens,

approx. 2%:

- (9) Mal'čik kak budto pojmal ejo vzgljad i skazal nečto nesuraznoe, *pih-nuv* korzinu nogoj ... (Ljudmila Ulitskaja, "Medea and her children")
 Det var akkurat som om gutten la merke til hva hun så på, og han kom med et klosset utsagn *idet han sparket* lett borti kurven med foten ...
 The boy seemed to catch her gaze and said something that didn't make sense, *pushing* the basket with his foot ...

(x) Past (main event) + depictive AdjP (converb event) – 3 tokens, approx. 2%:

- (10) – Net, ja ne zametila, maman, – *vspyhnuv*, skazala Kiti.
 (Lev Tolstoj, "Anna Karenina")
 "Nei, det har jeg ikke merket, maman", sa Kitty, *blussende rød*.
 "No, I've not noticed it, maman," said Kitty, *flushing hotly*.

(xi) Separate (juxtaposed) sentences: Past (converb event) + full-stop/semicolon/comma + Past (main event) / Past (main event) + full stop + Past (converb event)
 – 2 tokens, approx. 1%:

- (11) Nezakončennye stročki pojavljalis' v puzyristom prostranstve, povoračivalis' bokom i uplyvali, *mel'knuv* nerovnym hvostom ...
 (Ljudmila Ulitskaja, "Medea and her children")
 De uferdige verselinjene hennes dukket opp som bobler foran henne, snudde siden til henne og fløt vekk, *hun så bare glimt av en ujevn hale av ord*.
 Imperfect lines of poetry appeared in the bubble-like space, turned sideways and floated off, *wagging* their awkward tails behind them.

(xii) Other (marginal) constructions (with only one occurrence each) – 8 tokens, approx. 5%².

The quantitative analysis shows that about 70% of sentences with Russian semelfactive converb constructions are translated into Norwegian by means of coordinate clauses in the Past tense. From the point of view of surface syntax, two types of coordinate sentences are attested in the translations: (a) the main verb follows the verb denoting the converb event (approx. 40%), and (b) the main

[2] These include: (i) Past (converb event) *for å* + Infinitive (main event); (ii) Past (main event) + adverb (converb event); (iii) *etter å ha* + past participle (converb event) + Past (main event); (iv) Past (converb event) + *da* ('when') + Past (main event); (v) Past (converb event) + *men* ('but') + Past (main event); (vi) DP *som* + Present (converb event) + *før* + Present (main event); (vii) Past Perfect (main event) + past participle (converb event); (viii) *etter ... for å* + infinitive (converb event) + Past (main event).

verb precedes the verb denoting the converb event (approx. 30%)³ – cf. (1) and (2).

As mentioned in section [2], Russian converbs of the semelfactive type are somewhat vague with respect to the temporal relation between the two events – i.e. both relations of temporal overlap and consequentiality are possible, and it is often difficult to determine precisely whether the event described by the converb temporally overlaps or precedes the main event (as opposed to the delimitative type of converbs which always convey the precedence relation). In (1) repeated below, the event of ‘looking out of the window’ is from a grammatical point of view naturally understood as preceding the event of ‘seeing’.

- (1) *Vzgljanuv iz okna, ona uvidala ego koljasku.*
 (Lev Tolstoj, “Anna Karenina”)
Hun så ut av vinduet og fikk øye på kalesjen hans.
Glancing out of the window, she saw his carriage.

However, lexically the converb and the matrix denote events which are clearly related to each other, hence there is also a flavour of overlap in the interpretation. The coordinate construction used in the Norwegian translation seems to reflect this temporal ambiguity.

In (2) repeated below, the converb is in the final position but the event expressed by it is still most naturally interpreted as preceding the main event (the ‘saying’ event). At the same time, it is possible to infer pragmatically that the converb event is co-temporal with the main event (the saying event happens while the event of looking around is taking place).

- (2) – Ja ne vovremja, kažetsja, sliškom rano, – skazal on, *ogljanuv* pustuju gostinju. (Lev Tolstoj, “Anna Karenina”)
 “Jeg er ikke presis, ser det ut til, det er visst altfor tidlig,” sa han *og så seg om* i det tomme rommet.
 “It’s not time yet; I think I’m too early,” he said *glancing round* the empty drawing room.

The comitative *med* (‘with’) followed by a DP (which is often followed by a PP, or preceded or followed by a past participle form, cf. (3) repeated below⁴) is another alternative construction used in the Norwegian translations of the Russian

[3] Note, however, that the order of events (converb event and main event) with respect to each other in the Norwegian target text does not always match their order in the source text (Russian).

[4] Such “small clauses” often denote sets of states according to (Fabricius-Hansen & Haug forthcoming). Syntactically, clauses such as “med korslagte bein” (with crossed legs), where the comitative preposition is followed by a DP, are distinct from clauses of the type “with his legs crossed”, where “with” is followed by a small clause (SC): a non-finite construction with an overt argument and a predicate (cf. (Fabricius-Hansen & Haug forthcoming)).

semelfactive converbs (5%). The use of the ‘med + DP’ construction suggests that the converb event is interpreted as simultaneous with the matrix event.

- (3) ... govorila v osnovnom Lena, Sergej sidel v uglu, *zakinuv* nogu na nogu, i kuril ... (Viktor Pelevin, “Generation P”)
 ... hvor det hovedsakelig var Lena som førte ordet, mens Sergej satt *med korslagte bein* i et hjørne og røykte ...
 ... Lena did most of the talking; Sergei sat in the corner *with his legs crossed*, smoking ...

In the definition of semelfactives most researchers (cf. (Smith 1991)) assume that these verbs denote events which do not bring about a change, i.e. a semelfactive VP does not have a well-defined *target state*⁵ (contrary to normal accomplishments and achievements). Example (3) seems to go against this pattern. The verb with a semelfactive suffix (-nu-) clearly denotes, in this particular construction, events which have a “target state” of the legs’ being crossed. It is precisely this state, and not the preceding event /activity of crossing the legs itself, which is referred to by the construction chosen by the translators. Hence, the complex situation is interpreted as simultaneity although the “semelfactive event” in a narrow sense may still precede the matrix.

Other semelfactive converb VPs translated into Norwegian with the comitative construction (hence implying a “target state”) in our data include: *sognuv svoju dlinnuju spinu* (‘med den lange ryggen bøyet’ – ‘his long back bent’), *sognuv koleno* (‘med bøyet kne’ – ‘with one knee raised’), *povernuv nabok golovu* (‘med hodet på skakke’ – ‘her head on one side’). Note that all these examples involve transitive verbs that denote a change of position of some body parts and are usually attached to matrix verbs that have a stative reading and typically occur in the IPF form in Russian (e.g. *stojal* (IPF) – *stood*, *sidel* (IPF) – *sat*, etc.). Within the group of target state predicates, (Grønn 2004, 232) distinguishes between permanent vs. reversible target states: e.g. the target state of the book being read to shreds is permanent (irreversible), while the target state of the window being open is reversible (i.e. the window can be closed again). Noteworthy, all semelfactive converbs that are interpreted as involving a “target state” are similar to predicates which denote a reversible target state (a change in the position of some body part is usually followed by placing this part back to its initial position) and can be used with temporal adverbial modifiers (‘for some time’): e.g. *sognuv spinu na sekundu* – ‘having bent the back for a second’. However, most semelfactive converbs in our data do not have target states (but only consequent states) and cannot be modi-

[5] The term “target state” is used here as in (Parsons 1990, 235) and (Grønn 2004) and refers to a particular, semantically visible state which is part of the lexical meaning of certain telic VPs. It should not be confused with the term *resultant state* (Parsons 1990, 235) – also called the consequent state (cf. (Grønn 2004, 232)) – i.e. a state that holds for any event *e* after its culmination.

fied by “for X time” adverbials: e.g. *ogljenuv komnatu *na sekundu* – ‘having cast a glance round the room *for a second’; *mahnenuv rukoj *na minutu* – ‘having waved one’s hand (once) *for a minute’.

Relative clauses with *som* (‘which’) in the Past tense form are also found in the corpus data (3%) – cf. (4) repeated below. Combined with main clauses in the Past tense, such constructions are underspecified with respect to the temporal relation between the events, but are compatible with the ‘overlap’ relation.

- (4) – Da, ja pišu vtoruju čast’ “Dvuh načal”, – skazal Goleniščev, *vspyhnuv* ot udovol’stvija pri etom voprose ... (Lev Tolstoj, “Anna Karenina”)
 “Ja, jeg holder på med annen del av “De to prinsipper”,” sa Golenisjtsjev *som ble fyr og flamme* i glede over dette spørsmålet ...
 “Yes, I’m writing the second part of the Two Elements,” said Golenishtchev, *coloring* with pleasure at the question ...

Further, we find constructions which explicitly encode the ‘anteriority’ reading of the converb event with respect to the main event: e.g. coordinate constructions with the Past Perfect form of the verb denoting the converb event and the simple Past form of the main verb (3%) – cf. (5); and two subordinate constructions with *da* (‘when’) attested in 6% of all translations – i.e. constructions with *da* followed by the simple Past form of the verb denoting the converb event – (6), and constructions with *da* followed by the Past Perfect form of the verb denoting the converb event and the simple Past form of the main verb – cf. (7).

Constructions in the Past tense introduced by *idet* (‘as’) are found in 2% of the data – cf. (9). These are quite similar to subordinate clauses in the Past tense linked by the conjunction *mens* (‘while’), which make the overlap relation between the converb event and the main event explicit (3%) – as in (8). The Russian converb construction in these examples is truly underspecified with respect to the temporal reference and the translator is forced to choose a construction with a more specific temporal relation than in the source text. It is in principle possible to use the ‘etter’ (‘after’) construction (referring to anteriority) in Norwegian, but our data shows such constructions are dispreferred in translations of the semelfactive type of converbs.

Other constructions include depictive adjectives (2%) – (10) and juxtaposed sentences in the Past tense (1%) – (11). Eight other constructions have also been attested in the data, but with only one occurrence and thus will be considered peripheral compared to the patterns described above.

The ‘semelfactivity’ reading in the Norwegian sentences with finite verbs in the Past tense may often be reflected in the use of a DP with an indefinite (singular) article – e.g. *kastet et blikk* (‘cast a (one) glance’), through the combination of a verb with a particle – e.g. ‘*hadde hoppet opp*’ (‘had jumped up’) – as in (5).

[3.2] Norwegian translations of Russian sentences with delimitative converbs

In this section, we look at different Norwegian constructions found in translations of 48 Russian sentences containing converbs of the delimitative Aktionsart – the so-called *pofectives*. The following constructions in the Norwegian target text are attested (in decreasing order):

[A.] Four construction types involving the TEMPORAL PREPOSITION ‘etter’ (‘after’) – 18 tokens, hence about 38% of all sentences:

(i) Past (main event) + *etter / efter* + DP – 7 tokens:

- (12) Da, tak o čjom že my govorili? – *pomolčav*, skazal Levin.
(Lev Tolstoj, “Anna Karenina”)
“Ja, hva var det så vi snakket om?” sa Levin *etter et øyeblikks taushet*.
“Yes, what were we talking about?” Levin said, *after a pause*.

(ii) Past (main event) *etter / efter* + *å ha* + past participle (converb event) – 5 tokens:

- (13) – No skažite, požalujsta, ja nikogda ne mogla ponjat’, – skazala Anna, *pomolčav* neskol’ko vremeni ... (Lev Tolstoj, “Anna Karenina”)
“Men si meg en gang, er De snill, jeg har aldri kunnet forstå,” sa Anna *etter å ha sittet taus en stund* ...
“But do tell me, please, I never could make it out,” said Anna, *after being silent* for some time ...

(iii) *etter at* + Past Perfect (converb event) + Past (main event) – 4 tokens:

- (14) Levin rasskazel ... i, *pogovoriv* o politike, rasskazel pro svojo znakomstvo s Metrovym i pojezdku v zasedanie.
(Lev Tolstoj, “Anna Karenina”)
Levin fortalte ... *og etter at de hadde pratet politikk en stund*, fortalte han om sitt bekjentskap med Metrov og om besøket på møtet.
Levin told him ... *and after talking a little* about politics, he told him of his interview with Metrov, and the learned society’s meeting.

(iv) *etter / efter* + *å ha* + past participle (converb event) + Past (main event) – 2 tokens:

- (15) Aleksej Aleksandrovič tol’ko uspel vernut’sja k pjati časam ... i, *poobedav* s pravitelem del, priglasil ego s soboj vmeste jehat’ na daču i na

skački. (Lev Tolstoj, “Anna Karenina”)
 Aleksej Aleksandrovitsj rakk ikke hjem igjen før klokken fem ... og
etter å ha spist sammen med forretningsføreren, innbød han ham til
 å være med ut til landstedet og siden til veddeløpene.
 Alexey Alexandrovitch only just managed to be back by five o’clock
 ... and *after dining* with his secretary, he invited him to drive with
 him to his country villa and to the races.

[B.] TEMPORAL ADVERBIAL clauses – 11 tokens, hence 23%:

(v) *da / når* (‘when’) + Past (converb event) + Past (main event) / Past (main event) + *da / når* + Past (converb event) – 6 tokens:

(16) Odnako, *podumav*, vsjo-taki napisal bol’šimi krasnymi bukvami: “Duš akademika Pavlova” – i povetil.
 (Ljudmila Ulitskaja, “Medea and her children”)
 Men *da han fikk tenkt seg om*, skrev han likevel med store, røde bokstaver: ”Akademimedlem Pavlovs dusj” – og hengte det opp.
 Poor Shimes took offense and left, but *after further thought* he did hang up a notice in large red letters reading, “Academician Pavlov Shower”.

(vi) *da / når* (‘when’) + Past Perfect (converb event) + Past (main event) / Past (main event) + *da* + Past Perfect (converb event) – 4 tokens:

(17) I, *pogovoriv* ješčo o provozglašenii koroljom Milana i ob ogromnyh posledstvijah, kotorye eto možet imet’, oni razošlis’ po svoim vagonam posle vtorogo zvonka. (Lev Tolstoj, “Anna Karenina”)
 Og *da de hadde snakket* enda en stund om at Milan hadde utropt seg til konge og om de veldige følger dette kunne få, gikk de hver til sin vogn *etter* at det hadde ringt for annen gang.
 And *after talking* a little more of King Milan’s proclamation, and the immense effect it might have, they parted, going to their carriages on hearing the second bell.

(vii) *da* (‘when’) + Present Perfect (converb event) + Present (main event) – 1 token:

(18) ... mne ego žalko bylo, no, *pogovoriv* s toboj, ja, kak ženščina, vižu drugoe ... (Lev Tolstoj, “Anna Karenina”)
 ... jeg syntes synd på ham, men nå *da jeg har snakket med deg*, ser jeg som kvinne hele saken annerledes ...

I felt sorry for him, but *after talking* to you, I see it, as a woman, quite differently.

[C.] COORDINATION with *og* ('and') or comma – 10 tokens, hence approx. 21%:

(viii) Coordinate Past: converb event + *og* / comma + main event – 7 tokens:

- (19) Vronskij poklonilsja, i Aleksej Aleksandrovič, *poževav* rtom, podnjaj ruku k šljape i prošol. (Lev Tolstoj, "Anna Karenina")
 Vronskij bukket, og Aleksej Aleksandrovitsj *tygget noen tak* med munnen, løftet hånden til hatten og gikk ut.
 Vronsky bowed, and Alexey Alexandrovitch, *chewing* his lips, lifted his hand to his hat and went on.

(ix) Coordinate Past: main event + *og* / comma + converb event – 3 tokens:

- (20) – Kakoј son nynče! – skazal starik, iskosjas' *pogljadev* na solntse. (Lev Tolstoj, "Anna Karenina")
 "Søvn nå, nei!" sa gamlingen og *skottet opp* på solen.
 "What chance of sleep today!" said the old man, *with a sidelong look* at the sun.

[D.] MISCELLANEOUS constructions⁶:

(x) Past (main event) + temporal adverb: *senere* / *til slutt* / *litt efter* – 3 tokens (6%):

- (21) – N'est ce pas immoral – tol'ko skazala ona, *pomolčav*. (Lev Tolstoj, "Anna Karenina")
 "N'est ce pas immoral?" sa hun bare *til slutt*.
 "N'est-ce pas immoral?" was all she said, *after a brief pause*.

(xi) Past (main event) + *som* + Past Perfect (converb event) – 2 tokens:

- (22) – Kak že novye uslovija mogt byt' najdeny? – skazal Svijažskij, *pojev* prostokvaši, zakuriv papirosu i opjat' podojdja k sporjaščim. (Lev Tolstoj, "Anna Karenina")
 "Men hvordan skal man finne nye forhold?" sa Svijazjskij, *som hadde*

[6] In addition, constructions that occur once in our data include: (i) Past Perfect (converb event) + *men* + Past (main event); (ii) Past (converb event) + full stop + Past (main event); (iii) Present Perfect (converb event) + semicolon / full stop + Present (main event); (iv) *med* + DP (converb event) + Past (main event): e.g. *med et rådvilt blikk* 'with an absent look'.

drukke tykkmelk og røkt en sigarett og nå kom tilbake til diskusjonen.

“How can new conditions be found?” said Sviazhsy. *Having eaten* some junket and lighted a cigarette, he came back to the discussion.

The analysis of the data shows that Norwegian translations of delimitative converbs exhibit preference for constructions which explicitly encode the temporal relation of ‘anteriority’ – i.e. the converb event temporally precedes the event expressed by the main predicate. Thus we find constructions with the temporal preposition *etter* (‘after’) in about 38% of all translations. These include the following four types: (i) ‘*etter* + DP’ following the main predicate in the Past tense (where the DP includes information about the temporal span of the event described – e.g. *etter et øyeblikks taushet* – ‘after a moment’s silence’) – cf. (12); (ii) ‘*etter å ha* + past participle’ following the main verb in the Past tense – cf. (13); (iii) ‘*etter at* + Past Perfect’ preceding (both semantically, i.e. temporally preceding, and in the surface structure, i.e. linearly preceding) the main clause in the Past tense – (14); and (iv) ‘*etter å ha* + past participle’ preceding the main verb – (15).

In total, 23% of all the Norwegian constructions involve temporal adverbial clauses with the temporal conjunction ‘*da*’ / ‘*når*’ (‘when’). The following three types of sentences are attested in this group: (i) the ‘*da*’ clause in the Past tense followed or preceded by the main clause in the Past tense – cf. (16); (ii) the ‘*da*’ clause in the Past Perfect tense followed or preceded by the main clause in the simple Past – (17); and (iii) the ‘*da*’ clause in the Present Perfect tense followed by the main clause in the Present tense – cf. (18).

Both the ‘*etter*’ constructions and the ‘*da*’ clauses contribute to the ‘anteriority’ reading of the converb event with respect to the main event, which is an important part of the semantics of delimitative converbs – i.e. the contribution of the suffix -v (cf. section [2]).

21% of all translations of pofective converb sentences involve coordinate constructions with ‘*og*’ (‘and’) or a comma (if there are more than two clauses in the sentence) in the simple Past tense. Most typically, the verb denoting the converb event precedes the main verb (19), but the reversed pattern is also attested – cf. (9). Note that a DP expressing repetition/duration is added in the Norwegian translation of sentence (19): e.g. ‘*tygget noen tak*’ (‘chewed a few times’).

In (19), the Norwegian sentence has several clauses in the Past. Such coordinate clauses are usually interpreted in terms of narrative progression – i.e. events temporally follow one after another. In (20), on the other hand, only two verbs are linked by ‘*og*’ (‘and’), which allows for the temporal relation of overlap between the two events (cf. also the English translation with the comitative construction which is also compatible with this temporal interpretation). Note, how-

ever, that in (20), *pogljadev* ‘having looked’ can be interpreted both as a true *pofective* (e.g. ‘having looked at the sun for some time’), but also as a *semelfactive* (‘having looked once’). In case of the *semelfactive* reading of this converb, the relation of overlap seems justified (cf. section [3.1]). Thus the use of coordination in the Norwegian translation can be explained by the translator’s interpretation of the converb event as a *semelfactive* event.

Other translation patterns are less frequent. *Pofective* converbs translated as temporal adverbs occur in 6% of all sentences but only as a translation pattern of one particular converb – *pomolčav* (‘after being silent for some time’). The temporal adverbs used include: *senere* (‘later’), *til slutt* (‘eventually’), *litt etter* (‘a little later’). In this case, the lexical meaning of the converb (i.e. ‘being silent’) is made implicit – cf. (21). 4% of all translations involve relative clauses introduced by *som* (‘which’) in the Past Perfect form preceded by the main clause in the Past form – as in (22). Such constructions are also compatible with the interpretation of the converb event as temporally preceding the main clause event.

[3.3] *Semelfactive vs. delimitative converbs in the Norwegian translations*

The contrastive analysis presented in [3.1] and [3.2] shows that there is a clear correlation between the semantics of converbs and their translation equivalents in Norwegian. Figure 1 on the facing page shows differences in the percentage distribution of different constructions found in the Norwegian translations of *semelfactive* vs. *delimitative* converbs.

Converb constructions with the *semelfactive* Aktionsart are predominantly translated into Norwegian by means of coordinate clauses linked by *og* (‘and’) or a comma (70% of all translations). Converb constructions with the *delimitative* Aktionsart, on the other hand, show a preference for constructions with the temporal preposition *etter* (‘after’), in particular, the ‘*etter å ha* + past participle’ construction and the ‘*etter* + (temporal) DP’ construction (38%). Note that this construction is almost completely avoided as a translation of the *semelfactive* type of converb constructions (only one instance was attested). Another preferred construction in translations of *delimitative* converbs involves subordinate *da* (‘when’) clauses (23%). Coordinate clauses in the Past tense are only found in 21% of all translations of sentences with *delimitative* converbs (vs. 70% for *semelfactive* converbs), and, as argued in [3.2], the use of coordination with *pofective* converbs could sometimes be due to the ‘*semelfactive*’ interpretation of some of them (e.g. *pogljadev* ‘having glanced’).

The predominant use of coordinate clauses in translations of *semelfactive* converbs reflects the underspecified temporal relation of the events expressed by such converbs with respect to the matrix clause (both ‘overlap’ and ‘anteriority’ relations are possible). On the other hand, the explicit temporal constructions with *etter* ‘after’ and conjunctions *da* / *når* ‘when’ in translations of *delimitative*

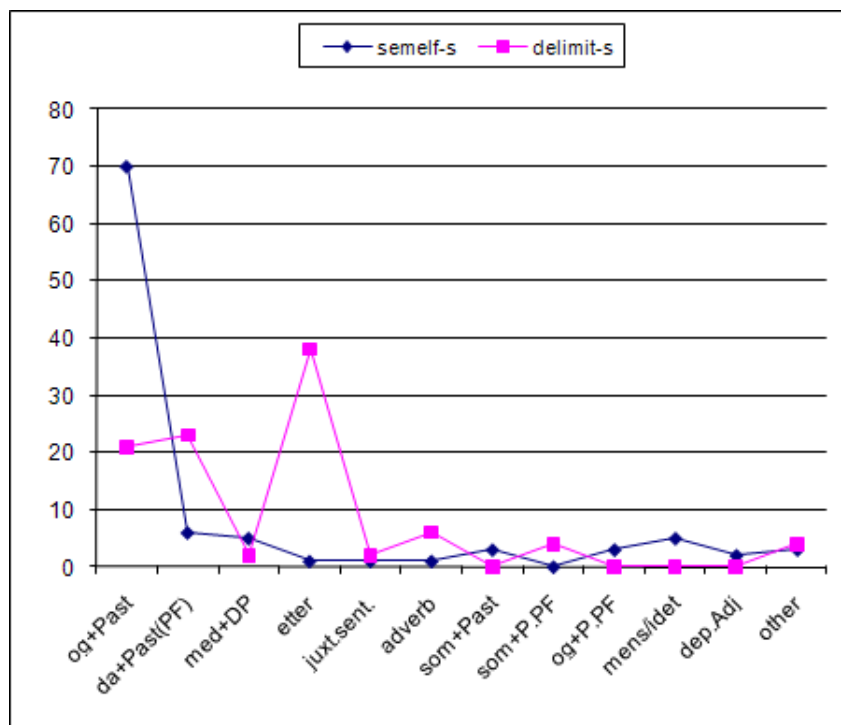


FIGURE 1: Russian semelfactive and delimitative converbs and their translations in Norwegian

converbs convey the ‘anteriority’ relation. This is the expected pattern for converbs due to the anteriority meaning of the morpheme *-v*, and indeed the only possible interpretation of the lexical type of delimitatives. In addition, in translations of semelfactives, we find lexical means of expressing ‘semelfactivity’ (i.e. the use of verbs whose semantics refers to a unique occurrence of a momentaneous event), combinations of verbs with verbal particles etc., whereas in translations of delimitative converbs, we observe explicit reference to the temporal duration of events – e.g. *en stund* ‘a moment’, *etter et øyeblikks taushet* ‘after a moment’s silence’, etc.

In the next section, we will consider English translations of the same lexical types of converbs (semelfactive vs. delimitative) to see if also these data provide evidence for the correlation between the lexical semantics of converbs and their interpretation as converbs.

[4] ANALYSIS OF THE ENGLISH TRANSLATIONS

[4.1] *English translations of Russian sentences with semelfactive converbs*

164 Russian converb sentences with semelfactive converbs marked by *-nuv* (69 different lexemes) correspond to the following constructions attested in the En-

glish target sentences (in decreasing order of occurrences):

[A.] the English CONVERB (the *-ing* participial adjunct) – 111 tokens, hence approx. 68%:

(i) *-ing* (converb event) + Past (or Past Progressive) main event – 58 tokens:

(23) *Vzgljanuv iz okna, ona uvidala ego koljasku.*
(Lev Tolstoj, “Anna Karenina”)
Glancing out of the window, she saw his carriage.

(24) *Povernuv glövu, on prislušivalsja.* (Lev Tolstoj, “Anna Karenina”)
Turning its head, it was listening.

(ii) Past main event + *-ing* (converb event) – 53 tokens:

(25) – *Net, ja ne zametila, maman, – vspyhnuv, skazala Kiti.*
(Lev Tolstoj, “Anna Karenina”)
“No, I’ve not noticed it, maman,” said Kitty, flushing hotly.

[B.] COORDINATION with ‘and’ or comma – 19 tokens, hence about 12%:

(iii) Coordinate Past: converb event (passive) + *and* / comma + main event – 16 tokens:

(26) *Šurik, vsporhnuv k nemu na grud’, obnjäl ego za šëju.*
(Ljudmila Ulitskaja, “Medea and her children”)
Shurik flew up to his chest and hugged him around the neck.

(iv) Coordinate Past: Past main event + *and* / comma + Past converb event – 3 tokens:

(27) *... ona kak by spotknulas’, dva raza stuknuv nožkoj, i pospešno pokatilas’ proč’ ot nego.* (Lev Tolstoj, “Anna Karenina”)
... she made a sort of stumble, twice struck out, and hurriedly skated away from him.

[C.] MISCELLANEOUS constructions⁷

- (v) Comitative constructions: Past main event + *with* + DP/SC (converb event) / *with* + DP/SC (converb event) + Past main event – 18 tokens, 11%:

(28) Ah, čto govorit'! – skazala grafinja, *mahnuv* rukoj.
(Lev Tolstoj, “Anna Karenina”)
“Oh, why talk of it!” said the countess *with a wave of her hand*.

(29) ... on ... ostanovilsja u rampy s Serpuhovskim, kotoryj, *sognuv* koleno
... podozval k sebe ulybkaj. (Lev Tolstoj, “Anna Karenina”)
... he ... stopped at the footlights with Serpuhovskoy, who, standing
with one knee raised ... beckoned to him, smiling.

- (vi) Temporal adverbial clauses: Past main event + *when/as* + Past converb event) / *when (as soon as)* + Past converb event + Past main event – 4 tokens, approx. 2%:

(30) Ona užasnulas' svoej blednosti, *vzgljanuv* v zerkalo.
(Lev Tolstoj, “Anna Karenina”)
She was horrified at her paleness, *as she glanced* into the looking-glass.

- (vii) Absolute constructions: Past (Progressive) main event + possessive DP + PP (or past participle or *-ing* (converb event)) – 3 tokens, approx. 2%:

(31) – A, da! – skazal on na to, čto Vronskij byl u Tverskih, i, *blesnuv* svoimi čornymi glazami, *vzjalsja* za levyj us ...
(Lev Tolstoj, “Anna Karenina”)
“Ah! yes,” he said, to the announcement that Vronsky had been at the Tverskoys'; and *his black eyes shining*, he plucked at his left mustache ...

- (viii) ‘after’ + DP (converb event) + Past main event / ‘after’ + *-ing* + Past main event – 2 tokens (1%):

[7] Peripheral translation patterns which occur only once in our data include: (i) *Having* + past participle (converb event) + Past Perfect main event; (ii) Past converb event + *but* + Past main event; (iii) Past (previous clause) + *-ing* (converb event) + *and* + *-ing* (main event); (iv) subject + *that* + Past converb event + Past main event; (v) Past main event + *who* + Past Perfect converb event; (vi) Past main event + past participle (converb event): ‘*vzdrognu*v’ – *shaken up and down*; (vii) DP *which* (relative clause) + Present converb event + *and* + Present main event; (viii) Past converb event + *-ing* (main event) – reversed pattern compared to the Russian sentence.

- (32) ... ona, *otdohnuv*, opjat' prisojedinilas' k igre ...
 (Lev Tolstoj, "Anna Karenina")
 ... *after a rest* she joined the game again ...

The data above shows that the majority of Russian sentences with semelfactive converb constructions are translated into English by means of the English converb – the *ing*-participial adjunct, which is subordinate to the main clause in the Past tense⁸ (68% of all translations). Both positions of the *-ing* form are attested – following or preceding the main clause – cf. (23)–(24) and (25).

The *-ing* adjunct is vague with respect to the temporal relation between the event expressed by it and the matrix clause event – e.g. (Kortmann 1995, 218) claims that the English converb can express all the three relations, with the “simultaneity” relation being the most frequent, the “anteriority” the next most frequent, and the “posteriority” the least frequent relation. The latter is possible only when the adjunct follows the matrix clause, while the first two relations may be expressed by converbs independently of their position. Moreover, the non-simultaneity relation can be expressed either by means of time adverbials in the adjunct specifying the time intervals preceding or following the time interval of the matrix event, or a set of conditions, such as: (i) telic predicate in the adjunct; (ii) indication of a path or itinerary in the complex sentence; (iii) iconic word-order (cf. (Kortmann 1995, 220–221). The event of ‘glancing out of the window’ in (23) can be understood as either preceding or being simultaneous with the ‘seeing’ event, depending on whether the predicate should be read as telic or as atelic.

12% of all constructions are represented by coordinate clauses in the Past tense linked by *and* or separated by a comma – cf. examples (26)–(27). English coordinate constructions in the Past tense are usually interpreted in terms of temporal succession – i.e. the event mentioned in the first conjunct temporally precedes that in the second conjunct: for example, in (26), the event of ‘flying up to his chest’ logically precedes the event of ‘hugging him around the neck’.

The comitative ‘*with* + DP’ / ‘*with* + SC’ (small clause) constructions are also relatively frequent as a translation of semelfactive converbs and are used in 11% of all translations – see example (28) for a comitative ‘*with*’ followed by a DP (*with a wave of her hand*) and example (29), where the converb construction is translated by means of ‘*with*’ followed by an SC (*with one knee raised*). Comitative constructions imply a temporal overlap relation between the converb event and the main clause event.

Further, we find temporal adverbial clauses with *as* / *when* / *as soon as* in the Past tense (2%). Absolute constructions (non-finite closed adjuncts) are attested

[8] The predominant use of Past tense in our data reflects the narrative genre of fiction texts in the corpus, a genre which is characterized by the narration of past events.

in 2% of the data – as in (31) with the *-ing* form following the possessive DP. Other examples of absolute constructions include possessive DPs followed by a PP (also known as ‘bare’ small clauses in the terminology of Fabricius-Hansen et al. (forthcoming)), as in (33), or possessive DPs followed by a past participle (34).

- (33) Laska podskočila k nemu ... i opjat' zamerla, *povernuv nabok golovu i nastoroživ odno uho*. (Lev Tolstoj, “Anna Karenina”)
Laska flew up to him ... and sank into repose again, *her head on one side*, and one ear pricked up to listen.
- (34) On, podnjavšis', sidel, oblokotivšis' rukoj, na krovati, *sognuv svoju dlinuju spinu i nizko opustiv golovu*. (Lev Tolstoj, “Anna Karenina”)
He was sitting raised up with one elbow on the bed, *his long back bent*, and his head hanging low.

Notably, only 1% of the translations listed above employ constructions with the temporal preposition *after* followed by a DP or the *-ing* form. The remaining 8 constructions occur only one time each.

[4.2] English translations of Russian sentences with delimitative converbs

The following English translation patterns corresponding to 49 Russian sentences with pfective converb constructions (16 different converbs) have been found in our data:

[A.] Constructions with the PREPOSITION *after* – 31 tokens, hence approx. 64%, including:

- (i) *after* + DP (converb event) + Past main event / Past main event + *after* + DP (converb event) – 16 tokens:

- (35) – Net, – *podumav*, otvečal Levin ... (Lev Tolstoj, “Anna Karenina”)
“No,” answered Levin, *after an instant's thought* ...

- (ii) Past main event + *after* + *-ing* (converb event) / *after* + *-ing* (converb event) + Past (or Past Perfect or Present) main event – 15 tokens:

- (36) I, *pogovoriv* ješčo o provozglašenii koroljom Milana i ob ogromnyh posledstvijah, kotorye eto možet imet', oni razošlis' po svojim vagonam posle vtorogo zvonka. (Lev Tolstoj, “Anna Karenina”) (repeated from section [3.2].)
And *after talking* a little more of King Milan's proclamation, and the immense effect it might have, they parted, going to their carriages on hearing the second bell.

- (37) – Odnako kak glupejut ljudi v etom položenii, – skazal on Čirikovu, kogda Levin, rasterjanno *pogljadev* na nego, podvinulsja k neveste. (Lev Tolstoj, “Anna Karenina”)
 “How silly men are, though, in this position,” he said to Tchirikov, when Levin, *after looking* absently at him, had moved back to his bride.

[B.] the English CONVERB (-ing) – 11 tokens, approx. 22%:

(iii) Past main event + -ing (converb event) – 7 tokens:

- (38) Net, mogu, – skazala Anna, *podumav* ...
 (Lev Tolstoj, “Anna Karenina”)
 “Yes, I can”, said Anna, *thinking a moment*.

(iv) -ing (converb event) + Past main event – 4 tokens:

- (39) Vnimatel’no *pogljadev* emu v glaza, on ponjal, čto Gireev ne v sebe, hotja vrode ne p’jan. (Viktor Pelevin, “Generation P”)
Looking attentively into Gireiev’s eyes, he realised he was not quite himself, although he didn’t seem to be drunk.

(v) *Having* + past participle (converb event) + Past (or Past Perfect) main event – 3 tokens:

- (40) Ona nakonets zaplakala, a *poplakav* nemnogo ... zabormotala ...
 (Ljudmila Ulitskaja, “Medea and her children”)
 She finally began to cry, and, *having cried* a little ...she murmured ...

[C.] MISCELLANEOUS constructions:⁹

(vi) Coordinate Past: converb event + *and* / comma + main event – 2 tokens:

- (41) Čut’ *podumav*, on otvetil: – Byla takaja poema u al’-Gazzavi ...
 (Viktor Pelevin, “Generation P”)
He thought for a moment and answered: “Al-Ghazavi had this poem”

The figures presented above reveal a clear preference for constructions with the preposition *after* as the English translation alternatives for Russian sentences with *poffective* converbs (63%). This large group is represented by the ‘*after* + DP’

[9] In addition to the coordinate past below, we find two more marginal constructions (2 tokens): (i) Past main event + *with* + DP (converb event); (ii) *by* + -ing (converb event) + Past Perfect main event.

construction and the ‘*after* + the *-ing* adjunct’ combination – as shown in (36) and (37). Note that in constructions with DPs, the DP often includes information about the duration of the event – e.g. we find expressions such as: *after a little conversation*, *after an instant’s thought*, *after a short pause*, etc).

The English converb (the *-ing* participial adjunct) is relatively frequent, occurring in 22% of all translations – cf. examples (38) and (39) for converbs in the post-verbal and pre-verbal positions, respectively. Although the *-ing* form by itself does not provide information about the duration of the described event explicitly, there are many instances in the data where the *-ing* form is combined with a DP which provides such information – e.g. *thinking a moment* – as in (38).

Further, we find that the ‘*having* + past participle’ construction (the Perfect counterpart of the *-ing* adjunct) occurs in 6% of all translations of the *pofective* converbs – cf. example (40).

The ‘*having* + past participle’ construction is compatible with the ‘anteriority’ reading of the converb event. Coordination with *and* (or by means of a comma) is less frequent (4%) – as in (41). In addition, we find one occurrence of the comitative ‘*with* + DP’ construction and the instrumental ‘*by* + *-ing*’ construction. Note that absolute constructions are not found in translations of *pofectives* (as opposed to *semelfactives*), as they are not used for the coding of successive events (cf. (Kortmann 1995, 220)).

[4.3] *Semelfactive vs. delimitative converbs in the English translations*

Figure 2 on the next page is an illustration of the different distribution of various constructions attested in the English translations of sentences with *semelfactive* and *delimitative* converbs.

Figure 2 convincingly shows that the *semelfactive* type of converbs is predominantly translated into English by the *-ing* adjunct (68% of all data), while VP coordination (‘*and*’ + Past) and comitative ‘*with*’ constructions are the other two frequent patterns observed in this group. In contrast, the *delimitative* type of converbs in the Russian source data corresponds to constructions involving the preposition *after* (64%). The *-ing* converb is used in 22% of all translations of this type of sentences. Thus the English translation data provides further evidence in favor of our initial hypothesis concerning the role of lexical semantics in the interpretation and translation patterns of converb constructions.

[5] COMPARISON OF THE ENGLISH AND THE NORWEGIAN TRANSLATIONS

The main difference between the English and the Norwegian translations is the wide use of the *-ing* participial adjunct in English (which corresponds to the Russian converb construction) as opposed to Norwegian. Norwegian translations, on the other hand, are represented by a greater variety of constructions (11 main patterns vs. 6–8 in English).

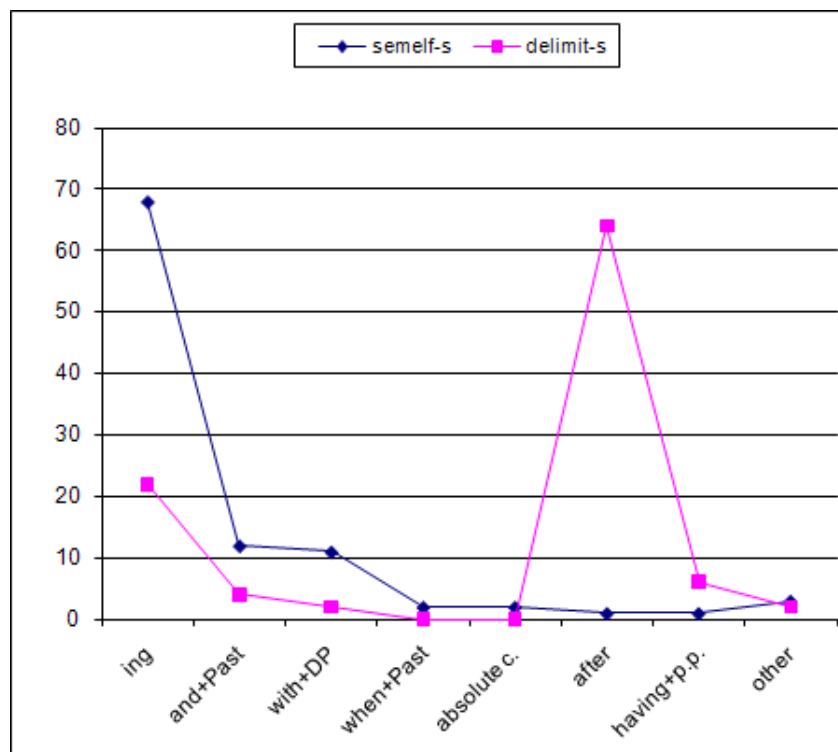


FIGURE 2: Russian semelfactive and delimitative converbs and their translations in English

The majority of semelfactive converbs are translated into Norwegian by ‘og’ coordination in the Past tense (70%) (cf. the predominant use of *-ing* clauses in English – 68%). The Norwegian ‘og’ conjunction allows for a temporal overlap relation between the main event and the event expressed by the converb, which is often a natural interpretation for semelfactive converbs in Russian¹⁰. In English, on the other hand, the ‘overlap’ relation is mostly conveyed by the *-ing* form, while coordination with ‘and’ is employed for temporal succession. Apart from the correlation between the *-ing* form and ‘og’ coordination, there are parallels (in translations of the same semelfactive converbs) in the use of the comitative construction (‘med’ / ‘with’ + DP) in Norwegian (5% of all data) and English (11%) – cf. our example below repeated from section [3.1]:

- (3) ... *govorila v osnovnom* Lena, Sergej *sidel v uglu, zakinuv nogu na nogu*, i *kuril* ... (Viktor Pelevin, “Generation P”)
 ... hvor det hovedsakelig var Lena som førte ordet, mens Sergej satt *med korslagte bein* i et hjørne og røykte ...

[10] In general, though, the temporal reference of PF converbs is ‘anteriority’, encoded in the semantics of the suffix *-v*.

... Lena did most of the talking; Sergei sat in the corner *with his legs crossed*, smoking ...

As for the delimitative Aktionsart, parallels in the English and Norwegian target sentences are observed in the use of ‘etter’ / ‘after’ constructions (64% in English vs. 38% in Norwegian) – cf. examples (12) to (15) in section [3.2].

[6] DISCUSSION

We need to explain the nature of the differences in the lexical aspect of delimitatives vs. semelfactives which triggers the different temporal relations between the converb event and the matrix event attested in the translation data. Let us consider the following constructed examples of sentences with (a) an accomplishment converb with a reversible target state, (b) a *pofective* converb, and (c) a semelfactive converb – and their compatibility with temporal adverbial phrases:

- (42) a. Otkryv okno (na 2 minuty), on vyšel.
 ‘Having opened the window, he went out.’
 (in Russian: ✓ for 2 minutes)
- b. Pomolčav (2 minuty / *na 2 minuty), on vyšel.
 ‘Having been silent, he went out.’
 (in Russian: ✓ 2 minutes / *for 2 minutes)
- c. Mahnuv rukoj (*2 minuty / *na 2 minuty), on vyšel.
 ‘Having waved his hand once, he went out.’
 (in Russian: *2 minutes / *for 2 minutes)

In all the three examples, the anteriority relation (\prec) between the converb event and the matrix event is due to the semantics of the converb suffix (-v). However, unlike the accomplishment converb in example (42a), semelfactive and delimitative converbs lack the semantically visible target state and cannot be modified by temporal adverbial phrases (“for X time”). Moreover, delimitatives require a specification (overtly, i.e. lexically, or covertly, i.e. contextually) of some temporal span denoting the duration of the event (e.g. “2 minuty”), which is not possible with instantaneous events expressed by semelfactives. These differences can be illustrated in the following way (τ = temporal trace/span of the event, OVL = temporal overlap):

- (a.) Accomplishment converbs (with a target state): $e1$ (window-opening) $\prec e3$ (going out); $s2$ is the target state of the window being open; and $s2$ OVL $e3$.
- (b.) *Pofective* converbs: $e1$ (being silent) $\prec e3$ (going out);
 and $s1 = \tau(e1) =$ “two minutes”.
- (c.) Semelfactive converbs: $e1$ (hand-waving) $\prec e3$ (going out);

and $\tau(e1)$ = a minimal interval (i.e. a moment)

Obviously, the minimal duration of semelfactive events does not provide the speaker with an interval or state $s1$, which is salient or relevant enough to be designated by temporal adverbials. However, as pointed out in section [3.1], certain semelfactive converbs (denoting a change in the position of some body part) are interpreted as having a target state $s2$ which overlaps with the matrix event:

- (43) d. Zakinuv nogu na nogu (na 2 minuty), on kuril.
 ‘With his legs crossed, he sat there smoking.’
 (in Russian: \surd for 2 minutes)

Thus, in this case, we get a relation between the events that is similar to that we observed for the accomplishment converbs (cf. point (a.) above):

- (d.) Semelfactive converbs (type 2): $e1$ (crossing the legs) \prec $e3$ (smoking); $s2$ is the target state of the legs being crossed; and $s2$ OVL $e3$.

[7] SUMMARY AND CONCLUSIONS

Comparing two semantically distinct converbs from the point of view of their translation alternatives in English and Norwegian, we find that the lexical aspect of converbs affects the interpretation of sentences and the choice of particular translation patterns: e.g. semelfactive converb constructions are mostly translated by coordinate constructions in Norwegian and the *-ing* converb in English, while delimitative converbs correlate with temporal prepositions (*etter* in Norwegian and *after* in English) as well as temporal adverbial clauses in Norwegian and the Past Perfect counterpart of the *-ing* converb (*having* + past participle) in English.

The majority of semelfactive converbs in the source data correspond to constructions which by themselves leave the semantics of semelfactivity implicit: coordination is used in the majority of the Norwegian translations and the *ing*-participial adjunct is employed in most of the English translations. In this case, the ‘semelfactivity’ reading is expressed by other lexical means: e.g. the semantics of the verb itself (e.g. *glance* means to look quickly at something once), certain combinations of verbs and verbal particles producing a semelfactive interpretation (e.g. *hoppet opp* ‘jumped up’), or verb phrases with singular DPs of a certain lexical class (e.g. *kaste et blikk* – ‘throw a glance’), etc.

‘Pofectivity’ (with regard to converbs) encodes two semantic components:

- (i) that the converb event is ended before the matrix event (the anteriority meaning of *-v*); and (ii) that the event goes on for some time. The first component is clearly realized in the translation data: in the Norwegian data we find 38% of the

constructions with the temporal preposition *etter* ‘after’ and 23% with subordinate *da* (‘when’) clauses; while in English, 64% of all constructions involve combinations with the preposition *after*. As for the second component, it is reflected in the Norwegian construction ‘*etter å ha* + past participle’ which due to the presence of the Perfect Infinitive makes the event’s boundaries more salient, but also in combinations of *etter* with DPs that provide temporal information (e.g. *etter et øyeblikks taushet* ‘after a moment’s silence’). In cases of coordinate verbs, we note the presence of DPs containing information about the duration (or quantity) of the events (e.g. *tygget noen tak* ‘chewed a few times’).

To conclude, the analysis of translation data presented in this article shows that the lexical semantics of converb constructions (semelfactive vs. delimitative) in the source language (Russian) affects their interpretation and the range of possible translation alternatives in the target languages (English and Norwegian). This claim is also supported by the fact that we find similarities in the translation patterns observed in the two target languages.

The study presented in this article thus provides further evidence for the importance of distinguishing carefully between lexical classes of verbs (here: semelfactives and *pofectives*) in the study of grammatical verbal categories (here: converbs and their temporal/aspectual interpretation). The semantic properties of the two lexical groups in question also set them clearly apart from other perfective converbs, both of the achievement and accomplishment type. This last point is neatly confirmed by the translation data.

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SUBJUNCTIVE IN RUSSIAN RELATIVE CLAUSES

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ABSTRACT

The paper aims at determining the factors that trigger the choice of subjunctive in relative clauses, where it freely alternates with indicative forms. The factors are established on a basis of frequency of occurrence in Russian National Corpus (www.ruscorpora.ru) and include the referential status of the noun heading the relative clause, polarity, semantic type and epistemic status of the main predicate and the affirmative vs. interrogative status of the whole sentence.

[1] INTRODUCTION

The Russian subjunctive is an irrealis mood. Crosslinguistically, irrealis mood is often used in the dependent clauses. The use of irrealis is best described in conditional clauses and certain types of complement clauses. Its use in relative clauses, on the other hand, is hardly mentioned in typological studies such as (Elliott 2000) and (Palmer 2001). The discussion is usually limited to Romance languages, since the use of subjunctive in relative clauses is widespread and often obligatory in these languages (Kampers-Mahne 1991; Givón 1994; Panzeri 2004). The subjunctive in Russian relative clauses has only recently become a topic of investigation (Kagan 2007; Borshchev et al. 2007; Nikunlassi 2008; Dobrushina 2009); but the topic is not discussed in e.g. Švedova et al. (1980a,b); Bondarko et al. (1990), certainly because the use of the subjunctive is optional, and most often may be substituted by the indicative.

- (1) Надо разработать такую социальную систему, *которая* максимально защищала бы [✓защитит] детей из малообеспеченных семей.
 ‘We should create a social infrastructure that would protect children coming from families with low income’.
 [Ирина Мельникова. Школа выживания (2003) // «Итоги», 2003.02.11]

This paper will study the conditions under which the usage of the subjunctive in Russian relative clauses becomes possible. Some French examples will be given in order to show that the choice of the mood form is language-specific and to provide a contrastive background to the Russian data.

The structure of the present article is as follows. Section [1.1] provides a classification of relative clauses based on their (ir)reality. In Section [2], the usage of the subjunctive in 'real' relative clauses is discussed. Section [3] considers hypothetical relative clauses and investigates the conditions under which the usage of the subjunctive becomes possible. Section [4] considers the usage of the subjunctive in counterfactual relative clauses. Section [5] is a summary of the analysis.

[1.1] *Real, hypothetical, counterfactual*

The main parameter responsible for the choice between subjunctive vs. indicative is whether the event has taken place or not. Based on this semantic component, I will divide relative clauses into three types: real, hypothetical, and counterfactual. I will refer to the relative clause as *REAL* if the situation referred to has taken place. This type of relative clause is usually marked by the indicative and thus remains beyond the scope of the present study:

- (2) Похоже, ничего уже *не изменится* в ситуации, которую *создали* [*создали бы] железнодорожники для новороссийских пассажиров.
 'It looks like nothing is going to change in the situation which was created for the railway passengers in Novorossiysk by the railroad employees'.
 [Елена Калашникова. Реформа, как беда, не приходит одна (2003) // «Новороссийский рабочий», 2003.01.16]
 ⇒ *It is true that* железнодорожники создали определенную ситуацию.

However, even this semantic type of relative clauses can contain the subjunctive. Such cases will be discussed in Section [2].

HYPOTHETICAL clauses denote events which can be judged neither as real nor as counterfactual. Such clauses can use either the subjunctive or indicative. The choice of the verb form depends on many factors which will be discussed in Section [3]. Here is an example:

- (3) Надо разработать такую социальную систему, *которая* максимально *защищала бы* [✓защитит] детей из малообеспеченных семей.
 'We should create a social infrastructure that would protect children coming from families with low income.'
 ⇒ *It may be false or true that* социальная система защитит детей.

In this situation, French also allows alternation between the subjunctive and indicative:

- (4) *Il faut mettre au point un système qui protège* (SUBJ) [✓protégera (FUT)] les enfants de familles pauvres.
 'We should create a social infrastructure that would protect children coming from families with low income.'

COUNTERFACTUAL relative clauses denote situations which have not taken place and will never take place. This type of relative clauses has obligatory subjunctive marking both in Russian and French.

- (5) Вот вам 32 миллиона электората, которые могли бы быть наши.
 ‘Here you go, 32 million electors that could have belonged to us.’
 [Заседание клуба «Новые правые» (2004)]
 ⇒ *It is false that 32 миллиона электората принадлежат нам.*

[1.2] *Data*

The Russian examples come from the Russian National corpus. The French examples are elicited, and I would like to thank Gilles Authier and Denis Creissels for their generous help.

[2] SUBJUNCTIVE IN REAL RELATIVE CLAUSES

One could expect the subjunctive never to mark predicates referring to real situations. There is however a special type of the subjunctive usage which occurs in real relative clauses as well as in other indicative contexts. The subjunctive particle *бы* can be used pragmatically, most often in combination with the 1st person subject, to increase the politeness of the construction. The subjunctive in relative clauses of this type does not signal that the proposition is false (as counterfactual clauses do), nor is it indeterminate with respect to the truth value (like hypothetical relative clauses). These relative clauses unambiguously denote real situations. Subjunctive contexts of this type are often performative (they are considered among other means of expressing performative speech acts in (Apresyan 1995, 203)).

- (6) Я бы хотел так: печатный лист материала — 50 руб., лист своего текста — 100 руб., получать же плату ежемесячно — 100 руб., кроме первого, в котором я попросил бы Вас дать мне 200 руб., ибо полагаю прикупить себе книжек.
 ‘I suggest the following: one quire of these materials is 50 roubles, and one quire of my own text is 100 roubles, and I will get a monthly fee of 100 roubles, but not the first month, for which I would like to ask 200 roubles, because I want to buy some books.’
 [П. С. Сухотин. Письма к К. Ф. Некрасову (1913)]
 ⇒ *It is true that* я хочу так
 ⇒ *It is true that* в первом месяце я прошу вас дать мне 200 рублей.

This usage is most frequent under the verbs *хотеть* and *хотеться*, typically with 1st person reference.

- (7) Есть ещё две темы, которые *я хотел бы* [✓хочу] осветить. Это Ирак и Северная Корея.
 ‘There are two more topics that I would like to cover: Iraq and North Korea’.
 [А. Климов, В. Лукин. Беседа А. Климова с В. Лукиным в эфире радиостанции «Эхо Москвы» (2003)]
- (8) Теперь мы с уверенностью предлагаем его производителям ноутбуков, которые *хотели бы* [✓хотят] создавать эффективные с точки зрения энергопотребления продукты.
 ‘Now, we may safely suggest it to the laptop manufacturers, who would like to produce items that would be efficient in terms of power saving’.
 [Вячеслав Соболев. Есть ли шансы у XGI // «Computerworld», 29, 2004]
 ⇒ *It is true that* производители ноутбуков хотят создавать эффективные ... продукты.

Relative clauses with the pragmatic *бы* may refer to definite NPs and may be non-restrictive:

- (9) Тогда я позвонила своему дорогому Пласидо в Испанию, человеку очень богатому, который, я знала, *хотел бы* [✓хочет] попробовать вложить деньги в скрипки.
 ‘And then I called Spain, I called my dear Placido, a man who is very wealthy and who I knew was interested in investing in the violin.’
 [Сати Спивакова. Не всё (2002)]

[3] SUBJUNCTIVE IN HYPOTHETICAL RELATIVE CLAUSES

In this section, I consider a class of subjunctive relative clauses which have two properties in common:

- the subjunctive is optional in the sense that it can be replaced by the indicative (more or less felicitously)
- the truth value of the situation denoted by the relative clause cannot be established

The usage of the subjunctive in hypothetical relative clauses is described in terms of tendencies rather than strict rules. There are several factors that make the usage of the subjunctive possible in hypothetical relative clauses:

- (a) the polarity of the main predicate
- (b) the semantic type of the main predicate
- (c) the referential status of the head noun of the relative clause

(d) the epistemic status of the main predicate

(e) the affirmative vs. interrogative status of the whole sentence

[3.1] Subjunctive clauses under negative polarity

About 30% of the subjunctive relative clauses in the Corpus are triggered by a main clause containing a negative predicate.

- (10) У нас с техникой безопасности всегда были особые отношения: *не было* такого правила, которое *бы не нарушалось* [✓ не нарушалось], *не было* такого запрета, *на который бы не плевали* [✓ не плевали] . . .

‘We have always been very conscientious about the safety arrangements. There was not a single rule that would not be broken, not a single prohibition that would not be carelessly discarded.’

[Мальчик у шахты тихо играл (2003)// «Криминальная хроника», 2003]

- (11) Но никому *не удавалось сочинить* такую карту, для которой *не хватало бы* [✓ не хватает] четырёх красок.

‘But no one was able to invent a map for which four colors would not be enough.’

[В. А. Успенский. Витгенштейн и основания математики (2002)]

- (12) Самое главное / что там *не видно* силы / которая это *могла бы остановить* [✓ может остановить / остановит].

‘The most important thing is that there is no (political) force that would be able to stop that.’

[Беседа в Воронеже (2001)]

The semantic type of predicate in the main clause

Subjunctive relative clauses are most typical in the contexts with predicates such as *нет*, *(не) существовать*, *(не) было*.

Table 1 shows the results of the search for the construction «нет [from 1 to 8 words] который». I did not consider counterfactual clauses like (5) above, or real clauses like (2). The Corpus shows that the subjunctive is used in the majority of cases, such as (13), while the indicative marking is infrequent, but see (14). Relative clauses with modals such as *мочь*, *можно* were grouped separately, since these predicates often occur under the same conditions as the subjunctive (15); the two phenomena are thus not independent.

| | |
|--|------------|
| subjunctive | 81 % |
| indicative: with modals <i>мочь</i> , <i>можно</i> / other | 8 % / 11 % |

TABLE 1: Relative clauses with the negative predicate *нет* (93 tokens in total)

- (13) Авторы, которые сегодня *писали бы* увлекательные книги для детей, *нет*.
 ‘Today, there are no authors who can/are able to write fascinating children’s books.’
 [Анна Ковалева. Елена Соломатина: «Для детей никто не пишет» (2002) // «Известия», 2002.09.10]
- (14) В самом-самом начале это не так страшно, ещё *нет плаценты*, через которую вся бяка *передаётся*.
 ‘At the very beginning this is not so bad, as there is yet no placenta through which all the infections are transferred.’
 [Беременность: Планирование беременности (форум) (2005)]
- (15) *Нет* и программного обеспечения, которое *может* быстро *обрабатывать* этот поток информации.
 ‘There is no software that allows fast processing of all this information flow.’
 [Александр Волков. Одеться с иголочки и без ниточки // «Знание — сила», 10, 2003]

All sentences in the sample that use the indicative (not counting those the modals *мочь, можно*) have one thing in common: they contain generic statements, indicating that the situation denoted by the relative clause is usually true:

- (16) Я говорю Анне < . . . > что в La Perla *нет* совсем открытого сексуального вызова, который всегда *отдаёт* вульгарностью, но есть чувственная физиологичность.
 ‘I’m telling Anna . . . that La Perla underware is never obviously and crudely sexual, something which always exudes vulgarity, but that it possesses physiological sensuality.’
 [Анна Карабаш. La perla, или мало ли что? (2002) // «Домовой», 2002.]

Compare:

- (17) a. ✓ Здесь нет вызова, который всегда *отдает* вульгарностью.
 b. ?? Здесь нет вызова, который всегда *отдавал бы* вульгарностью.
 c. ✓ Здесь нет вызова, который *отдавал бы* вульгарностью.

The subjunctive is typical of those negative constructions with *нет* which denote specific rather than generic situations:

- (18) Сегодня *нет* ни одной ежедневной газеты, которая *бы не была* откровенным подручным мэра или губернатора.
 ‘Today, there is no daily paper that would not be the mayor’s or the gov-

ernor's obvious mouthpiece.'

[Дмитрий Волков, Владимир Сунгоркин. Кухня управляемой демократии // «Отечественные записки», 2003]

- (19) У моих детей в школе по-моему *нет* ни одного «любимого учителя» . . . который *заинтересовал бы* детей своим предметом . . .
 'At school, my children have no favorite teacher I think . . . a teacher who would get the children interested in the course.'
 [Наши дети: Подростки (2004)]

In addition to the negated predicates, there are predicative words which signal the non-existence of the object, though they have no overt negative element: *отсутствовать, отнимать, лишать, быть лишенным*. These predicates may also take NPs which are relativised by a subjunctive clause:

- (20) Взрослые и дети переживают все три этапа примерно одинаково с той лишь поправкой, что ребенок *лишен* взрослого опыта, *на который мог бы опереться*.
 'Adults and children live through each of these three periods in the same way, the only difference being that a child does not have an adult's experience to rely upon.'
 [Евгения Власова. Дети и смерть (2002) // «Домовой», 2002.08.04]

Subjunctive relative clauses are also typical with prepositional phrases with *без* 'without':

- (21) Здоровые мужики пропадают в колониях годами *без цели* в жизни, *которую могла бы* им дать семья.
 'Healthy, strong men spend years of their lives in penitentiaries. They lack purpose in life which they could find by starting a family.'
 [Сергей Авдеев. Тюрьма и женитьба стали синонимами (2002) // «Известия», 2002.07.17]

Apart from the predicates of absence, subjunctive relative clauses are usually triggered by negative intensional predicates¹. The isolation of this class of predicates seems to be important for the study of the Russian genitive of negation which is semantically close to the hypothetical subjunctive (see Borshchev et al. (2007); Kagan (2007)). According to E.V. Paducheva, the negative genitive of subject is typical of existential and perception verbs (Paducheva 1997), whereas the negative genitive of object is used with verbs of creation, perception, knowledge, possession and movement (Paducheva 2006). The negative counterparts of such verbs imply either the non-existence of the object or subject in question, or its visu-

[1] The properties of certain types of intensional verbs under negation were discussed in Kobozeva (1988).

al absence. Compare, for instance, the following two examples (Paducheva 2005, 88):

- (22) a. Сомнений не возникло.
 ‘No doubts arose.’
 b. *Сомнений не исчезло.
 ‘No doubts faded away.’

A similar approach was adopted by Kagan (after Farkas (1985)) when referring to the notion of weak intensional verbs (“... verbs whose complement clause is not asserted to be true in a given set of accessible worlds but rather is related to world ranking” (Kagan 2007, 103)). According to Kagan, only weak as opposed to strong intensional verbs license the assignment of the Irrealis Genitive and allow the subjunctive mood. The subjunctive relativization of the subject is attested in the Corpus with the following predicates under negation: *быть* (*было, бывает, будет*), *видно, возникать, выдвигаться, найтись, оказаться, оставаться, оставаться, подходить, получаться, попасться, появиться, приниматься, принять, родиться, случиться, создан, состояться, срываться, существовать, хватать, являться*.

- (23) ... В последние же два десятилетия из наших судов *не выдвинулся* ни один судья, *который приобрел бы* всеобщую известность и симпатии в русском обществе ...
 ‘In the last two decades, there has been no judge to step out of our legal system that would become famous and gain the sympathies of the public.’
 [Б. А. Кистяковский. В защиту права (1909)]
- (24) Ещё *не родился* такой экономист, *который бы считал*, что другие делают всё правильно.
 ‘There has been no economist who would admit that others do the right thing.’
 [Сергей Минаев. Есть ли у вас план, мистер Греф? (2002) // «Вечерняя Москва», 2002.04.11]

The subjunctive relativization of a direct object or, sometimes, of a more peripheral argument, occurs with the negated predicates *видеть, вспоминать, встречать, вызывать, вырабатывать, выстроить, делать, довести до, допускать, достичь, задавать (вопросы), замечать, знать, инициировать, найти, обеспечить, обладать, обнаружить, объединены, открыть, подарить, позволять себе, получить, пользоваться (чем), помнить, построить, предпринимать, прекращать, привести, припомнить, продвинуть, произвести (действие), произнести, располагать, родить, сделать, слышать, снабжать, содержать, сочинить, увидеть, употреблять, установить, хотеть*.

- (25) И тут органы власти на местах достаточно неорганизованны, они *не вырабатывают* меры, *которые могли бы* снизить риски.
 ‘And the local administration is not sufficiently organized, they are not developing the kind of measures that would minimize the risks.’
 [Екатерина Григорьева. Валентин Степанков: «Местные власти недооценивают угрозу терроризма» (2003) // «Известия», 2003.10.03]
- (26) Премьер *не допускает* заметных ошибок, *которые могли бы* нанести ущерб репутации власти.
 ‘The prime minister does not make mistakes that would do any harm to the reputation of the officials.’
 [Алексей Макаркин. Черные метки для «белого воротничка №1» (2003) // «Совершенно секретно», 2003.05.05]
- (27) И ушла, *не подарив* ни комплимента, ни воспоминания, *которыми можно было бы* перед Нерлиным погордиться . . .
 ‘And then she left, without offering her either a compliment or a memory to boast when she’d meet Nerlin.’
 [Ольга Новикова. Мне страшно, или Третий роман // «Звезда», 2003]

Under negation, these predicates imply that their argument lacks the presupposition of existence:

- (28) a. Не родился экономист
 ⇒ there is (was) no economist (*lit.* the economist was not born)
 b. Не подарила комплимента
 ⇒ there is (was) no compliment (*lit.* the compliment was not offered)

In the corpus, the only example of a subjunctive clause relativising an object which does not lack the presupposition of existence is a non-affirmative sentence (question):

- (29) Надь, а ты *не пользуешься* никакими кремами, *которые сушили бы* эти прыщики . . . мне как-то от биотерма посоветовали, но я что-то не поварила . . .
 ‘Nadja, don’t you use any cream that would dry out these pimples?.. Once I was advised to use the one made by Biotherm, but I didn’t believe them for some reason.’
 [Красота, здоровье, отдых: Косметика и парфюм (форум) (2004)]

As will be discussed below, an interrogative illocution often increases the acceptability of the subjunctive, cf.:

- (30) ?? Она *не пользуется* кремами, которые *сушили бы* прыщики.
 ‘She does not use any creams that would dry out the pimples.’

The predicates listed above are not homogenous with regard to the “subjunctive-bias”. Some verbs are widely used with the subjunctive both used negatively and positively. For example, the predicates *вспоминать, выбирать, дожидаться, найти / искать, нужен, обеспечивать, определять, открывать, построить, представлять, принимать, сделать, снабжать, создавать, хотеть* take a subjunctive relative clause irrespective of their polarity status.

- (31) a. Он *не ищет* женщину, которая *бы* его любила.
 b. Он *ищет* женщину, которая *бы* его любила.
 ‘He is not / is looking for a woman who would love him.’
- (32) a. Они *не хотят* музыки, которая заставляла *бы* их думать.
 b. Они *хотят* музыку, которая заставляла *бы* их думать.
 ‘They do not want / want the kind of music that would make them think.’

Other predicates, like *видеть, замечать, слышать, обладать*, are hardly ever used with the subjunctive without negation.

- (33) a. Я *не вижу* документов, которые *могли бы* подтвердить этот факт.
 b. Я *вижу* документы, которые *могут* [*могли бы] подтвердить этот факт.
 ‘I can see / I can see no documents that could confirm that.’
- (34) a. Университет *не обладает* средствами, которые *позволили бы* ему приглашать западных профессоров.
 b. Университет *обладает* средствами, которые *позволяют* [*позволили бы] ему приглашать западных профессоров.
 ‘The university does not have/has enough funds to invite Western lecturers.’

This classification is a scale rather than a clear-cut division, since the ability of the verb to license the subjunctive can be increased by some additional factors like the modal *нужно*:

- (35) Мне *нужно* увидеть документы, которые *могли бы* подтвердить этот факт.
 ‘I need to see the documents that would confirm this.’

These factors will be discussed in detail below. Presently, we can claim that:

- (a) All predicates which may introduce subjunctive relative clauses outside negative contexts, may do so under negation as well (with the exception of internally negated predicates like *лишен*). In this paper, I will refer to these predicates as positive-negative subjunctive predicates.

Thus, the negative status of the main predicate is one of the strongest but not the only factor that influences the usage of the subjunctive. The second claim is that:

- (b) There are predicates which license the subjunctive when they are negated, whereas their positive counterparts are hardly used with the subjunctive without some special conditions. I will refer to these predicates as negative-only subjunctive predicates.

What makes these predicates behave in a different way? The general tendency is that negative-only subjunctive predicates imply the existence of an NP when they are used positively:

- (36) a. Я вижу документы \Rightarrow 'the documents exist'
 b. Университет обладает средствами \Rightarrow 'the resources exist'

On the contrary, positive-negative subjunctive predicates do not presuppose the existence of an NP:

- (37) Он ищет женщину \Rightarrow 'the woman he is looking for may exist or not'
 (38) Они хотят музыку \Rightarrow 'the music they want may exist or not'

Thus, the third claim is that:

- (c) The negative-only subjunctive predicates are those whose positive counterparts imply the existence of an NP.

The restriction on the NPs which lack the presupposition of existence leads us to the second factor necessary for the felicity of the subjunctive relative clause: the head NP must be non-specific.

Referential status of the head noun

The constraint that the referent of the noun should not exist explains why definite and specific objects are not likely to become the heads of subjunctive relative clauses even under negation, cf. examples (39) and (40). In (39), the subjunctive relative clause is not felicitous, since the subject (*женщина*) is unique and real; in (40), the existence of the subject (*женщина*) is not implied (examples of E.V. Paducheva).

- (39) Не вижу *женщину*, которая *стояла* [*стояла бы] недалеко от выхода.
'I do not see the woman who stands next to the exit'
- (40) Не вижу *женщины*, которая *стояла бы* недалеко от выхода.
'I don't see any woman standing next to the exit'

Subjunctive relative clauses under negation most often refer to a non-specific NP and thus tend to be restrictive.

Tense

The main clause of the sentences under negation is not restricted in terms of temporal reference.

PAST

- (41) Говорят, *не было* ни одной отрасли знания, которой *бы он не интересовался* и которую *бы он не изучал*.
'They say, there was not a single branch of knowledge that he would not be interested in and would not investigate.'
[Георгий Орлов. Галерея масонских портретов (2003) // «Лебедь» (Бостон), 2003.07.28]

PRESENT

- (42) Я *не знаю* таких примеров, которые *подтверждали бы* ваш тезис.
'I know of no examples that would support your point.'
[Борис Нисневич. ЕГЭ для Путина (2003) // «Калининградская правда», 2003.06.10]

FUTURE

- (43) Убежден, что в Думе *не будет* одной фракции большинства, у которой *было бы* 226 голосов.
'I am convinced that there will not be a single majority party in the Duma that will have 226 seats.'
[Евгений Жеребенков. Кадры мешают все (2003) // «Итоги», 2003.03.25]

Russian and French

The comparison with French shows an important difference between the two languages. Unlike Russian, in French, indicative relative clauses are impossible with a negative predicate or under negation.

- (44) Il *n'y a pas* aujourd'hui d'auteurs qui *écrivent* (SUBJ) des livres qui intéressent les enfants.

‘Today, there are no authors who can / are able to write fascinating children’s books.’

- (45) Je *n’ai jamais* commis d’actions dont *j’aie* (SUBJ) à avoir honte.
 ‘I have never done things that would make me feel ashamed of myself.’
 *Je *n’ai jamais* commis d’actions dont *j’ai* (IND) à avoir honte.
- (46) L’enfant *manque* d’expériences sur lesquelles il *puisse* (SUBJ) s’appuyer.
 ‘The child lacks experience he could rely upon.’
 *L’enfant *manque* d’expériences sur lesquelles il *peut* (IND) s’appuyer.

Truth value

Thus, Russian relative clauses under negation, which imply the lack of presupposition of existence of the head noun, can be expressed both by the indicative and by the subjunctive, while French requires the usage of the subjunctive only.

Why do both languages license the subjunctive under negation? The fact can be connected to the well-known typological observation that there are languages which consistently mark negative events as unreal, because the negated event has never occurred in the real world. According to (Elliott 2000, 78) (after (Mithun 1995)), languages which mark a realis / irrealis distinction fall into two main types. Some languages consider the non-occurrence of an event as an actual occurrence in the real world: the event did not occur and these languages therefore mark negated events by the realis mood. Other languages mark negated events by the irrealis mood since the negative predicate denotes the event which did not occur in the real world. The languages which have no morphological realis / irrealis distinction, such as Russian and French, do not mark negative verbal forms by the irrealis mood, but, as we have seen, use other means to indicate that the negated situation is not real. French chooses the subjunctive since it interprets the properties of the negated situation as unreal, based on the fact that they do not exist in the real world. The properties of the negated situation are thus considered to be equal to a “genuine” counterfactual situation.

Russian is ambivalent: relative clauses under negation can be marked by the subjunctive or by indicative, if the head noun lacks the presupposition of existence. Why do relative clauses triggered by a non-specific NP license both the subjunctive and indicative?

I suggest the following explanation. If the head noun is indefinite, it denotes a class of objects rather than an individual object. The negation of such NPs does not necessarily imply that the situation, which is denoted by the relative clause, could not occur. The speaker cannot be as confident about the absence of a non-specific object as he can when the object is specific, definite and individuated. In example (47a) below, the speaker can choose the indicative because the situation may occur in some possible world – generally speaking, authors who write good

children's books may exist. On the other hand, the speaker is also free to choose the subjunctive, because the situation is unreal with regard to the particular case that he is speaking about (example (47b)).

- (47) a. Нет авторов, которые *пишут* интересные книги для детей.
'There are no authors who can/are able to write interesting children's books'.
b. Нет авторов, которые *писали бы* интересные книги для детей.
'There are no authors who can/are able to write interesting children's books'.

[3.2] *Subjunctive relative clauses under positive polarity*

As was shown in the previous section, the presence of negation in the main clause is a strong factor which influences the usage of the subjunctive in relative clauses. However, the subjunctive is not used exclusively under the scope of negation. The availability of the subjunctive with positive predicates depends on the following factors:

- (a) the semantic type of the predicate
- (b) the referential status of the head noun
- (c) the epistemic status of the relative clause
- (d) the affirmative vs. interrogative status of the utterance

Semantic type of the predicate

The range of predicates that license the subjunctive in relative clauses without being negated (defined in the previous section as positive-negative subjunctive predicates) is more limited than those that license the subjunctive under negation.

The hypothetical subjunctive is often used in relative clauses introduced by a main clause containing an intensional verb or noun, a verb of creation, or a modal predicate such as *необходим, нужен*. All these verbs and nouns indicate either that the object or the event referred to by the head NP does not yet exist (48a), or that there is no reliable evidence confirming whether it exists or not, cf. (48b), (48c), (48d).

- (48) a. Вячеслав Глазычев предложил *создать* так называемое «второе метро», *которое имело бы* не кольцевую структуру, а пересекало бы город поперек.
'Vyacheslav Glazychev suggested to create the so-called 'second subway' that would not be "circular" in structure but would cross the

city in a straight line.’

[Генплан не поможет // РБК Daily, 2007.12.06]

- b. Таким манипулированием изменить статус правительства / как-то попытаться / чтобы *выбрать* нормального человека / *который бы отвечал* за свои действия.
‘... to change the position of the government through such manoeuvring / as to somehow try / to elect a reasonable person / who would feel the responsibility for what he does.’
[Беседа в Воронеже (2003)]
- c. Ищу внебюджетную организацию, *которая бы позволила* не развалить профессиональный спорт и эти достижения.
‘I am looking for a non-federal organization that would not allow the destruction of professional sport and its achievements.’
[Виктор Филиппов, Архангельск. ‘Водник’ приговорили к безденежью // Известия, 2007.12.24]
- d. «Локо» *необходима* твердая рука, *которая наконец направила бы* команду в нужном направлении, *сделала бы* результаты и игру команды стабильными.
‘“Loco” needs a tough manager who would in the end steer the team in the right direction, who would make the team’s results and performance more consistent/stable.’
[Артемий Бартков. Дотерпим // РБК Daily, 2007.12.05]

According to our data, the following predicates and verbal nouns occur with subjunctive relative clauses: *агитировать, выбрать, выдвинуть, дожидаться, ждать, искать / найти, необходим, нужен, обеспечить, образовать, определить, организовать / организация, открывать (магазин), подготовить, построить / построение, представить, привлекать / привлечение, придумать, принимать, разработать / разработка, сделать, снабдить, создать / создание, формировать, формулировать.*

Thus, the main factor which triggers the usage of the subjunctive with positive predicates is no commitment that the head noun exists. However, these predicates are not homogenous and allow the subjunctive to varying degrees. Some of them are compatible with the subjunctive without any additional conditions, whereas others need a special context supporting the possibility of the subjunctive:

- (49) a. Мы *ищем* цель, к которой *будет стремиться* [✓стремилось бы] все общество.
‘We are looking for an objective that would interest the wider public.’
- b. Мы *представляем* себе цель, к которой *будет стремиться* [??стремилось бы] все общество.

‘We may have in mind an objective that would interest the wider public.’

Various factors that increase the predicate’s compatibility with the subjunctive will be discussed further below.

Non-specific NPS

The subjunctive is more likely to be used the less referential the nominal phrase is. This was shown by (Kagan 2007, 168):

- (50) a. Lena *khočet najti* človeka, ktoromu ona *byla by*
 Lena wants find(INF) man(ACC) that she be(PAST) SUBJ
nužna.
 needed
 ‘Lena wants to find a man that would need her.’
 b. Lena *khočet najti* človeka, ktoromu ona *nužna.*
 Lena wants find(INF) man(ACC) that she needed
 ‘Lena wants to find a man that needs her / the man who needs her.’

Only (50b) can mean that Lena is looking for a particular man who, as she knows, needs her. Similar examples were discussed in (Dobrushina 2009, 293).

The correlation between the specificity of the arguments and the use of irrealis has been observed in different languages and has been discussed in the typological studies (Givón 1994, 302), (Chafe 1985, 362), (Plungian 2005, 138). The more specific the arguments of the predicate are, the less likely is the use of irrealis.

This is why subjunctive relative clauses are more typical of nominal phrases that are modified by the pronoun *такой* (‘such’), whereas NPs modified by the pronoun *та* (‘that’) more often head indicative relative clauses. An NP with *такой* usually refers to a class of objects and is thus more compatible with the irrealis mood form, while an NP with *та* refers to a single object, even if it is not definite.

- (51) Теперь главная моя задача — *найти такого* Савву Морозова или мадам фон Мекк, *которые бы вложили* деньги в мой проект.
 ‘Now, my main problem is to find somebody like Savva Morozov or M-me von Mekk who would invest in my project.’
 [Белла Езерская. Музыкальная история (2003) // «Вестник США», 2003.]

- (52) Я найду *ту*, которая *полюбит* меня. Она должна быть молодой, умной, красивой, доброй, отзывчивой, верной.
 ‘I will find the one who will love me. She must be young, clever, beautiful,

kind, sympathetic, and faithful’.

[Владимир Шахиджанян. 1001 вопрос про ЭТО (NN 1-500) (1999)]

Subjunctive relative clauses licensed by intensional or modal predicates are always restrictive. Cf. a non-restrictive relative clause in (53) where only the indicative is possible:

- (53) *Необходимо использовать инерцию падения тела, которое само выбросит* [* выбросило бы] вас в защитную позицию.

‘One has to use the momentum of a falling body that will make you adopt a defensive position.’

[Алексей Яшкин. Акробатика в каратэ (2004) // «Боевое искусство планеты», 2004.06.10]

However, there are some examples where hypothetical subjunctive relative clauses are used with definite NPs. Example (54) below can be interpreted hypothetically; and the subjunctive in the relative clause can be substituted by the future indicative:

- (54) В таком случае / вам нужно пригласить сюда мою маму / которая очень много *бы* вам сказала [✓ скажет].

‘Then you should invite my mom to come here / she could tell you really a lot’.

[Беседа с Д. Арбениной, лидером группы «Ночные снайперы», «Школа злословия», канал «Культура» (2003)]

The subjunctive in (54) is possible because the situation which is denoted by the relative clause is highly improbable (the mother of the interviewee is unlikely to be invited to the talk-show). The strong factor which triggers the usage of the subjunctive is thus the epistemic status of the relative clause.

Epistemic status of the relative clause

The subjunctive in a relative clause with an intensional verb becomes more probable if the intensional verb is introduced by a modal matrix verb. Modal verbs often signal that the speaker is uncertain with regard to what is asserted. The subjunctive is more probable if the probability of a particular situation to happen is smaller. Table 2 on the following page shows the results of the search for different modal verbs with the verb *найти* in the corpus.²

The table shows that the subjunctive is more felicitous with those modifiers which imply a low probability of the existence of an object / situation:

[2] The idea for this search was suggested by Maria Kholodilova.

| | SUBJUNCTIVE relative clause (number of ex.) | INDICATIVE relative clause (number of ex.) |
|--|---|--|
| <i>трудно</i> найти (находить) | 75 | 3 |
| <i>сложно</i> найти (находить) | 5 | 2 |
| <i>едва ли (воз)можно</i> найти (находить) | 3 | 0 |
| <i>вряд ли можно найти</i> (находить) | 4 | 0 |
| <i>нельзя</i> найти (находить) | 8 | 1 |
| <i>невозможно</i> найти (находить) | 8 | 5 |
| <i>необходимо</i> найти (находить) | 8 | 6 |
| <i>нужно</i> найти (находить) | 11 | 10 |
| <i>надо</i> найти (находить) | 19 | 12 |
| <i>можно</i> найти (находить) | 4 | 46 |
| <i>легко</i> найти (находить) | 0 | 5 |
| <i>нетрудно</i> найти (находить) | 0 | 8 |

TABLE 2: Relative clauses with modals + найти

- (55) *Трудно найти* такого еврея, который *не захотел бы* лечь в назначенный час в иерусалимскую землю, среди своих, на вечное хранение . . .

‘It is hard to find a Jew who would not like to be buried in the Jerusalem soil, to rest in peace amidst his own brethren.’

[Давид Маркиш. Статья Лютовым. Вольные фантазии из жизни писателя Исаака Бабея // «Октябрь», 2001]

- (56) Вместе с тем, *вряд ли можно найти* такое же количество судей, которые *бы знали*, каковы закономерности применения оговорки на практике.

‘At the same time, it is hardly possible to find the same number of judges who would know how the provision is practically applied.’

[«Арбитражный и гражданский процессы», 2003.06.23]

The speaker’s high degree of confidence that the situation may take place would more likely be expressed by the indicative, as in (57), though the subjunctive is not ungrammatical either:

- (57) Прежде всего потому, что *всегда можно найти* достойную, абсолютно честную работу, *которая обеспечит* [✓ *обеспечила бы*] достаток и тебе самому, и твоей семье.

‘And first of all, because it is always possible to find a worthy and honest

job that will guarantee you and your family a decent income.’

[Смотрите, кто уехал (2002) // «Известия», 2002.12.24]

The modal verbs *необходимо*, *нужно*, *надо* do not convey any estimate of the probability of the situation in the relative clause. There are thus equal chances that the subjunctive or indicative will be chosen.

- (58) *Надо* разработать такую социальную систему, которая максимально защищала бы детей из малообеспеченных семей.

‘We should create a social infrastructure that would support children coming from families with low income.’

[Ирина Мельникова. Школа выживания (2003) // «Итоги», 2003.02.11]

- (59) *Необходимо* каждый раз находить эту щемящую ноту, которая бы пронзила зрителей.

‘Again and again one has to find a melancholy pitch that would pierce the audience.’

[Анастасия Гулина. Слух к чужой боли (2003) // «Богатей» (Саратов), 2003.09.11]

The modal adjectives *необходим* and *нужен* may also trigger both subjunctive or indicative relative clauses. Table 2 shows the statistics for the subjunctive vs. indicative predicates in relatives clauses with these adjectives. According to these data, the indicative occurs more often:

| | SUBJUNCTIVE relative clause (number of examples) | INDICATIVE relative clause (number of examples) |
|--------------------|--|---|
| <i>необходим X</i> | 29 | 46 |
| <i>нужен X</i> | 28 | 53 |

TABLE 3: Relative clauses with modals *необходим* and *нужен*

Factors influencing the choice of the mood after these modal words are not always clear. It seems that there is a tendency to choose the indicative when describing concrete situations, cf. (60) and (62), whereas the subjunctive is more used to describe generic situations, as in (61) and (63):

- (60) Юрист-теоретик тоже не сможет помочь, *здесь необходим человек, который знает* именно практическую сторону вопроса.

‘A legal theoretician won’t be able to help, either; here you need someone who knows the practical ins and outs of this problem.’

[Мария Демидова. Малому бизнесу пока невыгодно выходить из тени (2003)]

- (61) Для осуществления реставрации парка *необходимы* специалисты по ландшафтному дизайну и паркостроению, *которые могли бы* осуществить составление сметы стоимости восстановительных работ . . .
 ‘To reconstruct the park we need landscape and public park designers who would be able to evaluate the cost of the restoration works.’
 [Мария Дробина. Основные направления реконструкции пейзажного парка-усадьбы Братцево (2003) // «Биология», 2003.07.01]
- (62) *Тут нужен* директор, *который будет* действовать в жестко очерченных рамках.
 ‘Here, we need a director who would work within a very clearly defined framework.’
 [Алексей Жданов. Как управиться с менеджером // «Деловой квартал» (Екатеринбург), 2003]
- (63) Нам *нужны* такие руководители, *которые хотели бы* развиваться как квалифицированные менеджеры . . .
 ‘We need business managers who would be willing to develop into highly qualified CEOs.’
 [Алексей Жданов. Как управиться с менеджером // «Деловой квартал» (Екатеринбург), 2003]

Other predicates are compatible with the subjunctive almost exclusively in contexts which imply that the situation is improbable. For example, the verb *представлять* (‘have in mind’) is hardly used with the subjunctive without modifiers which emphasize that the situation is unlikely to occur, whereas *искать* does not need any support context:

- (64) a. Мы *ищем* цель, к которой *будет стремиться* [✓ стремились бы] все общество.
 ‘We are looking for an objective that would motivate the general public.’
- b. Мы *представляем* себе цель, к которой *будет стремиться* [?? стремились бы] все общество.
 ‘We have in mind an objective that would motivate the general public.’
- c. *Трудно представить* себе цель, к которой *будет стремиться* [✓ стремились бы] все общество.
 ‘It is hard to think of an objective that would motivate the general public.’

If the situation denoted by the relative clause is judged to be improbable, the clause may use the subjunctive even with negative-only subjunctive predicates. Compare example (65a) with (65b) and (65c):

- (65) a. Университет *обладает* средствами, которые *позволяют* [*позволили бы] ему приглашать западных профессоров.
‘The university has funds that allow it to invite professors from the West.’
- b. Мало российских университетов *обладают* средствами, которые *позволили бы* им приглашать западных профессоров.
‘There are not many Russian universities that have funds that allow them to invite professors from the West.’
- c. *Вряд ли* этот университет *обладает* средствами, которые *позволили бы* ему приглашать западных профессоров.
‘It is improbable that this university has funds that would allow it to invite professors from the West.’

Questions

The subjunctive is often possible in questions. The modal verb *можно* tends to introduce indicative relative clauses (see Table 2 on page 198). But in interrogative sentences, the subjunctive is used more often; (concerning the usage of the irrealis mood in questions in other languages see (Palmer 2001, 172–173)):

| | SUBJUNCTIVE relative clause (number of ex.) | INDICATIVE relative clause (number of ex.) |
|--|---|--|
| <i>можно</i> найти (находить) | 4 | 46 |
| <i>можно ли</i> найти (находить) . . . ? | 7 | 1 |

TABLE 4: Relative clauses in interrogatives

- (66) *Можно ли найти* еще одну отрасль научного знания, *которая бы* так прочно *вошла* в нашу жизнь?
‘Is it possible to find another branch of scientific knowledge that would be so strongly integrated into our everyday life?’
[М. А. Степанова. Психология в образовании: психолого-педагогическое взаимодействие (2003) // «Вопросы психологии», 2003.07.22]

Another piece of evidence for the special correlation between the subjunctive and interrogatives comes from examples where a subjunctive relative clause is used with a definite NP:

- (67) Прочтя эти строчки, я пожал плечами: еще несколько месяцев тому назад кто бы мог себе представить *Андрея, который бы говорил* [✓ говорит] о южном небе и сладости бытия?
 ‘I read these lines and shrugged: a few months ago, who on earth would have imagined Andrej speaking about the Southern sky and the delight of being?’
 [Г. А. Газданов. Эвелина и ее друзья (1971)]

Questions license the usage of the subjunctive even if the verb is not intensional, cf. the examples below.

- (68) a. — Скажи, тебе приходилось *влюбляться* в женщину, которая *была бы* старше тебя?
 ‘Tell me, have you ever been in love with a woman who is older than you?’
 [Коллекция анекдотов (1970-2000)]
 b. *Мне приходилось *влюбляться* в женщину, которая *была бы* старше меня.
 ‘I have been in love with women older than me before.’
- (69) a. *Есть ли* у него родня, *есть ли* хоть на свете человек, который *бы* искренне, от души *пожалел* его?
 ‘Does he have any relatives, a single soul who would be sorry for him in a sincere and hearty way?’
 [Владимир Тендряков. Тройка, семерка, туз (1961)]
 b. ??У него *есть* родня, *есть* человек, который *бы* искренне, от души *пожалел* его.
 ‘He has relatives, there is someone who would truly feel sorry for him, from the bottom of his heart.’

Tense and aspect

Unlike subjunctive relative clauses under negation, which often have a past or present reference, the main clause of positive sentences typically refers to the future or has a generic reference. This difference between negative and positive clauses can be explained by their semantics. Negative clauses, as was shown above, are inherently unreal, since they denote an event which does not exist in the real world. Positive clauses can always be interpreted as unreal in the future, and, with a very restricted set of predicates, in the past and present. Compare (70a) and (70b), which do not imply that the woman does in fact exist, with (70c) where the verb is perfective and it is implied that the woman is found. The clause is thus real and the subjunctive is not allowed:

- (70) a. *Хочу найти / ищу* женщину, которая пустила бы меня переночевать.
 'I want to find a woman who would let me in for a night'.
 b. *Я искал* женщину, которая пустила бы меня переночевать.
 'I was looking for a woman who would let me in for a night'.
 c. * *Я нашел* женщину, которая пустила бы меня переночевать.
 'I found a woman who would let me in for a night'.

Russian and French

In French, hypothetical relative clauses may also optionally use subjunctive marking. The choice of the verb form depends mainly on how certain the speaker is about the eventual truth (or not) of the event.

- (71) *Ils ont prévu de créer un centre qui réunisse (SUBJ) / réunira (FUT) les caucalogues.*
 'They planned to create a department that would bring together specialists in the field of Caucasian studies.'
 (72) *Votre rôle c'est d'organiser un jeu qui intéresse (SUBJ) / intéressera (FUT) les enfants.*
 'Your mission is to launch a game the children would be interested to play.'
 (73) *Il faut mettre au point un système qui protège (SUBJ) / protégera (FUT) les enfants de familles pauvres.*
 'It is necessary to come up with an infrastructure that would protect the children coming from families with low income.'

If the sentence denotes the situation which is highly unlikely to occur, the subjunctive is preferred:

- (74) *Il est difficile à un petit pays d'entretenir une armée qui puisse (SUBJ) / *IND faire face à l'ennemi.*
 A small country can hardly keep an army that would be able to withstand the enemy.

The subjunctive is used when the relativized object is non-specific. In (75a), the interpretation of the sentence depends on the form of the predicate: the indicative would mean that the coach wants to take some particular player, while the subjunctive implies that the player is as yet unknown³. Example (75b) does not allow the usage of the subjunctive because the NP is definite and the relative clause is non-restrictive.

[3] cf. "In Italian, and in other Romance languages, when the relative clause displays subjunctive marking . . . , it forces the non-specific / attributive reading of the indefinite expression" (Panzeri 2004).

- (75) a. L'entraîneur veut engager un joueur qui *élèvera* (FUT \Rightarrow SPECIFIC) / *élève* (SUBJ \Rightarrow NON-SPECIFIC) le niveau de l'équipe.
 'The coach wants to enroll a new player who will take the team to a higher level.'
- b. L'entraîneur veut engager Petrov, qui *élèvera* (FUT) le niveau de l'équipe.
 'The coach wants to enroll Petrov who will take the whole team to a higher level.'

Truth value

From the logical-semantic point of view, hypothetical relative clauses denote situations that may happen in the future and thus cannot be characterized as true or false in the present.

- (76) Потому что здесь *нужны* законы, *которые бы наказали* его за дискриминацию на работе.
 'Because here we need a legislation that would punish him for discriminatory behavior at work.'
 [М. Ганапольский, Е. Лахова. Беседа М. Ганапольского с Е. Лаховой в прямом эфире «Эха Москвы» (2003)]
 \Rightarrow *It may be true or false that* законы накажут его за дискриминацию на работе.

[3.3] *Summary*

To sum up, the following factors contribute to the possibility to use the subjunctive in Russian hypothetical relative clauses. The main factor is that the situation expressed by the relative clause is neither true nor false, since there is a lack of knowledge about its truth value. This usually happens if

- The predicate of the main clause is negative
- The predicate of the main clause is intensional (if the sentence is affirmative)
- The head noun is non-specific
- The predicate of the main clause is introduced by a modal, especially a modal marking low epistemic status
- The sentence is a question; interrogative modality licences the usage of subjunctive relative clauses even with non-intensional verbs and definite NPs.

[4] SUBJUNCTIVE IN THE COUNTERFACTUAL RELATIVE CLAUSES

The usage of the subjunctive in relative clauses can be motivated by the counterfactual semantics of the situation. In this case, the subjunctive refers to an event

which did not and will never occur, even though the speaker considers it as an alternative to the one which had really occurred. The truth value is definitely negative, and the subjunctive cannot be substituted by the indicative.

- (77) С этим наставлением, которое *спасло бы* [*спасло] множество жизней в голодные годы, будь оно услышано, Дюма покинул Россию.
'After delivering this warning (that could have saved lots of lives during the years of the famine had it been taken into consideration), Dumas left Russia.'

[Рецепты национальных кухонь: Франция (2000-2005)]

⇒ *It is false that* это наставление спасло множество жизней в голодные годы.

- (78) Во время обысков в их квартирах изъяли арсенал, которого *хватило бы*, чтобы вооружить пехотное отделение.
'When their flat was searched, stocks of weapons were found that would be enough to equip an infantry squad.'

[Ляна Шарова. Трассовики (2003) // «Ежедневные новости» (Владивосток), 2003.01.17]

⇒ *It is false that* арсенала хватило, чтобы вооружить пехотное отделение.

These contexts perfectly correspond to the typical conditional counterfactual usage of *бы* in conditional clauses:

- (79) Если бы это наставление было услышано, оно спасло бы множество жизней.
'Had they paid heed to his admonitions, many lives would have been saved.'
- (80) Если бы арсенал не изъяли, его бы хватило, чтобы вооружить пехотное отделение.
'If the stocks of weapons had not be found and confiscated, the amount discovered would have been enough to arm an infantry squad.'

The predicate of the main clause is not necessarily intensional, so that the head noun is not necessarily presupposed not to exist. For example, the head noun in (81) denotes a definite group of people which is specific.

- (81) Вот вам 32 миллиона электората / которые могли бы быть наши.
'Here you go, 32 million electors that could have belonged to us.'
[Заседание клуба «Новые правые» (2004)]

Thus, counterfactual subjunctive relative clauses can also be non-restrictive:

- (82) Жаль, нет уже *В.В. Кожина*, с которым можно было бы здесь поговорить.
 'It's a pity there is no V.V. Kozhinov with whom one could have a talk here.'
 [Сергей Есин. Выбранные места из дневника 2001 года (2003) // «Наш современник», 2003.06.15]

To sum up, counterfactual clauses are free of all restrictions which were found for hypothetical relative clauses:

- They are not confined to intensional predicates
- They are not restricted to non-specific NPs
- They are not sensitive to polarity (i.e. they are used in both positive and negative utterances, and in interrogatives).

[5] CONCLUSION

Table 5 on the facing page provides a comparison of the three types of subjunctive relative clauses which were studied in the present paper. What is labelled the *REAL* (*PRAGMATIC*) subjunctive is almost synonymous with the indicative and can always be changed into an indicative form; it has no restrictions with regard to the type of the main predicate and the referential status of the head noun. Normally, it is used in dialogues and often has 1st person reference.

- (83) Вот вино, которое я *хотела бы* [✓хочу] / *предложила бы* [✓предлагаю] попробовать.
 'Here is the wine that I would like you to taste.'

The next group, the *HYPOTHETICAL* subjunctive can be changed into indicative and describes a situation which has no truth value, since the speaker is not in a position to evaluate its truth. The main clause typically contains a negation and/or an intensional verb and the head noun is often low on the specificity scale.

- (84) Мне нужно найти вино, которое *стоило бы* больше ста долларов за бутылку.
 'I need to find a wine that would cost more than a 100 dollars per bottle.'

However, the restriction regarding intensional verbs and non-specific NPs may be ignored if the sentence is interrogative or negative:

- (85) а. Когда-нибудь я попробую вино, которое *стоит* [*стоило бы] больше 100 долларов.
 'One day I will drink wine that costs over a 100 dollars.'

- b. Ты когда-нибудь пробовала вино, которое *стоило бы* больше 100 долларов?
 ‘Have you ever had wine that would cost over a 100 dollars?’
- c. Я никогда не пробовала вина, которое *стоило бы* больше 100 долларов.
 ‘I never drank wine that would cost over a 100 dollars.’

Hypothetical clauses are fluctuating not only in that they allow both the subjunctive and indicative in Russian, but also in that Russian and French interpret hypothetical clauses differently since French has an obligatory subjunctive in relative clauses under negation.

Finally, COUNTERFACTUAL subjunctive relative clauses describe a situation which will never occur. These sentences lack all restrictions typical for hypothetical clauses and subjunctive clauses under negation: they can be headed by specific NPs and are not confined to intensional verbs.

| | real subj. clauses | hypothetical subj. clauses | | counterfactual subj. clauses |
|---|--------------------|--------------------------------|----------------------------|------------------------------|
| | | subj. under neg. predicate | subj. under pos. predicate | |
| the subjunctive can be substituted by the indicative | yes | yes in Russian no in French | yes | no |
| truth value | true | not established | | false |
| predicates in the main clause must be intensional verbs | no | yes | | no |
| the head noun has to be low on the specificity scale | no | yes | | no |
| typical tense marking in the main clause | pres | past / pres / fut | pres / fut | past / pres |

TABLE 5: Real, hypothetical, counterfactual

The difference between the “genuine” counterfactual clauses, on the one hand, and the hypothetical subjunctive clauses and subjunctive clauses under negation, on the other, can be explained by the semantics of the Russian subjunctive. In Russian, the subjunctive is used to mark situations which are unlikely to come true. The “more unreal” the situation is judged by the speaker, the higher is the probability of subjunctive marking. Counterfactual situations meet this condition, since they are unlikely to occur; and thus they are always marked by the subjunctive. Hypothetical clauses, marked by the subjunctive, demand some ad-

ditional conditions which increase their “irreality”: negative polarity, low referential status of the NP, no existential commitment contributed by the verb of the main clause, modal verbs of low probability, and interrogative modality. The results of the present paper fit nicely with typological studies on this topic. According to Plungian, there are three semantic components which can influence the speaker’s choice with regard to the marking of reality status:

- ‘having taken place’
- ‘being certain’
- ‘being specific’

“When all these components agree, unreal marking is highly probable or even obligatory” (Plungian 2005, 138). As has been shown, the possibility of using the subjunctive in hypothetical relative clauses should be described by means of a scale rather than in terms of a set of cases / contexts. This and similar linguistic phenomena represent a perfect object for corpus-based studies, since corpus data allow us to calculate frequencies.

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VOCATIVES AND OTHER DIRECT ADDRESS FORMS: A CONTRASTIVE STUDY

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ABSTRACT

In this paper I analyze Russian direct address forms, both the distinct truncated vocative and nominative-case direct address forms. I contrast the formal and functional restrictions on the truncated vocative with vocatives in other languages (e.g. Czech and Polish), and I compare the interpolation of Russian direct address forms in an utterance to the situation in English. While similarities are found both in the form and the usage of Russian direct address forms with those in other languages, the prosodic and syntactic constraints in English are considerably stronger than in Russian, which means that the punctuating function of direct address forms is considerably more flexible in Russian than in English.

«What do you mean?»
«I'm seriously thinking I may
resign, Jim.»
The fact that he used my name
seemed almost as important as the
statement that preceded it.
Was he saying one thing or two?

Don DeLillo, *The Names*.

[1] INTRODUCTION

The aim of this paper¹ is to compare certain aspects of Russian direct address form usage with that in other languages, especially English, Czech, and Polish. By direct address form I mean any expression used to attract or maintain the addressee's attention, as in (1), as opposed to other, non-address usages (e.g. as arguments), as in (2):

(1) *Mr. Smith*, could you tell us about your trip to Washington?

[1] I wish to thank the two anonymous reviewers for their detailed comments on an earlier draft of this article.

- (2) a. *Mr. Smith* went to Washington.
 b. I saw *Mr. Smith* on the train.

The term *vocative* will, in contrast, be used in a restricted sense to refer only to direct address forms that are formally distinct from the nominative.² In Russian there are two types of distinct forms: the truncated vocative (the so-called "neo-vocative"),³ as in (3), which is the only productive vocative in modern Russian; and the historical Slavic vocative, as in (4), which is found in a few frozen forms used mainly as invocations or interjections:⁴

- (3) мам! Тань!, Саш!, Никит!, тетъ Ань!,
 Mom-VOC, Tanja-VOC, Saša-VOC, Nikita-VOC, Aunt-VOC Anja-VOC,
 ребят!
 kids-VOC
- (4) боже!, господи!
 god-VOC, lord-VOC

In the presentation below, we will consider truncated vocatives (as in (3)) and non-truncated direct address forms, but the historical Slavic vocative remnants in Russian, as in (4), will not be discussed further here since they only exist as frozen forms.

[2] THE TRUNCATED VOCATIVE IN RUSSIAN

[2.1] *Formal peculiarities of the Russian truncated vocative*

The Russian truncated vocative presents certain peculiarities that set it apart from other forms (from Parrott (1993, 1995); see Daniel' (2009) for a more recent discussion of these factors):

- (a) The truncated vocative is formed on personal names and kinship terms having a penultimate-stressed nominative in -a (e.g. *Petrúšk!* [*<Petrúška*] but not

[2] I am following Daniel & Spencer (2009) in reserving the term "vocative" for forms that are distinct from the nominative, but this distinction between vocative and direct address form is by no means widely observed (Daniel and Spencer use the term *form of address* instead of *direct address form*). Linguists working on direct address forms in languages where there is no distinct vocative form generally prefer the term "vocative" over "address form" or "form of address", since the latter terms are commonly used to speak of the choice of expression used to refer to a person, rather than forms used specifically to *address* a person directly. But since Russian can use both distinct vocative forms (as in (3)) and regular nominative-case direct address forms, some terminological distinction needs to be made between the two types, and I hope that choosing the term *direct address form* will remove some of the potential ambiguity.

[3] As shown in Parrott (1993) and, more recently, Daniel' (2009), the so-called neo-vocative is not so new; it is reported from the mid-19th century (see Obnorskij (1925)) and could be considerably older even though not attested.

[4] I use the exclamation point to mark vocatives and other direct address forms used in isolation even though they need not be uttered as exclamations.

**Ivánušk!*⁵ [*<Ivánuška*]), i.e. mostly singular *a*-declension nouns,⁶ but the vocative forms *rebjat!* [*<rebjata*] "kids!/guys!" and *devčat!* [*<devčata*] "girls" are irregular plurals.

- (b) If a non-diminutive familiar form exists for a first name (e.g. *Jura < Jurij*), truncated vocative are not normally formed from the full name: *Inn!* [*<Inna*] and *Nikit!* [*<Nikita*] are acceptable because they have no familiar forms, only diminutives, but ???-**Ol'g!* [*<Ol'ga*] and ???-**Ann!* [*<Anna*]⁷ are usually not possible because they have familiar forms *Olja* and *Anja*, which can undergo vocative truncation: *Ol'!*, *An'!*. This restriction appears to be weakening, however, at least for some names; Daniel' (2009, 233-234) cites some (mostly, but not exclusively, recent) examples from the Russian National Corpus of truncated vocatives from full first names that do have familiar forms (e.g. *Svetlan!*), but their usage remains marginal.
- (c) The truncated vocative does not produce vowel-zero alternations (e.g. *Jurk!*), whereas elsewhere in the system such alternations are required (cf. *U nas v detskom sadu neskol'ko Jurok/*Jurk*).
- (d) The truncated vocative does not cause mandatory devoicing of consonants word finally (*Nad'!* [nad']/[nat']), whereas elsewhere in the system such devoicing is mandatory (cf. *V klasse bylo mnogo Nad' [nat']/*[nad']*).

In Parrott (1993, 78) it was suggested that the peculiarities given in (c) and (d) could be accounted for by positing a voiceless or devoiced vowel as the ending, which leaves the underlying structure intact, in which case the term "truncated" is something of a misnomer. Daniel & Spencer (2009, 629) consider that the Russian vocative is an example of phonological truncation (as opposed to morphological truncation).

[2.2] Functional peculiarities of the Russian truncated vocative

The Russian vocative also presents certain peculiarities in its usage, as compared to vocatives in other languages (from Parrott (1993) and Parrott (1995)).

[5] My Russian examples have been evaluated by a number of different speakers: firstly by a group of speakers who grew up in the Soviet Union (1 female from Leningrad b. circa 1930, 1 male from Moscow b. circa 1940, 1 female from Sotchi b. circa 1950, 2 females from Moscow b. circa 1960, 1 female from Leningrad b. circa 1960), and secondly by a group of speakers who came of age in the post-Soviet period (1 male and 1 female from Moscow b. circa 1980, 1 female from the Petersburg area b. circa c. 1985).

[6] Russian short first names and diminutives generally belong to this class, and thus most informal or familiar names are open to vocative truncation. See Neset (2001) on the notion of familiarity associated with the *a*-declension.

[7] *Ann* exists as the foreign first name *Ann(e)*, and *Ol'g* exists as a last name.

- (a) The truncated vocative is only used to address people, or sometimes superior animals, e.g. *sobak!* "doggie!", but not inanimates.⁸
- (b) The truncated vocative is optional, and is generally restricted to a relatively informal setting, with a relatively close interlocutor relationship (signalled in part by the usage of familiar first names and ty-address, although these are not absolute indicators);⁹ formality or any other kind of (momentary) distancing in the interlocutor relationship or the subject of discourse (respect, solemnity, anger, aggressiveness, etc.) renders its usage impossible or unlikely.

The notions in (b) are of course very fuzzy and the boundaries vary greatly from speaker to speaker and situation to situation, and there are also trends according to generation, region, and social class. Among my informants, the most striking difference has to do with generation: older informants judged (5a) as impossible or nearly so, whereas younger informants, those that came of age in the post-Soviet period, especially in urban centers, were much more lenient in their judgments.

- (5) a. ?-??? Здравствуйте, *Марь* *Иванн!*
 Hello, Marija-VOC Ivanovna-VOC!
(made-up example) student to distinguished professor (whom s/he does not know well); in a formal setting
- b. Здравсьте, *Марь* *Иванн!*
 Hi, Marija-VOC Ivanovna-VOC!
(made-up example) to a neighbor in a communal apartment

Momentary distancing can occur in otherwise close interlocutor relationships, due to the formality, solemnity, or seriousness of the particular situation and discourse topic, or due to attitudinal factors such as anger or other intense emotions, in which case the truncated vocative is also unnatural, as shown in the examples below.

[8] See Daniel' (2009) for further discussion of some of the restrictions on the types of address forms that can undergo vocative truncation in Russian; invectives, for example, are generally excluded.

[9] See Yokoyama (1994) on the truncated vocative as iconic for a close interlocutor relationship.

- (6) #¹⁰*Bumja*/???- **Bumʹ*, сегодня умер твой отец.¹¹ (note the formal word order)¹²
#*Vitja*-NOM/???- **Vitja*-VOC, your father died today.
- (7) uttered in anger:¹³
- a. Миша / ???- **Миш*, я убью тебя!
Miša-NOM / ???- **Miš*-VOC, I could kill you!
- b. Я убью тебя, Миша / ???- **Миш*!
I could kill you, Miša-NOM / ???- **Miš*-VOC!

Note that there are similar pragmatic restrictions on the usage of the English attention-getting particle *hey*, e.g. *Betsy*/??*Bets*/???- **Hey Betsy*/???- **Hey Bets*, I could kill you!, although additional factors come into play as well.

We will return to the pragmatic constraints on the truncated vocative further below.

[3] USES OF TRUNCATION IN OTHER LANGUAGES

[3.1] Elsewhere in Slavic

Besides Russian, truncated vocatives are marginal in Slavic, and attested examples are hard to come by. Still, Anstatt (2003); Anstatt & Gut (2008) cite truncated forms in Ukrainian and Polish, and Stankiewicz (1977/1986, 316) gives truncated forms from Bulgarian and Belarusian dialects, in addition to Ukrainian dialectal forms where the final syllable is truncated. Stankiewicz also gives examples of truncated imperatives as expressive variants in Bulgarian, Croatian/Serbian, and Ukrainian.¹⁴

[3.2] In other languages and dialects

Vocative truncation is in fact fairly widespread in the languages of the world. In European languages (e.g. Greek, Baltic)¹⁵ truncation of a final consonant (with or without reduction or other alteration of the preceding vowel) is common in vocative formation, as is truncation of entire syllables, which often occurs in im-

- [10] I use the pound key (#) to indicate a discourse-initial utterance where this is important for the interpretation under consideration.
- [11] If the context is slightly changed to render it more informal, with the contact already established (i.e. where it is no longer attention-getting), the usage of the truncated form becomes possible, e.g. Знаешь, *Bumʹ*, сегодня умер твой отец, 'You know, *Vitja*-VOC, your father died today.' I wish to thank Elizaveta Khachatourian for this observation.
- [12] See Yokoyama (1986) on the formality of this word order with type I intonation, and Yokoyama (1993) on the *voj-čužoj* distinction.
- [13] But with different word order, the truncated form becomes possible (and is attested on the internet), when not uttered in real anger: Миш, я тебя убью! 'Misha-VOC, I could kill you!'
- [14] On the affinity between the vocative and the imperative, see, for example, Jakobson (1960/1981, 23), Winter (1969), Khrakovskij & Volodin (1986), and also Parrott (1993)
- [15] See Winter (1969) for a discussion of vocative formation in the history of Indo-European.

peratives as well (e.g. Sardinian and Romanian dialects).¹⁶ In Russian, vocative truncation of entire syllables is possible with some forms:

- (8) a. ма! па! ба!
 Mom-VOC, Dad-VOC, Gran-VOC
 b. Ни! (*not possible for many speakers*)
 Nina-VOC

Vocative truncation of entire syllables is widely attested outside of Indo-European as well.¹⁷

[3.3] *Non-vocative truncation*

Truncation of names need not produce exclusively vocative forms, of course. In many languages, including Russian, truncation is used to make short, familiar forms of first names, and diminutive suffixes may or may not be added to the shortened forms, as in (9).

- (9) Russian: *Дмитрий* > *Дима* > *Димочка* "Dimitri"
 English: *Timothy* > *Tim* > *Timmy*

Again, this is not an exclusively Indo-European phenomenon; truncation is used in Indonesian dialects, for example, to produce more familiar forms of first names as well (cf. Gil (2005)). All such truncation can be viewed as iconic for shortened distance between the speaker and the referent (who is the addressee in the case of truncated vocatives; see Yokoyama (1994)). When diminutive (or augmentative) suffixes are added to the shortened form in languages with productive diminutive (or augmentative) formation, such as Russian, the same form indicates both shortened distance toward the referent (conveyed by the truncation) and the speaker's particular attitude (e.g. affection) toward the referent (conveyed by the diminutive or augmentative suffix).¹⁸

[16] On Sardinian see Floricic (2002), and on Romanian dialects see Maiden (2006, 52–53).

[17] See McCarthy & Prince (1998/2001) and (Daniel & Spencer 2009, 629) for examples of vocative truncation in non-Indo-European languages.

[18] English first (given) names are of course not as freely manipulated as Russian first names, and the use of shortened (familiar) or diminutive forms does not necessarily reflect the SPEAKER'S view of the discourse situation or attitude toward the referent, but often, rather, the NAME BEARER'S choice, so that a male with the name *William* may choose to always go by *William* or *Will* or *Bill* or *Billy*, etc., with very little variation "authorized", although this may evolve over time. The name bearer's choice can also be a factor in Russian when several short forms exist for a single given name.

[4] COMPARISON OF THE STATUS OF THE VOCATIVE IN RUSSIAN WITH
THAT OF CZECH AND POLISH

[4.1] *Czech*

In Czech the vocative is formed by *adding* a vocalic ending to the stem, just like any other case, rather than truncating (or otherwise reducing) the nominative form, e.g. *Věra* > *Věro!*, *Petr* > *Petře!*. The vocative endings are the Czech reflexes of the historical Slavic vocative, and they are fully integrated into the nominal paradigm. Vowel-zero alternations are found in the vocative, just as with other cases, although since an ending is added, it is the zero alternation that is found in the vocative: *Marek* (nominative) > *Marku!* (vocative), *Pavel* (nominative) > *Pavle!* (vocative). In Czech, then, the vocative functions morphologically just like any other case (although case-status may not be admitted on theoretical grounds).¹⁹

In Czech the vocative is used in all instances of direct address, for inanimates as well as animates; i.e. its usage is generally mandatory whenever a person or thing is being addressed. While it is certainly more common to address people and animals than inanimate objects, when inanimate objects are addressed, for whatever reason, the vocative is used (although a few noun classes have the vocative syncretic with the nominative), e.g. *kniho!* (<*kniha*) "book!" (Russian **knig!* as a vocative is impossible), or *hrnečku, vař!* "little pot, boil!" (as in the Grimm tale).

Finally, the Czech vocative is used in all registers – formal and informal – and all discourse situations – serious and light –, although in informal speech it may not be marked on all components of the direct address form. This mainly concerns combinations with *pán* "Mr." (+ last name), where the last name may not receive vocative marking in informal speech, but vocative is nevertheless marked on *pán* > *pane*, e.g. *pane Nováku!* [vocative on both *pán* and *Novák*] / *pane Novák!* [vocative only on *pán*]. In contrast to the Russian truncated vocative, usage of exclusively nominative direct address forms is usually judged either impossible or marginal or rude in Czech.²⁰

[4.2] *Polish*

Polish presents a interesting contrast to both Russian and Czech. As in Czech the vocative in Polish is formed by adding special vocative endings (although, as mentioned above, truncated forms do exist dialectally). Unlike the situation in Czech, however, the vocative is not mandatory in Polish. According to Kottum (1983) and Anstatt (2003), in Polish the vocative is used for polite address in a formal

[19] See Spencer & Otaguro (2005, 133ff) for a discussion of the theoretical status of the vocative in Czech and other languages.

[20] My informants either ruled them out entirely or admitted them only as highly demeaning expressions of power of the speaker over the addressee, as though the addressee did not merit the speaker's recognition as an interlocutor, imaginable only in certain environments, such as the military. Such forms have, however, been attested elsewhere (cf. the opinion page in *Naše řeč* 1, ročník 26, 1942).

or distant interlocutor relationship, where the nominative would be perceived as disrespectful or rude; this is almost the exact opposite of the usage of the truncated vocative in Russian. But the situation is in fact more complex: according to Anstatt, in closer or less distant interlocutor relationships, the vocative is also used, but only for addressing close friends or colleagues with whom the speaker is on friendly yet respectful terms. Kottum (1983), moreover, cites examples of the vocative being used in aggressive or insulting address in Polish, although the data are not entirely clear. In any case, vocative usage is marked in Polish, and it is attested on both ends of the address spectrum: for polite (distant) address, on the one hand, and for intimate (close) or rude address, on the other.

[4.3] *Review*

Russian thus differs from Polish and Czech in two main respects: (a) it has lost the reflexes of the historic Slavic vocative and instead uses truncation to make a special vocative form, and (b) the usage of this special vocative form is reserved for close interlocutor relationships – in its truncation the form is thus iconic for closeness, as noted by Yokoyama (1994). In Czech the vocative neutrally signals direct address, without any special added meanings. In Polish, however, standard vocatives are reserved for non-neutral address: more polite, distant, or respectful address at one extreme; and for insulting, friendly, or intimate address at the other extreme.²¹ In short, the usage of the vocative in Polish is also a marked form as in Russian (and unlike Czech), but it can be used at both extremes of the address spectrum (close and distant). In Russian vocative truncation reflects the speaker's view of the interlocutor relationship as being close, in addition to overtly signaling direct address (like all vocative forms), but in Polish the vocative forms signal more generally some special awareness of the addressee on the part of the speaker – either that of respect, intimacy, or disrespect²² –, again, in addition to signaling direct address.

[5] POSITIONS, FUNCTIONS, AND PROSODIC REALIZATIONS OF DIRECT ADDRESS FORMS

So far we have focussed on the peculiarities of truncated vocatives; now we will turn to direct address forms in general – not only specially marked vocative forms in Russian but also nominative-case direct address forms, and we will compare these to the usage of direct address forms in English. Direct address forms share a number of features across languages, but we will see further below that there are

[21] Compare last-name direct address in English, which tends to be a sign of disrespect or intimacy (as in male camaraderie).

[22] It is by no means rare that intimacy and disrespect are signaled by the same forms; cf. the usage of 2nd person singular personal pronouns in languages that have a T/V distinction (Russian, French, German, etc.).

some important differences between English and Russian as concerns the usage these forms.

[5.1] *Position*

- ABSOLUTE (FREE): direct address forms can be used alone, in absolute position, just like interjections, as in (10a) and (11a), in which case they must be stressed.
- UTTERANCE-INITIAL (LEFT-ADJOINED OR PREPOSED): they can occur utterance-initially, much like left-dislocation of arguments or various types of S-initial discourse markers (of which they are one; cf. *Hey, Listen, OK, Right, Now*, etc.), as in (10b) and (11b).
- MEDIAL: they can occur medially, i.e. interpolated at various points in an utterance, like other kinds of parentheticals, as in (10c) and (11c & d).
- FINAL (right-adjoined or postposed): they can occur utterance-finally, like right-dislocated arguments or other kinds parentheticals, as (10d) and (11e).

- (10) a. *Маша!*
Masha!
- b. *Маша*, поедem! [Чехов, *Чайка*]
Masha, let's go!
- c. Поедем, *Маша*, домой! [Чехов, *Чайка*]
Let's go home, Masha!
- d. Поедем, *Маша!* [Чехов, *Чайка*]
Let's go, Masha!
- (11) a. *John!*
- b. *John*, come here!
- c. I think, *John*, we made a mistake when we agreed to this.
- d. What would you like, *John*, to eat?
- e. What time is it, *John*?

Note that the Russian truncated vocative can occur in all these positions as well, as shown in the following examples:

- (12) a. — *Саш*, — сказал он, дрожа, отрываясь и вертя руками, — *Саш*, как перед богом, все одно в грехах как репьях... Раз жить, раз подыхать. Поддайся, *Саш*, отслужу хучь бы кровью... Век его прошел, *Саш*, а дней у бога не убыло... [Бабель, "Вдова"]
- b. — Куда паруса надула? — сказал сестре Воробьев. — Посиди с нами, *Саш*... [Бабель, "После боя"]

[5.2] *Functions of direct address forms: overview*

In terms of function, direct address forms are used to attract, maintain, or focus an addressee's attention, and they can also serve to personalize an utterance in a variety of ways depending on the particular intonational realization.²³ The attention-getting function and the focussing or personalizing function are, however, different sides of the same coin: in all cases, direct address forms are addressee-oriented (like the imperative).

[5.3] *Correlations between function and prosody*

- ABSOLUTE AND UTTERANCE-INITIAL DIRECT ADDRESS FORMS are stressed. Attention-getting direct address forms tend to occupy these positions. Although linguists may allude to "vocative intonation" or "vocative chant", a variety of quite different contours are possible, and these interact with stress, pitch, and vowel lengthening in subtle ways.²⁴ When the speaker already has the addressee's attention, an utterance-initial direct address form serves to maintain the contact and focus the attention on what follows, and absolute forms can assume a variety of other meanings (in addition to maintaining the addressee's attention) depending on the particular intonational realization (disapproval, begging, surprise, etc.).
- MEDIAL AND UTTERANCE-FINAL DIRECT ADDRESS FORMS tend to be deaccented or pronounced with low pitch,²⁵ like many kinds of parenthetical material.²⁶ Utterance-final direct address forms generally focus the attention on the preceding information, but they also personalize the utterance in a variety of ways, depending on the intonation and particular context. Medial direct address forms typically have a focussing function: they orient the addressee's attention to important information at the junction where they occur (i.e. preceding or following the direct address form), such as a preceding theme or a following rheme, or to the link between the preceding and following information. Medial direct address forms thus function like other parentheticals in that they can be interpolated at strategic points in

[23] See Schegloff (1968); Zwicky (1974); Zaitseva (1992); Parrott (1995); Daniel' (2008); Daniel & Spencer (2009).

[24] For example, calling contours on distal vocatives or direct-address forms (e.g. *Maaaryyy!*) are very different from utterance-final deaccented direct-address forms (e.g. *I love you, Mary*), and although some features are found cross-linguistically, languages of course differ in the ways that direct-address forms are realized prosodically. The intonational realization and prosodic integration of direct-address forms cannot, however, be addressed here; see Cruttenden (1986); Pierrehumbert & Hirschberg (1990); Ladd (1996); Gussenhoven (2004); Hock & Dutta (2010).

[25] In some analyses utterance-final direct address forms are found to carry an independent (L*) pitch accent (e.g. Beckman & Pierrehumbert (1986); Pierrehumbert & Hirschberg (1990), whereas in others (e.g. Hock & Dutta (2010), and references therein) they are found to be deaccented.

[26] On the prosody of parentheticals, see Dehé (2007), and references therein.

the host utterance, like linguistic flags marking important landmarks, in order to correctly orient and maintain the addressee's attention.²⁷

Direct address forms that appear to occur medially or even finally can, however, serve to (re)capture the addressee's attention, in which case they are stressed, and function like utterance-initial attention-getters, as in the English example below with the informal attention-getting particle *hey*:

- (13) And any time you feel the pain, *Hey Jude*, refrain [...] (*Beatles*)

[6] COMPARISON OF THE USAGE OF DIRECT ADDRESS FORMS IN ENGLISH AND RUSSIAN

Although Russian and English direct address forms function quite similarly in many respects, they do differ in certain ways, especially as concerns medial position. Let us first look more closely at what non-initial direct address forms do.

[6.1] *The function of direct address forms in non-initial position*

Consider example (14);²⁸ Taisa Petrovna is Nikolaj's mother, and Nadja is Nikolaj's girlfriend.

- (14) Надя. У вас садовый? И дом есть? Сколько комнат?
 Таиса Петровна (*ласково*). А сколько вам надо?
 Николай. Мама, я пришел из армии! [Петрушевская, *Уроки музыки*]
 Nadja. Do you have a garden? And a house? How many rooms?
 Taisa Petrovna (*affectionately*). And how many do you need?
 Nikolaj. Mom, I've come from the army!
- a. Мама, я пришел из армии!
 Mom, I've come from the army!
- b. *Я, Мам(а), пришел из армии! (Зачем ты так говоришь?)
 ???-*I, Mom, have come from the army! (Why do you say such things?)

Ja 'I' cannot host *mam(a)* 'mom' in this particular context, and this has to do with what the speaker is trying to convey overall. The fact that he has just returned from the army is known to the addressee (the speaker's mother). What the speaker wishes to convey is that his mother should make an extra effort to be nice to his girlfriend since he just returned from the army, a difficult experience. But if the context is changed, as in (15), where what kind of person {I} is at issue in the discourse, then *ja/I* becomes a possible host for the address form, both in Russian and in English.

[27] On parentheticals see Dehé & Kavalova (2007).

[28] This example is taken from Parrott (1995).

- (15) Я, *Мам(а)*, пришел из армии! Я человек бывалый.
 I, *Mom*, have come from the army! I am an experienced guy.

All the information in *I, mom, have come from the army!* is of course known to the addressee (the speaker's mother). What is at issue is what kind of person the speaker {I} is, and the special attention signalled by direct address form is thus sufficiently motivated in (15), whereas in (14b) it is not, and the medial vocative is not possible.

Comparison of (14) and (15) suggests that medial direct address forms serve to punctuate or call attention to the preceding information in the utterance, which is thereby placed squarely in the center of the addressee's current concern, and there must be good reason to do so for that particular landing site to be acceptable, as shown by the unacceptability of (14b). But note that in (15) it is not simply the preceding information that is at issue, but the link between the preceding information – {I} – and the information that follows it – the trait {have come from the army} that defines the {I} here. The direct address form thus draws the addressee's attention to a junction in the utterance, and thereby highlights the surrounding information (not only the preceding information but also its link to the following information) and serves as a bridge between the two crucial pieces of information (usually corresponding roughly to theme and rheme). Note that parentheticals in general have been shown to have a similar punctuating or highlighting function (see Dehé & Kavalova (2007)).

With regard to utterance-final position, it may be the immediate constituent or the entire preceding utterance that is the object of special attention. Compare in this regard the following (made-up) examples:

- (16) *The speaker is unsure whether the lecture is tomorrow.*
 Lunt's lecture is tomorrow, isn't it *Mary*? (↗)
- (17) The speaker knows the lecture is tomorrow; she wishes to correct very subtly the addressee's (A) misguided assumption.
 A: This afternoon I'll be at Lunt's lecture, but in the evening I'll be free.
 a. B1: ???Lunt's lecture is tomorrow, isn't it *Mary*? (↗)
 b. B2: Lunt's lecture is tomorrow, isn't it? (↗)
 c. B3: Lunt's lecture is tomorrow, *Mary*.

In the meaning described in (16), no pause or shift in pitch direction occurs between the tag question and the direct address form, and the intonation rise continues from the tag through the direct address form. The direct address form can be attached to the tag in (16) because it is a truly informational (although biased) question. In (17a)-(17b), however, the tag is simply an indirect, polite way of correcting the addressee, and here, if the same contour is maintained (the in-

tonation rise continuing from the tag through the direct address form with no pause or shift), the tag cannot host the direct address form, as shown in (17a). The tag alone is fine, as shown in (17b), and if the tag is omitted, an utterance-final direct address form is also acceptable, as in (17c); it is the combination of a non-informational tag question with the direct address form that is unacceptable. Thus, the function or information value of a final constituent can preclude postposed direct address marking.

[6.2] *Syntactic and prosodic constraints on medial position in English*

Consider the following series of examples:

- (18) a. Поедем, *Маша*, домой! =(10с)
 b. ???-*Let's go, *Mary*, home.
 c. ???Let's, *Mary*, go home.
 d. *Mary*, let's go home.
 e. Let's go home, *Mary*.
- (19) a. Ешьте, *Надя*, варенье. [Петрушевская, *Уроки музыки*]
 b. ???-*Eat/???-*Have, *Nadya*, the/some preserves.
- (20) a. Прости, *Коля*, меня, что я тебя испортила.
 b. *Forgive, *Kolya*, me for corrupting you.
- (21) a. Я купила, *Маша/Маш*, новую книгу.
 b. ???I bought, *Mary*, a new book.
- (22) a. Я, *Вась*, устала сегодня. (Zaitseva 1992)
 b. ???I, *Bill*, am tired today.²⁹

Whereas medial position is possible for all the direct address forms in Russian, the equivalent English examples are all unacceptable or marginal, and yet the information structure is the same. So in English factors other than the information structure must also play an important role. Whereas Russian allows direct address forms to intervene between the verb and the direct object (19)–(21), English generally does not; such interpolation is particularly bad when the direct object is a pronoun, as in (20b). This is due in part to the more rigid word order of English, and to the tighter syntactic bonds between certain constituents.³⁰ But the interpolation of direct address forms causes particular problems, as the comparison with parentheticals given in the (b) versions below reveals:

- (23) a. ???I bought, *Mary*, a new book. (= (21b)) (*spoken with normal tempo*)
 b. I bought, *by the way*, a new book.

[29] A Google search yielded no examples of "I, Bill" where Bill was a direct address form.

[30] See Moro (2003) on certain theoretical syntactic constraints on vocative usage, especially in Italian.

- (24) a. ???I, *Bill*, am tired today. (= (22b)) (*spoken with normal tempo*)
 b. I, *of course*, am tired today.
- (25) a. ???John, *Marie*, is mistaken.
 b. John, *I think*, is mistaken.

As we see in (23)–(25) the issue is not necessarily the position where these direct address forms are interpolated, because the (b) examples with parentheticals are fine. Note that if the tempo is slowed down and the utterance is pronounced slowly and deliberately and perhaps angrily, then direct address forms do become acceptable. But with normal tempo, in examples such as (21b), the lack of case marking on nouns in English may be a source of potential confusion – here between *Mary* as an argument integrated into the syntax of the host clause (i.e. as the beneficiary – *for Mary*) and *Mary* as the addressee – since these particular landing sites for the direct address forms normally coincide with argument positions in English.³¹ If greater informational weight is added, as in (26a), and/or a heavier direct address form is used, especially one that is reserved for direct address, such as *my dear girl* or *your honor*, as in (26b)–(26c), syntactic expectations are overridden, and the examples become acceptable:

- (26) a. I bought, *Mary*, a new book, and not a pornographic magazine.
 b. I, *Your Honor*, was tired and fell asleep at the wheel.
 c. John, *my dear girl*, is mistaken.

Another important factor in the interpolation of medial direct address forms concerns the prosodic structure and stress. Consider example (27), which is taken from Moro (2003):

- (27) a. There, *Mary*, is a solution to the theorem. (Moro 2003, 256)

The only way this utterance can be acceptable is for *there* to be stressed, which means that we are dealing with locative *there* and not existential *there*, since existential *there* cannot receive stress. This is shown in (28):

- (28) a. *locative there* (stressed): There, *Mary*, is a solution to the theorem. (Moro 2003)

[31] Moro (2003) (citing Rizzi 1997) gives other examples of impossible vocative insertion in English: *Did, *Mary, John read the book?* and *What, *John, did you do today?* (this second example improves considerably if pronounced with slow tempo). He accounts for this impossibility by saying that vocative phrases must occupy higher specifier positions. But note that if heavier direct address forms are used, especially ones that are used exclusively as direct address forms, such as *my dear*, some of these examples become possible, e.g. *What, my dear, did you do today?* Note also that here again parentheticals can be used where direct address forms cannot, e.g.: *Did, by the way, John read the book?*, so that the issue of potential confusion between a direct address form and an argument of the verb may play a role in the unacceptability. It is clear, however, that parentheticals do not all have the same prosodic realizations, and prosody may ultimately prove to be the deciding factor.

- b. *existential* there (unstressed): *There, *Mary*, is a solution to the theorem.
- c. *existential* or *locative* there: *Mary*, there is a solution to the theorem.
- d. *existential* or *locative* there: There is a solution to the theorem, *Mary*.

As the data in (28) show, the host for a medial direct address form must be stressed (or at least stressable). Interestingly, there is not the same restriction on all syntactically external elements; for example, *by the way* (which is generally considered a parenthetical) is perfectly acceptable in this position, as shown in (29):

- (29) *existential* or *locative* there: There *by the way* is a solution to the theorem.

In the existential reading *is* would normally be stressed, and thus can serve as host to the parenthetical. But this option does not exist for the direct address form, which seems to require a stressed element to its left; this suggests that it is the preceding element that serves as the host to the direct address form. Note that in the discussion of examples (14)–(15) we saw that the informational status of the preceding constituent was crucial in determining possible landing sites for direct address forms, that only an informationally weighty constituent could serve as the syntactic host of an address form. In (28) as well we see that informationally poor and prosodically weak elements cannot normally host direct address forms.

[6.3] *Syntactic and prosodic constraints on medial position in Russian*

Although Russian, with its relatively free word order, distinct case marking, and high tolerance for scrambling, is very flexible when it comes to interpolating direct address forms, it does have some restrictions on the placement of medial vocative expressions, albeit to a lesser extent than in English, as shown in (30):

- (30) a. *Бабушка*, уважай вкусы других людей.
 [Петрушевская, *Уроки музыки*]
 Granny, have some respect for other people's tastes.
- b. *Уважай вкусы других, *Бабушка*, людей.
 *Have some respect for other, *Granny*, people's tastes.

In (30b) the position after *drugix* is low in the syntax, and the insertion of *babuška* is judged impossible, whereas all other medial positions would be acceptable. Interestingly, however, if a more loaded direct address form were used, such as *babulja*, the utterance becomes acceptable, as shown in (31):³²

- (31) Уважай вкусы других, *бабуля*, людей.
 ???Have some respect for other, *granny dear*, people's tastes.

[32] I wish to thank Elizaveta Khachatourian for this example.

As in the English examples, sufficiently loaded direct address forms can override syntactic constraints, as long as the information contained in the preceding constituent is in some way at stake in the context.

[7] CONCLUSION

In this article we have contrasted the usage of direct address forms in Russian with those in other languages. The Russian vocative is quite unusual in its formal and functional peculiarities, when compared to vocatives in other languages, such as Czech and Polish, which have vocative endings as opposed to truncated forms. Truncation as an iconic device to signal closeness or familiarity with the referent (or addressee in the case of vocatives and imperatives; cf. Yokoyama (1994)) is widespread, and in Russian it is particularly striking. Although the basic functions of direct address forms in Russian are the same as in other languages, Russian is shown to be particularly hospitable in its reception of medial vocatives as compared to English, which has considerably more syntactic and prosodic constraints on hosting direct address forms.

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SWISS CHEESE FOR LAZY SPEAKERS: VERB OMISSIONS IN RUSSIAN AND CZECH

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ABSTRACT

In this paper, I will examine a specialty of colloquial Russian – the omission of verbs – and compare it to the possibilities of verb omission in Czech, where this phenomenon is rather rare. The omissions in question are to be separated from compulsory ellipses, which will not be taken into account in this paper. They are also not to be regarded as zero lexemes, which are elusive to attempts of reconstruction. The nature of this third kind of omission itself presents a frame for the comparison, since these omissions can be placed along two scales, that of AMBIGUOUS/VAGUE VS. UNEQUIVOCALLY RECOVERABLE and FREE FORMATION VS. PHRASEOLOGICALLY BOUND PHRASE. The comparison of verb omissions in the two languages along these scales emphasizes the restrictions of omissions in Czech and the high degree of freedom in Russian. Moreover, verb omissions in Russian can lead to changes in the meaning of a sentence, whereas they seem to be merely a stylistic device in Czech.

[1] INTRODUCTION

Among the languages of Europe, Russian holds a special position with regard to its possibilities of omitting certain syntactical constituents. In this paper, the unique possibilities of Russian verb omission will be pointed out through a comparison to the rather restricted possibilities of such omissions in Czech and it will be shown that in Russian omissions are much more than simply “holes” in sentences just as much as the swiss cheese which gave this paper its title is not produced by drilling holes into other cheese sorts.

One of the first linguists to address the question of verb omission in Russian was Širjaev in the collective monograph *Русская разговорная речь* (Širjaev 1973, 288). He postulates that the omission of verbs is a characteristic feature of colloquial Russian. In comparison with other Slavic and European languages, it turns out that this feature is not only characteristic, but also exceptional. The degree of freedom Russian allows when it comes to empty verb strings was illustrated by Mel’čuk (1995), who demonstrated that it is possible to omit any verb as long as it

denotes an action¹ and requires an object (Mel'čuk 1995, 192). This result is insofar surprising as it would seem important that a sentence preserves the root of its dependency tree. In Russian, it is possible to omit verbs in all tenses, as well as of both aspects and even verbs in the conditional mood. The only restriction which seems to hold for all groups of verbs is that a clause with an omitted verb cannot contain a total negation (see Weiss (1993)). In Czech, omissions are allowed in few cases and verb omissions are prevalent in certain contexts (e.g. advice, order) or a style of narration (e.g. dynamic narrative sequence). A common use of omitted verbs in Czech, Russian, and other European languages was for political, commercial and other slogans, since the omission lends them brevity and can add emphasis.

The data analyzed for this paper consists of recorded spontaneous utterances as well as written text representing various genres, especially such genres which try to imitate spoken language (e.g. comic books, films, plays, prose dialogue). Translations of prose, drama, or films whose original language is not Russian or Czech help to demonstrate that verb omissions are a natural formation in Russian and occur in translations of sentences which, in their original language, featured a verb. For obvious reasons, a study based on an electronic corpus is somewhat limited, and in the future, some effort should be devoted to finding a possibility of searching for empty strings.

Although the issue of missing verbs in Russian has been addressed in a number of studies (see, e.g., Mel'čuk (1974, 1995), Weiss (1993), Wiemer (1996), Ščadneva (2000), Saj (2002)) a classification scheme which would fully account for this phenomenon has yet to be developed. In fact, the term for the omission itself is subject to discussion. In this paper, I will use the terminology presented by Apresjan (1986). An ELLIPSIS must be UNAMBIGUOUSLY RECOVERABLE. Moreover, an ellipsis is an omission which is "compulsory in certain syntactic contexts, i.e. happens automatically" (Apresjan 1986, 112). Therefore, a distinction can be made between mandatory and optional ellipses. On the other hand, a ZERO, according to Apresjan, is "an omission not required by its syntactic context and, therefore, a semantically relevant absence of a linguistic construct" (Apresjan 1986, 113). Every zero has a certain meaning, but it is not possible to reconstruct that meaning, since it DOES NOT MATCH THE MEANING OF ANY EXISTING RUSSIAN LEXEME (Apresjan 1986, 113). A classical example of a zero would be:

- (1) Улицу засыпали \emptyset люди песком.
 street-ACC covered-3rd.PL \emptyset people sand-INSTR
 'They covered the street with sand.' (from (Mel'čuk 1995, 180))

[1] Mel'čuk does not specify what his term action encompasses. However, this distinction is not of importance, since the omission of verbs is not restricted to actions, e.g. в кого это он \emptyset ? 'whom does he take after?' with \emptyset = уродился 'he was born.'

While it is clear that (1) clearly means that some person or people must have covered the street with sand, the omitted word consists of an abstract complex of semes; it is impossible to complete the sentence with the missing word without changing the meaning.

This is different for (2):

- (2) Вам куда ∅?
 you-DAT where to ∅?
 ‘Where do you need to go?’

It is not possible to classify (2) as an ellipsis, since there is not only one single lexeme that would be fit to replace the empty string. What we are dealing with here is rather a whole set of possible lexemes or combinations of lexemes that would do the job (e.g. ехать, надо ехать, идти, ...). On the other hand, it is just as impossible to call this omission a zero, since the completion of the sentence with a concrete lexeme is possible and does not change its meaning. This means that this sort of omission can be assigned an intermediate status between an ellipsis and a zero – while the empty string represents an abstract complex of semes, it is still possible to find matching verbs to complete the sentence. I will call this omission simply VERB OMISSION² for lack of a more appropriate term. There are verb omissions where only one possible solution can be inserted and, hence, they would be classified as ellipses. They represent the edge of the continuum of verb omissions presented here.

[2] PLACING THE OMISSIONS ALONG TWO SCALES

After establishing that the verb omissions³ I am analyzing in this paper are neither ellipses nor zeros, we are left with a highly heterogeneous group of omissions. To bring some order into this group, one can determine two scales along whose continua the different kinds of verb omissions can be placed.

The first spreads between UNAMBIGUOUSLY RECOVERABLE (meaning ellipsis) and AMBIGUOUS/VAGUE, going up to not recoverable, the edge on which zeros can be placed. An example for a low degree of ambiguity/vagueness is (3), where a choice can be made only between two different temporal/aspectual forms of one lexeme (понравился or нравится). (4) shows an omission which can be replaced by numerous lexemes/forms, such as дают, заплатить, платят, надо дать, ...

[2] The postulation of a third category of omissions was disputed by Mel’čuk (1995) who deemed such a category illogical, since he maintains that all omissions must be classifiable as either ellipses or zeros with no grey area in-between. However, many failed attempts at placing most of the verb omissions in one of the two categories suggest the existence of this third category.

[3] From now on, whenever verb omissions are mentioned, this term excludes ellipses and zeros.

- (3) Как тебе Лондон Ø?
how you-DAT London Ø?
'How did you like London?'
- (4) Мне нужна новая картина. Сколько ему Ø за
I-DAT need new painting-NOM. How much him-DAT Ø for
поддельного Сезанна?
fake Cézanne-ACC?
'I need a new painting. How much money does he get paid for a fake Cézanne?'

Most verb omissions are to be found between the two edges of the scale, displaying higher or lower degrees of ambiguity/vagueness.

The second continuum spans between PHRASEOLOGICALLY BOUND CLAUSES and FREE FORMATIONS/CLAUSES. Verb omissions can be found along the entire scale, with clauses like (4) on the free formation end and expressions like (5) and (6) on the phraseologically bound end.

- (5) Ты что, совсем уже Ø?
you what completely already Ø?
'Have you gone completely mad?'
- (6) Co ty na to Ø?
what you on this Ø?
'What's your opinion on this?'

The differences between omissions within phraseologically bound and free clauses are important for a complete account of verb omissions, their use, the recovering of their meaning by the hearer, and their functioning within a conversation. However, a full analysis of this topic would go far beyond the scope of this paper. The connection between the two scales lies in the fact that phraseologically bound clauses are often prone to having fewer possible complements than free clauses. This is given by the fact that phraseologically bound units are always used in a very specific context. Their meaning is fixed before they are used. The free clauses, on the other hand, standing on their own, can have a wide variety of complements. Their meaning is defined within/through a particular situation and is (usually) not pre-set. If (7) is uttered while somebody is packing a suitcase, the translation would be 'Why are you taking this?' If, however, the person just came home with a bag of groceries, the other person may utter the same sentence with the meaning 'why did you buy this?' This utterance can be used in a wide variety of situations and its meaning is defined through them. Since the context usually determines the lexical item that is missing more or less clearly, the degree of ambiguity is somewhat curbed. Yet, there is still the possibility of

some ambiguity due to the possibility of temporal, aspectual or modal variation (8a)–(8c).

- (7) А это зачем ∅?
and this what for ∅?
- (8) a. А это зачем берешь/брать/положил?
‘what are you taking this for? / why are you taking this?’
b. А это зачем купил?
‘why did you buy this?’
c. А это зачем повесил/вешать/тут висит?
‘why did you hang this/why should this be hanging here/why is this hanging here?’

[3] SIMILAR USE OF VERB OMISSIONS IN RUSSIAN AND CZECH

To demonstrate that Czech only uses verb omissions in a very restricted way and that they often serve a stylistic/narrative purpose rather than simply being a natural part of everyday speech, similar use of verb omission in Czech and Russian will be presented in this section.

Širjaev (1973) found that in Russian, the most frequently omitted verbs come from three groups: verbs of goal-directed motion (e.g. я на базар, она в школу), verba dicendi (e.g. а он ей: «Подожди!») and verbs denoting violent application of force (e.g. Она ему/его сумкой по голове). However, as stated above, almost any verb can be omitted from a sentence. In Czech, the restrictions are more limiting, but when verbs are omitted, they are mostly from the groups of verbs of motion with a specific goal or verba dicendi (except for a few phraseologically bound expressions, e.g. Jó, pivo, to já ∅ rád! ‘Oh yes, I like beer a lot’). Verbs from these two groups are sometimes found omitted in the following cases.

To create a vivid and possibly entertaining narration of a scene, a verb of fast, goal-directed motion or a verb of violent force can be replaced by an interjection, usually an onomatopoetic representation of the sound that the fast motion or impact of force is imagined to produce, e.g. (9) and (10).

- (9) Вот так едешь, а тут тебе бац по голове столбом,...
like that drive-2nd.SG, and here you-DAT *bang* on head-DAT pole-INSTR
‘You’re driving (normally) and then you suddenly get hit by a pole.’
(source: www.forum.rzn.info)
- (10) Pes ji skoro dohonil, ale kočka šup a na strom.
dog her almost caught-3SG, but cat swoosh and on tree.
‘The dog had almost caught it, but the cat quickly climbed up the tree.’

The common feature of Russian and Czech here (i.e. (9) and (10)) is that this kind

of onomatopoetic interjection marks a highly colloquial style, whereas (11) and (12) show sentences typically used in a narrative. Here, the omission serves the purpose of making the narrative depiction of a sequence more dynamic. Russian, again, makes use of this technique (fittingly demonstrated by the fact that one of the most well-known examples for this is from Pushkin's *Evgeny Onegin*: Татьяна в лес, медведь за нею 'Tat'jana Ø into the forest, the bear Ø right behind her') more often than Czech does.

- (11) Потом Ø другой костюм и быстро Ø на сцену.
 then Ø another costume and quickly Ø on stage.
 'Then he/she/I changed into another costume and quickly returned on the stage.'
- (12) Potom sprcha a rychle Ø do postele, ráno nás
 then shower-NOM and quickly Ø in bed, morning us-ACC
 čeká dlouhá túra.
 awaits.2nd.SG long hike.
 'Then we had to shower and go to bed quickly, because the next morning we had a long hiking tour ahead of us.'
 (source: www.klaudy.net/pesi-tura-rohace.php)

Example (11) also illustrates that Russian often omits the verb as well as the pronoun at the same time, so that the verb-dropping does not cancel out pro-drop. In fact, (11) would not be a well-formed sentence if the pronoun would be left in the sentence. Where pro-drop is obligatory, the pronoun will be dropped even if the verb is omitted, leaving no indication (but that provided by the context) of the person and number in the sentence. Looking ahead at (13), we can claim that for certain sentences the person and number become irrelevant, since what counts is the remaining information. It does not matter whether we insert second person singular or a modal impersonal form (e.g. с тещей надо/нужно обращаться по-осторожней), since the main information is that a man must be cautious about his behavior towards his mother-in-law.

In both Czech and Russian, verbs can be omitted in clauses containing an advice, e.g. (13) and (14), or, even more characteristically, an order, e.g. (15) and (16). In the case of the order, this is especially so if the order is short and easy, often involving a movement of one or several of the addressee's body parts.

- (13) С тещей Ø по-осторожней.
 with mother-in-law Ø more carefully.
 'You should be careful about your behaviour towards your mother-in-law.'

- (14) S chřipkou ∅ rychle do postele.
with flu ∅ quickly in bed.
'If you have the flu, you should get rest.'
- (15) Это ∅ туда!
this ∅ there!
'Put/throw this over there/up there etc.'
- (16) Pravou ruku ∅ dolů!
right hand ∅ down.
'Put your right hand down!'

The omission of infinitives is also possible in both languages, although Russian omissions differ from the Czech ones since, again, a greater deal of freedom is displayed. An infinitive in Czech can only be omitted when the clause contains a modal verb, e.g. (17). Since Russian has the modal infinitive, there is no modal verb to remain in the clause, e.g. (17).

- (17) Já chci ∅ do parku.
I want ∅ to park.
'I want to go to the park.'
- (18) Нам куда завтра ∅?
us-DAT where tomorrow ∅?
'Where do we have to go to tomorrow?'

The cases in which Czech permits empty verb strings are similar to those occurring in German and other European languages. In most cases (except the phraseologically bound ones, which differ from language to language), where Czech admits an omission, it is also possible to omit the verb in German and vice versa, whereas most of the omissions which seem natural in spoken Russian are completely ungrammatical when translated into Czech. Phraseologically bound clauses with an omitted verb are also very rare in Czech. So far, I have found only the two presented in this paper (see (6) and *pivo, to já rád*) and *Ruce vzhůru!* 'Hands up! (uttered by the police)', which is formed in the same way in both Russian and German (as stated above, short, easy orders, often involving the addressee's own body parts). In regard to the scale of ambiguity/vagueness presented in section [2], Czech occurrences of omitted verbs are always to be found in the lower range of ambiguity/vagueness (if not absolutely on the lower end of the scale, i.e. as an ellipsis). An example like (7) would not be possible in Czech.

[4] DISRUPTIVE VS. UNPROBLEMATIC AMBIGUITY/VAGUENESS CONNECTED TO VERB OMISSIONS IN RUSSIAN

In contrast to Czech, where ambiguity/vagueness is rare, Russian allows for a greater degree of ambiguity/vagueness. The ambiguity/vagueness can consist in lexical, temporal, aspectual, modal, and pragmatic variation. In the case of lexical and pragmatic ambiguity/vagueness, various degrees (higher or lower) of ambiguity can be observed.

The divergence between the speaker's intent and the hearer's understanding in the following real-life example (19) arises due to temporal ambiguity of the missing verb. After the hearer starts putting the glasses on top of the cupboard, because he assumes that the speaker wants him to do it now, the speaker must specify that the hearer should comply with the request only later after the glasses have dried off. The ambiguity, thus, consists in the difference between, e.g., *поставь* and *поставишь*).

- (19) А вот эти стаканы ∅ на верх. [...] Ну не сейчас, пусть сначала
 And these glasses ∅ up there. [...] But not now, let first
 ВЫСОХНУТ.
 dry off-3rd.PL.
 'And these glasses go up there. [...] Not yet, let them dry off first.'

In this case, the temporality is of some importance and it is, therefore, necessary for the speaker to be more precise about it. However, in many cases, the temporal information of the missing verb is either clear or not important. For instance, in the already examined example (7) *А это зачем ∅?*, if the person asking is interested in knowing why the other person is putting something in their luggage, then the distinction between, e.g., *кладешь* and *положил* is of no importance whatsoever. The reaction does not depend on the temporal information and thus this information does not have to be specified.

Many cases of lower lexical ambiguity are similar to (20). They represent an abstract verb of goal-specific motion (or, in other examples, any abstract verb encompassing a whole range of different verbs which all share certain semantic features). Usually, it is not necessary for the hearer to know whether the speaker will run, walk or bike to the university and, thus, he will not likely ask for this piece of information. If, however, the hearer knows that there might be the possibility of the speaker taking his car and the hearer wants to ask for a ride, then, for him, the speaker's motion "loses" its abstract quality and he will likely ask for more precision. It is important to treat these two options of understanding the omitted verb, the abstract and the concrete mode of motion, separately.

- (20) Я ∅ в университет.
 I ∅ to university.

‘I’m off to the university.’

In cases of lexical ambiguity of a higher degree, one would expect that more specific information would always be needed. Various verbal and non-verbal factors create the context for a particular utterance and its meaning can become more or less clear at various stages in the conversation, as shown in (22). However, as (21) illustrates, even with a high number of possible inserted verbs, further precision is not always required.

- (21) a. A: В вечер кражи, я с книгой лягу в постель.
 B: Но вы же ...
 A: Вы же?! Кто рвется в музей выкрасть собственную вещь и не хочет объяснить за каким чертом это нужно?! Вы же! [...]
 A: On the evening of the robbery, I’ll lie down with a good book.
 B: But you ...
 A: But you?! Who wants to break into a museum to steal something she already owns and refuses to tell me why she wants to do this?
 You!
- b. Вы правы, так бы любой \emptyset на вашем месте.
 You right, like this conj anyone \emptyset in your place.
 ‘You’re right, anyone would react like that.’
 (from the Russian translation of the movie *How to Steal a Million*)
- (22) a. A: У него завтра день рождения и я ему Лотрека \emptyset .
 A: by him tomorrow birthday and I him Lautrec-ACC \emptyset .
 ‘It’s his birthday tomorrow and I painted/bought/gave him a Lautrec.’
- b. B: Ты сама \emptyset , что ли? Или купила?
 B: you yourself \emptyset what? or bought-2nd.SG.PAST?
 ‘Did you paint it yourself? Or did you buy it?’
- c. A: Сама. Как всегда, когда у меня нет денег.
 A: (my)self-FEM. like always, when by me not money.
 ‘I painted it myself, as I always do when I’m broke.’

In (21), even though the number of possible “solutions” for the gap is quite high, the main information remains that person B finds A’s reasons rational and understandable (whatever her feelings about this rationality might be). The core information remains the same, whether one inserts подумал, отреагировал, поступил, сделал, сказал, ... In (22), on the other hand, the interesting information for person B is whether person A bought a copy or painted one herself. In this case, the core information lies in the unspoken verb and further details are important.

The last kind of ambiguity presented here is modal ambiguity, which, in this

example, is also linked to pragmatic ambiguity. In (23), the choice between indicative and imperative mood – занесешь ‘you will carry’ and занеси ‘carry’ – is insofar important as it determines the degree of politeness the speaker demonstrates towards the hearer. The indicative mood, letting the speaker appear as if he takes the compliance of the other person for granted, is a stronger invasion into the hearer’s negative space than the imperative mood.

- (23) Цветы ∅ на верхний этаж.
flowers ∅ on upper floor.
‘Put the flowers upstairs.’

[5] CHANGES IN SENTENCE MEANING DUE TO VERB OMISSION

Mel’čuk (1995) based his claim that there is no third kind of omission between an ellipsis and a zero lexeme on the fact that the speaker always knows what he would insert in place of the missing verb and that the verb is still present in the meaning-layer of the utterance and only disappears on the surface or text level. While this may be true for some utterances, there seem to be many expressions where speakers themselves, when asked what they would insert, hesitate for a moment or offer multiple solutions, e.g. как тебе Лондон? If somebody for instance says я не нарочно (lit. ‘I not on purpose’) to express that he is sorry for something, Mel’čuk would expect him to know whether he would insert the general verb сделать ‘do’ or a verb denoting the specific action, e.g. сбросить ‘throw down’. Comparable to (21), the important information (and, thus, probably the one the speaker is most concerned with) is that the speaker is saying that he is sorry. After uttering this sentence, a native speaker was asked which verb she meant and, hence, would insert. She reacted in the expected way, not sure whether she would insert сделала or порвала ‘tore apart’.

The next example, however, provides even more solid evidence that Mel’čuk’s claim does not hold.

- (24) a. Тяжело ... без бабушки.
difficult ... without grandmother.
‘It’s difficult without a grandmother around.’
b. Мне бы маму сейчас (щас) сюда ∅, вот бы она с
me-DAT CONJ. мама now here ∅, here CONJ. she with
ним возилась!
him play
‘I wish my mom was here, she would take care of him.’
(example taken from Weiss (1993), source: Машинный фонд русского языка)

If Mel’čuk’s claim was true, then the speaker uttering this would have to be able

to complete the sentence with the missing verb. However, if she were to do this the result would be something like the following sentence: Мне бы маму сейчас сюда пригласить. 'I wish I could invite my mom here now.' The problem in this sentence consists in the fact that, as soon as a verb that actually fits the sentence structurally is inserted, the sentence changes its meaning. It changes from the initial meaning, which could be paraphrased approximately as follows Я хочу, чтобы мама была здесь сейчас 'I wish my mom was here right now' into the wish to get her mother here. This example shows that there must be more to verb omission than just the simple act of drilling holes into full sentences.

Another example which illustrates the gain in freedom through the omission of a verb is (25). Because of the omission, it is possible to forego the problem which arises if one would try to insert the verb победить 'to defeat' in the respective form into both positions. Since the first empty position requires the verb to take the first person singular, the verb победить would not work, since there is no grammatical form for the first person singular of this verb. In this case, however, the insertion of the verb happens in the mind of the reader and does not necessarily have to take on any proper grammatical form at all. The source of this joke found on a refrigerator magnet is the idiomatic phrase Кто кого? (verbatim 'Who whom?') 'who's the stronger one?' which already contains a verb omission.

- (25) Или я ∅ диету, или она ∅ меня.
 Or I ∅ diet-ACC, or she ∅ me-ACC.
 'Either I defeat the diet or it defeats me.'
 (source: seen on a refrigerator magnet)

[6] SUMMARY

Whereas Czech is similar to German and other European languages with respect to its restrictions on verb omission, Russian, especially in its colloquial form, can omit a great variety of different verbs. The omissions of verbs can be placed along two scales, which range from phraseologically bound clauses to free clauses and ambiguous/vague to unambiguously recoverable respectively. It is important to examine omissions from different positions on these two scales separately, since they play different roles in conversations and are perceived differently by the hearer. Some ambiguities must be resolved to allow the hearer to have all the information he or she needs, while others function well without being reduced to an unambiguous solution. Those which need to be resolved are utterances where (an important part of) the core information is conveyed by the verb or its temporal or aspectual information.

The omission of verbs should not be treated only as a surface phenomenon, but should also be considered for its potential for changing the meaning of the entire sentence. It is important to be aware of the great diversity of structures

containing omitted verbs and to not treat all omissions as one homogeneous category.

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