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Cause in Russian and the formal typology of coordination and subordination

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4.1 Introduction

Coordination and subordination has been a long-standing problem in syntactic typology.\(^1\) While traditional grammar views it as a binary opposition, there are lots of typological data which put such a simple view of the problem into question. Various tests that have been proposed in the literature do not match for individual constructions in individual languages (Zaliznyak & Paducheva 1975, van Oirsouw 1987, Haspelmath 1995, 2004, Kazenin & Testelets 2004). The exceptions fall into two broad categories, conveniently named pseudocoordination and pseudosubordination in Yuasa & Sadock (2002).

Pseudocoordination involves an otherwise coordinating conjunction or construction being used in a context involving subordination-like semantics or function. A familiar example of pseudocoordination is the so-called left-

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\(^1\) I am grateful to the audiences of Formal Approaches to Russian Linguistics (Moscow, 19–20 March 2014) and Coordination and Subordination in Lisbon (May 7–9, 2014), especially Denis Creissels, Ira Eberhardt, Martin Haspelmath, Caroline Heycock, Daniel Ross, and Uli Sauerland. I would also like to thank the Festschrift team — Peter Arkadijev, Ivan Kapitonov, Yury Lander, Ekaterina Rakhilina, Pavel Rudnev and Sergei Tatevosov — for their tireless work. Finally, nothing in this paper would have been possible without Barbara Partee, who introduced me to formal semantics back in 2009; life has not been the same ever since. Thank you, Barbara!

This research has been supported by the Russian Science Foundation, project no. 14-18-03270 “Word order typology, communicative-syntactic interface and information structure in world’s languages”.
subordinating *and* \((\text{ls and})\) construction in English, describe in Culicover & Jackendoff (1997):

(1) You drink one more can of beer *and* I’m leaving.

In (1), conditional semantics is observed in spite of the use of the coordinating conjunction *and*. This construction is not merely functionally unusual. It also displays a number of subordination-like properties. For example, it cannot, unlike ordinary coordination, undergo right node raising:

(2) a. Big Louie finds out about that guy who stole some loot from the gang, and Big Louie puts out a contract on him.
   (conditional meaning implied)

   b. *Big Louie finds out about __, and Big Louie puts out a contract on __, that guy who stole some loot from the gang

   (Culicover & Jackendoff 1997: 198–199)

Culicover & Jackendoff’s explanation involves a mismatch between syntax and semantics. Such constructions are treated as being syntactically coordinating but semantically subordinating. This explains the fact that their linear-order properties are coordinating, while more semantically-oriented properties such as the possibility of additional ellipsis types are subordinating.

This approach is extended by Yuasa & Sadock (2002), who introduce the notion of “pseudosubordination” for mismatches of an opposite kind, i.e. when subordinating syntax coexists with coordinating semantics. There are two cross-linguistically widespread examples of such mismatches. One is the so-called “comitative coordination”, especially widespread in Slavic and neighbouring languages. In this construction, the preposition ‘with’, which is subordinating in that it selects instrumental case, semantically behaves like a coordinating conjunction. This is especially apparent due to the fact that the verb agrees in plural:

(3) *Petja Vasej opozdali / *opozdal na urok. P.NOM with V.INS were.late.PL was.late.SG to lesson
   ‘Petya and Vasya were late for the lesson.’

A second type of this mismatch involves converb constructions, which are syntactically subordinating in that they appear in morphologically deranked and syntactically independent form. However, in many languages they are used in coordination-like contexts such as clause chaining, and display certain coordinating properties:
The mismatch approach to coordination and subordination is quite promising, as it allows us to establish a clear connection between the surface properties of constructions and their meanings (functions). Unfortunately, the notions “semantic coordination” and “semantic subordination” are themselves rather vague, and it is never explicitly stated how exactly the surface contrasts under discussion follow from the semantic differences. More precise definitions can be provided, but the resulting semantic classification inevitably ends up having significant differences from the traditional one.

A particularly good example concerns German causal clauses. This language has two principal causal subordinators: weil and denn. Clauses introduced by the former display verb-final word order, typical for subordinate clauses in German, while clauses introduced by the latter display verb-second word order, typical for main clauses, including main coordinate clauses. Therefore, syntactically, denn behaves like a coordinating conjunction. In Scheffler (2013), it is demonstrated that semantic properties of denn-clauses also correspond to coordination. In particular, the causal meaning introduced by this conjunction cannot be in the scope of negation or modal operators, or in narrow focus as an answer to a why question:

    ‘A: Why is Otto at home? B: Because it’s raining.’ (Sohmiya 1975, cited from Scheffler 2013: 87)

Scheffler links this behaviour to the fact that the causal meaning expressed by denn is not an at-issue meaning, but a conventional implicature (CI) in the sense of Potts (2005). This explains its scopelessness and also brings it closer to coordinating conjunctions such as and or but, which display the same
properties as in \( ([\text{germanq}] ) \) and have therefore been described since Grice (1975) as introducing CIs. In contrast, \textit{weil} introduces an at-issue meaning, just like other subordinating connectives. Therefore, the notions semantic coordination and subordination can be defined in terms of the CI/at-issue dimensions. While the resulting classification is quite different from the traditional one, it is superior in that clear diagnostics can be provided for each of the clause combining types.

However, as defined in this way, semantic coordination and subordination do not seem to correspond to the same notions as employed in Yuasa & Sadock and Culicover & Jackendoff’s work. Specifically, there are certain constructions which are “semantically subordinating” according to the CI/at-issue distinction, but are “semantically coordinating” according to the behaviour of Right Node Raising, the Coordinate Structure Constraint, etc. A particular example of such a construction is the Ossetic causal pseudocoordinating construction, discussed in detail in Belyaev (2014). In this construction, the conjunction \( ɜmɜ \) ‘and’ is used together with the dative form of the demonstrative \( wəj \) ‘that’ in a causal sense. This construction clearly involves an asserted at-issue causal meaning which can be questioned, negated, put in the scope of modal operators, etc. At the same time, long-distance dependencies in this construction (including the CSC to the extent that it can be tested for Ossetic) all behave according to the coordinating schema. Word order facts also point towards coordination.

At the same time, Ossetic has another pseudocoordinating construction, where the conjunction \( ɜmɜ \) ‘and’ introduces complement clauses. This construction also has coordinating word order properties, but is fully subordinating according to both semantics and long-distance dependencies. Therefore, the data of Ossetic show that, if the mismatch approach is to be maintained, we need three levels instead of two at which the notions “coordination” and “subordination” are defined. In Belyaev (2014), I have proposed that this idea corresponds to the distinction drawn in some theories between two kinds of syntax: constituent structure and dependency-based structure, both distinct from semantics. In particular, exactly such a view of grammar is maintained in the framework of Lexical Functional Grammar (LFG, R. Kaplan & Bresnan 1982), which distinguishes between c-structure (constituent structure), f-structure (functional structure), and semantics. Accordingly, I have proposed naming the corresponding clause combining types as c-, f- and s-coordination and subordination. Formalization of these notions allows one to clearly delineate the tests used for each of the levels. There may be mismatches between different levels, but no mismatching data within a single level.
In this paper, I will demonstrate how the same distinction can be applied to causal constructions in Russian, making generalizations across surface data which have long been treated in separation. The analysis crucially depends on two key assumptions: first, a formal, truth-conditional view of meaning; second, a clear separation between syntax, semantics and their interface. Arguably, these assumptions are necessary prerequisites for any meaningful theory of clause combining.

### 4.2 Causal clauses in Russian

Russian has several causal subordinators. This paper will focus on three of them, *potomu čto* ‘because’ (by far the most frequent and least marked), *tak kak* ‘as’ and *poskol’ku* ‘since’:

(6) Net, papa, ja vyjdu za nego zamuž, [ *potomu čto* ljublju ].

‘No, daddy, I will marry him, because I love.


(7) U ètix rastenij nas interesujut tol’ko stebli, [ *tak kak* list’ja ne godjatsja dlja pletenija ]

‘Only the stems of these plants are interesting to us, as leaves are not appropriate for braiding.’ [RNC: Елизавета Мельникова. Жатва на болоте (2003) // “Сад своими руками”, 2003.09.15]

(8) Otbirali kvalificirovannyx specialistov, [ *poskol’ku* zdes’ učit’ija bylo ne u kogo ].

‘They chose qualified specialists, since there was no one to learn from.’


All three subordinators eventually go back to two-word combinations, but their synchronic properties are different. *Potomu čto* consists of *potomu* ‘for that reason’ (< *po tomu* ‘by that’) and the general subordination marker *čto* ‘that’, and the two are still synchronically distinct, being separable both intonationally and in terms of linear order:
(9) Stranno i xorošo, i imenno potomu xorošo, [čto stranno].
strange and good and exactly for that good that strange
'It is strange and pleasant, and pleasant exactly because it is strange.' [RNC: И. Грекова. На испытаниях (1967)]

In Paducheva (1996), accordingly, two distinct variants of potomu čto are distinguished: “unified” (“нерасчленённый”) and “split” (“расчленённый”). They certainly possess different properties in terms of information structure (the latter is normally used in focal contexts), but it is not clear whether they should be treated as distinct lexical items. For reasons of space, I will generally treat the two as variants of a single construction, pointing out the differences whenever necessary.

Tak kak consists of tak ‘thus’ and kak ‘how’, going back to a manner construction (‘in the same way as X’), which still exists in the language in a different punctuational and prosodic form (tak, kak). The causal subordinator, however, has become considerably lexicalized and can no longer be treated as a free combination of these two words. In particular, tak and kak can be separated from each other in manner constructions, but not in the causal construction:

(10) Ja tak obradovalsja, kak nikogda ran’še.
I so became.happy how never before
‘I became happy like never before.’

(11) a. Ja obradovalsa, tak kak ty prišel.
I became.happy as thou came

b. *Ja tak obradovalsja, kak ty prišel.
‘I became happy because you came.’

Finally, poskol’ku goes back to the combination of the preposition po ‘via, by’ and skol’ko ‘how many’, but is, like tak kak, no longer treated as a combination of two independent words. In addition to the causal meaning, this subordinator also retains its original degree meaning ‘inasmuch as’.

In the majority of contexts, these subordinators are interchangeable, with only minor stylistic differences. However, their syntactic and semantic properties are quite different, and represent a challenge for the coordination–subordination dichotomy.
4.3 The properties of the subordinators

4.3.1 Linear order

4.3.1.1 Core constructions

Russian generally allows free embedding, and preposing/postposing, of adverbial and complement clauses, and this serves rather well as a test of coordination vs. subordination, cf. the following contrast:

(12) a. [Kogda Petja prišël domoj ], on lëg spat’.
    when P. came home he lay to.sleep
    b. Petja lëg spat’,[kogda prišël domoj ].
    c. Petja, [kogda prišël domoj ], lëg spat’.
    ‘When Petya came home, he went to sleep.’

(13) a. Petja prišël domoj i lëg spat’.
    P. came home and lay to.sleep
    b. ‘Petja, i lëg spat’, prišël domoj.
    c. ‘I lëg spat’, Petja prišël domoj.
    d. #Petja lëg spat’ i prišël domoj.
    ‘Petya came home and went to sleep.’

4.3.1.2 Causal constructions

According to this criterion, clauses headed by tak kak ‘as’ and poskol’ku ‘since’ are undoubtedly subordinate, being freely embeddable within the primary clause:

(14) a. [ Tak kak Petja pozval Vasju ], on prišël.
    as P. called V.Acc he came
    b. Vasja, [ tak kak Petja ego pozval ], prišël.
    ‘Vasya came, for Petya called him.’

(15) a. [ Poskol’ku Petja pozval Vasju ], on prišël.
    since P. called V.Acc he came
    b. Vasja, [ poskol’ku Petja ego pozval ], prišël.
    ‘Since Petya called Vasya, he came.’
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_Putomu čto_ ‘because’, however, is different: it does not allow embedding in either of its variants, and only marginally allows preposing.

(16)  
\begin{enumerate}
\item a. ? [\textbf{Putomu čto} Petja pozval Vasju ], on prišel. 
\quad because P. called V.ACC he came 
\item b. *Vasja, [ \textbf{pomumu čto} Petja ego pozval ], prišel. 
\quad ‘Vasya came because Petya called him.’ 
\end{enumerate}

(17)  
\begin{enumerate}
\item a. Vasja \textbf{pomumu} ko mne prišel, [ \textbf{čto} ja ego pozval ]. 
\quad V. for.that to me came that I him called 
\item b. *Vasja \textbf{pomumu} ko mne, [ \textbf{čto} ja ego pozval ], prišel. 
\item c. * [\textbf{Čto} ja ego pozval ], Vasja \textbf{pomumu} ko mne prišel. 
\quad ‘Vasya came because Petya called him.’ 
\end{enumerate}

There have been attempts to explain this behaviour of _pomumu čto_ by its information structure properties. In particular, it has been argued that this is due to the fact that clauses introduced by this connective always convey new information (Apresjan & Pekelis 2012). Its infelicity in clause-initial position, associated with topicality and presupposition, is thus explained. However, the impossibility of embedding is more difficult to explain in this way, as embedded clauses in Russian are not generally banned from conveying new information. In general, the information structure explanation is too weak: it does not predict the strong constraints on linear order shown above, and especially the constrasts between the different subordinators. It is more likely that a purely syntactic or construction-based explanation is to be pursued. For example, _pomumu čto_-clauses may be attached at a higher structural level than other causal clauses, or may involve a coordinating structure altogether. This may, in turn, be related to their tendency to convey new information noted in the previous literature. I will provide my analysis of this behaviour below.

4.3.2 _ATB, scope of mood, gapping_

4.3.2.1 Core constructions

Another set of tests concerns the possibility of across the board (ATB) extraction, scope of subjunctive mood assigned by the matrix verb, and gapping. These are fairly robust diagnostics in Russian when it comes to canonical cases:
(18) Scope of mood

a. Ja xoču, čtoby, [kogda ty priděš’ domoj ], ty lěg
   I want PURP when you come.FUT home you lie.SBJV
   spat’.
   to.sleep
   ‘I want you to go (sbjv.) to sleep when you come (fut.) home.’

b. Ja xoču, čtoby ty {prišël / * priděš’ } domoj i {lēg
   I want PURP you come.SBJV come.FUT home and lie.SBJV
   / * ljažěš’ } spat’.
   lie.FUT to.sleep
   ‘I want you to come home and go to sleep.’

(19) ATB

a. Čto Petja kupil __, a Vasja prodal __?
   what Petya bought and Vasya sold
   ‘What did Petya buy and Vasya sell?’

b. *Čto Petja kupil __, [kogda Vasja prodal __ ]?
   what Petya bought when Vasya sold
   (‘What did Petya buy when Vasya sold?’)

(20) gapping

a. Pete podarili mašinku, a Maše — kuklu.
   to.Petya they.gave toy.car and to.Masha doll
   ‘Petya was given a toy car and Masha, a doll.’

b. *Pete podarili mašinku, [kogda Maše — kuklu ].
   to.Petya they.gave toy.car when to.Masha doll
   (‘Petya was given a toy car when Masha, a doll.’)

ATB extraction is typically viewed as one of the consequences of the Coordinate Structure Constraint (CSC, Ross 1967), but while the two phenomena are related, I will show below that CSC behaves in a somewhat different way and does not necessarily reflect the syntactic difference between coordination and subordination.

4.3.2.2 Causal constructions

These criteria, unlike the linear order data, uniformly classify all the three causal constructions as being subordinating:
(21) *Čto Petja vykinul __, { potomu čto / tak kak / poskol’ku } Vasja slomal __? (‘What did Petya throw away __ because / for / since Vasya broke __?’)

(22) *Respublikancy polučili men’šinstvo mest, { potomu čto / tak kak / poskol’ku } bol’šinstvo — demokraty. (‘The Republicans have received the majority of seats, because the democrats received the minority.’) (modification of the example with *ibo ‘for’ from Pekelis 2009: 115)

(23) Esli ty budeš’ ženit’sja na devuške, to ja xoču, čtoby ty ženilsja na nej, { potomu čto / ? tak kak / poskol’ku } eë ljubiš’ / # ljubil. (‘When you marry a girl, I want you to marry her because / for / since you love her. [And not because she’s rich.]’)

4.3.3 Semantic properties

4.3.3.1 Core constructions

Finally, there is a third set of tests, which concern the possibility of putting the meaning expressed by the conjunction within the scope of some sentence-external operator, or focusing it (e.g. as an answer to a question). This is generally possible for subordinating conjunctions but impossible for coordinating ones:

(24) focus

a. Petja prišël, tol’ko [ kogda ja ego pozval ]. Petya came only when I him called ‘Petya came only when I called him.’

b. * ⟨Tol’ko⟩ ja pozval Petju, ⟨tol’ko⟩ i on prišël. only I called Petya and he came (‘⟨Only⟩ I called Petya ⟨only⟩ and he came’)

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(25) negation
Petja prišel, ne [kogda ja ego pozval], a pozže. Petya came not when I him called but later ‘Petya did not come when I called him, but later.’

(26) negation
#Neverno, čto Maša umnaja, no krasivaja: eti kačestva ne false that Masha intelligent but beautiful these qualities not protivorečat drug drugu! contradict one another

(‘It is not the case that Masha is intelligent but beautiful: these qualities do not contradict each other!’)

(27) answer to question (narrow focus)
(Why did Petya go away?)

a. OK Navernoe, Petja ušel, potomu čto Maša s nim ne probably Petya left because Masha with him not razgovarivala.
spoke

‘Petya probably left because Masha did not speak to him.’

b. #Navernoe, Maša ne razgovarivala s Petej, i on ušel.
probably Masha not spoke with Petya and he left

(‘Probably Masha did not speak to Petya, and he left.’)

A very robust diagnostic on focusing the linking relation has been proposed in Pekelis (2009), the èto ‘this’ / vsë èto ‘all this’ test for Russian:

(28) Sovremennaja fotografija stala banal’noj, pritornoj i neinteresnoj, modern photography became banal luscious and uninteresting

i vsë èto, potomu čto mnit sebja iskusstvom.
and all this because it considers itself art

‘Modern photography has become banal, luscious and uninteresting, and all this, because it considers itself art.’ (Pekelis 2009: 96)

(29) Maša byla zanjata podgotovkoj k èkzamenu i k tomu že Masha was busy by.preparation to exam and in.addition

prostužena. *{Èto / vsë èto}, i my ne vzjali eë s soboj.
having.cold this all this and we not took her with ourselves

‘Masha was busy preparing to the exam and in addition had a cold. *{This / all this}, and we didn’t take her with us.’ (Pekelis 2009: 98)
4.3.3.2 Causal constructions

Causal constructions pattern in the following way. Tak kak cannot be used in the èto focus construction, while potomu čto can do so quite freely:

(30) this-focus
Asfal’t mokryj, no èto { * tak kak / potomu čto } dožd’ prošël.
asphalt wet but this as because rain passed
‘The asphalt is wet, but this (is) because it has been raining.’

Poskol’ku ‘since’ would sound admittedly strange in the above example, although not to the same extent as tak kak ‘as’. But it is possible to come up with context where such a usage is plausible; a particularly good example is found in Pekelis (2009):

(31) this-focus (poskol’ku)
Mne bylo očen’ zabavno, no èto poskol’ku ja znaju mnogix iz
to.me was very funny but this since I know many of
tex, o kom idët reč’.
those about whom goes speech
‘It was very funny for me, but this (is) since I know many of those about whom
the story is concerned.’ (Pekelis 2009: 96)

Tak kak cannot be in the scope of negation under any circumstances, while potomu čto, in its “split” version, can:

(32) negation
a. *Ja prišël, ne tak kak on menja priglasil, a sam po sebe.
I came not as he me invited but on.my.own
b. Ja prišël ne potomu, čto on menja priglasil, a sam po sebe.
I came not because he me invited but on.my.own
‘I didn’t come because he invited me, but on my own.’

Once again, poskol’ku is unnatural in this constructed example, but more natural-sounding corpus examples are readily available:
(33) negation (poskol’ku)

a. Bog zapovedal Adamu delat’ dobro i otyskivat’ ego s
    God commanded Adam to do good and to find it from
    točki zrenija dobra, a ne poskol’ku ono protivopoložno
    point of view of good but not since it opposite
    zlu ...
    to evil

    ‘God commanded Adam to do good and find it from the point of view of
good, and not since it is opposite to evil …’ (RNC: Oleg Aronson. Televis-
onnyj obraz, ili Podražanie Adamu // Neprikosnovennyj zapas, 2003.11.11)

b. Ved’ vrač stroit dom ne kak vrač, a kak stroitel’ i
    after all doctor builds house not as doctor but as builder and
    sedym stanovitsja ne poskol’ku on vrač, a poskol’ku on
    gray becomes not since he doctor but since he
    brjunet.
    dark haired

    ‘A doctor builds a house, not qua doctor, but qua housebuilder, and turns
gray, not qua [he is a] doctor, but qua [he is] dark haired.’ (Aristotle. Phys-
ics, Book 1, Part 8, Russian translation by V. P. Karpov, English translation
by R. P. Hardie and R. K. Gaye)

With tol’ko ‘only’, potomu čto ‘because’ and poskol’ku ‘since’ can be used,
but not tak kak ‘as’:

(34) only-focus

a. Lužinym on zanimalsja tol’ko poskol’ku èto byl fenomen, —
    by Luzhin he occupied self only since this was phenomenon
    javlenie strannoe, neskol’ko urodlivoe, no obajatel’noe, kak
    object strange somewhat ugly but charming as
    krivye nogi taksy.
    crooked legs of dachshund

    ‘He occupied himself with Luzhin only because he was a phenomenon: a
strange, somewhat ugly, but charming object, like a dachshund’s crooked
legs.’ (V. Nabokov, Zaščita Lužina, from Pekelis 2009: 46)

b. Lužinym on zanimalsja tol’ko { * tak kak / OK potomu, čto } ...

Finally, tak kak cannot be used as an answer to a why-question, while
potomu čto can:
(35) why-question
(People with tuberculosis used to be sent to Crimea for treatment.)

Почему? { Потому что / * так как } воздух в Крыму волшебный.
why because as air in Crimea magic

Удивительный.
marvelous


The use of poskol’ku as an answer to a why-question is somewhat marginal, but examples of this type can be found in very formal or bureaucratic language, in particular, in legal contexts:

(36) (The clause used to say: “No one can be extradited to another state”; now it says: “A citizen of the Russian Federation cannot be extradited to another state.”)

Почему? Поскольку здесь регламентируется правовое положение граждан Российской Федерации, а не вообще всех людей.
why since here is regulated legal status

Граждан Российской Федерации и не вообще всех людей.


To sum up, poskol’ku ‘since’ and potomu что ‘because’ can be in the scope of external operators and in focus, while tak kak ‘as’ cannot. Thus, according to this test, tak kak is coordinating while potomu что and poskol’ku are subordinating. This matches neither the linear order facts nor the tests related to ATB-extraction and the scope of mood.

4.3.4 Summary

Summing up the above, we have the following distribution of features:

<table>
<thead>
<tr>
<th>connective</th>
<th>linear order</th>
<th>extraction, mood</th>
<th>scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>potomu что</td>
<td>coordination</td>
<td>subordination</td>
<td>subordination</td>
</tr>
<tr>
<td>tak kak</td>
<td>subordination</td>
<td>subordination</td>
<td>coordination</td>
</tr>
<tr>
<td>poskol’ku</td>
<td>subordination</td>
<td>subordination</td>
<td>subordination</td>
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If the two-level approach of Culicover & Jackendoff (1997) and Yuasa & Sadock (2002) is adopted, these results are problematic for several reasons. First, there
are not two but three clusters of features that have to be distinguished. Second, there are two different sets of “semantic” features (extraction and semantic scope) which do not align with each other. Third, all of the constructions involved are causal. This is a clearly asymmetrical relation which would be considered subordinating in all traditional approaches to this issue. Thus we either have to abandon the multi-level approach and the coordination–subordination distinction altogether as lacking predictive power, or acknowledge that there are indeed two semantic types of cause, coordinating and subordinating. In the latter case, the semantic definitions of coordination and subordination would have to be more complex than what Culicover & Jackendoff and Yuasa & Sadock propose.

4.4 Analysis

I believe that the optimal solution to this problem would be to maintain the multi-level approach of Culicover & Jackendoff (1997) and Yuasa & Sadock (2002), but distinguishing three levels instead of two. In particular, syntax has to be split into constituent structure and a more “functional” (dependency-based) level; at the same time, a separate semantic level must be distinguished. As argued in Belyaev (2014), this three-level distinction corresponds to the grammatical architecture of Lexical Functional Grammar (R. Kaplan & Bresnan 1982, Dalrymple 2001) with its distinction between c-structure (constituent structure), f-structure (functional, dependency-based structure) and semantics. In terminology, I have proposed distinguishing between the levels through prefixes, thus defining c-, f- and s-coordination and subordination. Each level corresponds to a distinct set of tests:

- **c-coordination vs. c-subordination:** linear order, embedding, position of the conjunction;

- **f-coordination vs. f-subordination:** ATB, gapping, scope of mood;

- **s-coordination vs. s-subordination:** scope of semantic operators, focussability.

In what follows I will show how exactly these properties follow from the structure of each of the levels, and why all three have to be distinguished.
4.4.1 Semantics

4.4.1.1 Conventional implicatures and discourse relations

In this section, I will demonstrate that only the tests on focusing the causal relation and the scope of negation, questions and modal operators are truly semantic. This idea is based on two different approaches to the meanings of coordinating constructions: the Gricean conventional implicature (CI) approach and the rhetorical relations approach.

The CI approach Since Grice (1975), meanings of conjunctions such as *but* are treated as CIs, although this has been contested (K. Bach 1999a). Indeed, coordinating relations are clearly not asserted, due to their scopelessness, including the impossibility of using a coordinating structure as an answer to a constituent question. But neither are they presupposed. For example, if the relation of contrast implied by *but* is (assessed as) false, this does not lead to the whole sentence lacking a truth value. Consider the following examples:

(37)  (*Is Dargwa a Nakh-Daghestanian language, but an ergative one?*)

   a.  # Net, naxsko-dagestanskie jazyki vse èrgativnye!
      no Nakh-Daghestanian languages all are.ergative
      (*No, all Nakh-Daghestanian languages are ergative!*)

   b.  OK Da, no v ètom net ničego strannogo.
      yes but in this is.not nothing strange
      ’Yes, but there’s nothing strange in it.’

(38)  The fact that Russian is SVO **but** lacks postpositions implies that it also has NGen word order.

In this case, the inappropriate use of *but* does not lead to presupposition failure.

Furthermore, a coordinating conjunction embedded in a complement clause may still be speaker-oriented:

(39)  (John said: “Russian is SVO and lacks postpositions, so it follows that it has NGen word order”. David, misremembering that prepositions are typical for SVO, retells:) John thinks that the fact that Russian is SVO but lacks postpositions implies that it also has NGen word order.
John wants to cheat at the exam, but the speaker knows that it will be closely monitored and it’s likely that cheaters will be caught. John seems to think that he will be able to cheat but still pass the exam.

This behaviour is also typical for CIs but not for at-issue content.

The rhetorical relations approach But there are certain problems associated with the CI approach. One of them is that certain coordinating conjunctions have clear truth-conditional effects that cannot be said to belong to the CI level:

Either he left her and she took to the bottle or she took to the bottle and he left her. (Carston 2002: 227)

Conventional implicatures are not predicted to cause such at-issue effects. A possible solution is an alternative analysis proposed in such works as Txurruka (2003) and Kobozeva (2010), where it is argued that English *and* and Russian *i* introduce rhetorical relations. This also concerns other coordinating conjunctions. For example, ‘but’ introduces the relation Contrast. If this analysis is accepted, the scopelessness of coordinating conjunction is easily explained: since rhetorical relations are introduced at a higher level than ordinary predicates and, only serving to structure the discourse, do not introduce any new entailments, they cannot be negated, questioned or put under the scope of modal operators.

The two approaches, however different, make the same predictions concerning the behaviour of “semantically coordinating” and “semantically subordinating” constructions: coordinating meanings are expected to be scopeless and speaker-oriented, while subordinating meanings are expected to be at-issue meanings (usually asserted). I will now consider how this distinction applies to causal constructions.

4.4.1.2 Two semantic types of cause

As mentioned in the introduction, there is a considerable body of literature distinguishing between several types of causal relations. A particular distinction that interests us here is the distinction between “coordinating” and “subordinating” causal relations. German examples like (5) above from Scheffler (2013) show how the two causal connectives *weil* and *denn* are classified as being semantically subordinating and coordinating, respectively.
A further piece of evidence demonstrating that *denn* is closer to coordination than to subordination is that, unlike *weil*, it can be used to refer to the speech act of the main clause (42) and in the epistemic sense (43).

(42) Ist vom Mittag noch etwas übrig? **Denn** / ?weil ich schon wieder Hunger habe.

‘Is there anything left over from lunch? — Because I’m already hungry again.’ (Scheffler 2013: 52–53)

(43) **Es** hat geregnet, **denn** / *weil* die Straße ganz nass ist.

‘It was raining, because the street is wet.’ (Scheffler 2013: 53)

Within the tradition that views coordination as involving rhetorical relations, an analogous analysis of coordinating conjunctions has been proposed as early as Groupe λ-l (1975) for the French causal connectives *parce que* ‘because’ and *car* ‘for’, exemplified below:

(44) Lisa est contente peut-être { *parce que* / *car* } elle a eu un A en maths.

‘Lisa is pleased perhaps because / *for* she has had an A in maths.’

(45) Lisa n’est pas contente { *parce que* / *car* } elle a eu un A en maths,

mais { *parce que* / *car* } il fait beau.

‘Lisa is not happy because / *for* she has had an A in maths, but because / *for* the weather is good.’

In Groupe λ-l (1975), it is argued that the chief difference between these connectives is that *parce que* introduces an assertive causal meaning while *car* only introduces a rhetorical relation. This analysis has been translated into Segmented Discourse Representation Theory (SDRT, Asher & Lascarides 2003) in Delort & Danlos (2005), who propose the following semantic representations for sentences involving these connectives:

(46) Lisa est contente **parce que** elle a eu un A en maths.
4.4.1.3 The semantics of Russian causal clauses

As we can now see from the data in Section 4.3.3, the behaviour of Russian causal clauses fits into the pattern of there being two semantic types of cause. In this respect, tak kak demonstrates clearly coordinating behaviour. This behaviour of tak kak correlates with the possibility of it being used for “indirect reason” (Quirk et al. 1985) of various kinds, called “illocutionary cause” in the Russian tradition (Iordanskaja 1988, Pekelis 2014), something which is impossible for poskol’ku:

(47) Lisa est contente car elle a eu un A en maths.
On navernjaka ne spit, \{ tak kak / # poskol’ku \} v ego okne he probably not sleeps as since in his window
gorit svet.
burns light
‘He’s probably awake, as/’since there is light in his window.’

This agrees with earlier claims in the literature that this connective is associated with a more restricted kind of causal meaning, “logical implication” (Iordanskaja 1988).

Potomu čto may seem fully semantically subordinating based on the data in Section 4.3.3, but in fact, its behaviour is more complex. It can freely express indirect causation:

On navernjaka ne spit, potomu čto v ego okne gorit svet.

evertheless not sleeps because in his window burns light
‘He’s probably awake, because there is light in his window.’ (Pekelis 2009: 9)

Prošël dožd’, potomu čto asfal’t mokryj.
passed rain because asphalt wet
‘It has been raining, because the asphalt is wet.’

But when potomu čto marks indirect or illocutive causation, it loses its semantically subordinating properties. It can no longer participate in the èto-focus:

Asfal’t mokryj. Èto potomu, čto dožd’ prošël.
asphalt wet this because rain passed
‘The asphalt is wet. This (is) because it has been raining.’

Dožd’ prošël. # Èto potomu, čto asfal’t mokryj.
rain passed this because asphalt wet
(‘It has been raining. This (is) because the asphalt is wet.’)

The causal meaning can no longer be in the scope of negation:

Asfal’t mokryj ne potomu, čto prošël dožd’, a potomu, čto asphalt wet not because passed rain but because
proexala polival’naja mašina.
went.by cleaning car
‘The asphalt is wet not because it has been raining, but because a cleaning car passed by.’
b. # Dožd’ prošël ne potomu, čto asfal’t mokryj, a potomu, čto rain passed not because asphalt wet but because s kryši kapaet.
   from roof drips
   (‘It has been raining not because the asphalt is wet, but because water is dropping from the roof.’)

Finally, “indirect” potomu čto cannot be in the scope of epistemic modals:

(53)  a. Možet byt’, asfal’t mokryj potomu, čto prošël dožd’?
   maybe asphalt wet because passed rain
   ‘Maybe the asphalt is wet because it has been raining?’

   b. # Možet byt’, dožd’ prošël potomu, čto asfal’t mokryj?
   maybe rain passed because asphalt wet
   (‘Maybe it has been raining because the asphalt is wet?’)

This leads us to the conclusion that, while tak kak is semantically coordinating and poskol’ku is semantically subordinating, potomu čto expresses both types of cause, which is reflected in the variation in its properties.

There are two additional observations that support this analysis. One of the is the behaviour of the Coordinate Structure Constraint. Above, I have only used ATB-movement as a criterion of syntactic coordination. This is not accidental, because, as long observed in the literature, the CSC in what concerns the availability of extraction from only one of the conjuncts is often violated (Lakoff 1986). In Kehler (2002), such violations are explained through discourse coherence relations. Similarly, within the approach advocated in this paper, the operation of CSC involves semantic, and not syntactic, coordination. This can be confirmed by the fact that extraction from the main clause is only possible when potomu čto ‘because’ is used to express cause in the narrow sense. In the following pair of examples, (a) is semantically subordinating (the fact of the beating implies the nose bleeding) while (b) is semantically coordinating (the speaker infers the beating from the bleeding):

(54)  a. U Vasi krov’ tečët iz nosu, potomu čto ego izbili.
   at Vasya blood runs from nose because him they.beat.up
   ‘Vasya’s nose is bleeding, because he was beaten up.’

   b. Vasju izbili, potomu čto u nego krov’ tečët iz nosu.
   Vasya they.beat.up because at him blood runs from nose
   ‘Vasya was beaten up, because his nose is bleeding.’
Just as we expect if the CSC is assumed to be coordinating, wh-movement from the main clause is only possible in the first example. In (55b), the only interpretation available is that someone was beaten up due to his nose bleeding, which is clearly infelicitous.

(55) a. U kogo krov’ tečët iz nosu, potomu čto ego izbili? 
at whom blood runs from nose because him they.beat.up  
‘Whose nose is bleeding because he was beaten up?’

b. # Kogo izbili, potomu čto u nego krov’ tečët iz nosu?  
whom they.beat.up because at him blood runs from nose  
(‘Who was beaten up because his nose is bleeding?’)

More information on formal differences between causal proper and illocutionary uses of potomu čto can be found in Pekelis (2014); they are all generally in agreement with the analysis presented herein.

The second observation is that tak kak clauses and “illocutionary” potomu čto clauses, like coordinate clauses and unlike subordinate clauses, exhibit main clause phenomena (Hooper & Thompson 1973, Green 1976, Paducheva 1996). In (56), the past tense is used in the future sense. In (57), a special construction expressing something analogous to the rhetorical question in the English translation is employed. Both of these can normally only be found in main clauses, and their use in causal clauses, according to Kobozeva (2000), implies that the subordinate clauses in these examples comprise separate speech acts.

(56) Moj posudu sama, potomu čto ja pošël. 
wash dishes yourself because I am.gone.away  
‘Wash the dishes yourself, because I am going away.’ (lit. ‘because I’m gone away’) (Kobozeva 2000)

(57) Vy sami vo vsem vinovaty, potomu čto oxota že vam bylo ženit’sja. 
you yourselves in everything guilty because desire Prcl.to.you was to.marry  
‘You yourselves are to blame for everything, because why did you have to marry?’ (Kobozeva 2000)

4.4.2 Syntax

At the syntactic level, we have to distinguish between two sets of diagnostics: those which are related to constituent structure (c-structure) and those which
are related to functional structure or dependency grammar (f-structure).

### 4.4.2.1 Constituent structure

The first set corresponds to linear order properties, specifically, the position of the conjunction and the level of embedding. These diagnostics correspond to the constituency-based definition of coordination and subordination (LFG’s c-structure), as found, for example, in Testelets (2001). In informal terms, coordination is a symmetric structure, such that $X_1\ldots n$ are all coordinate to each other in (58).

\[(58) \quad X_1 \quad X_2 \ldots X_{n-1} (Cnj) X_n \]

In a c-subordinating construction, one of the elements is properly subsumed by the other. In (59), Y is c-subordinate to X.

\[(59) \quad X \quad \ldots \quad Y \quad \ldots \]

It is easy to see how the linear order-based diagnostics follow from these structures. Indeed, in a coordinating construction, neither of the conjuncts can be embedded within the other, by definition. A coordinating conjunction, if present at all, does not syntactically belong to any of the conjuncts; in a subordinating construction, it must belong to the subordinate element, because it cannot be a dependent on its own.

Therefore, the potomu čto construction must be classified as c-coordinating, as it allows no embedding, and the connective čto must be positioned strictly between the two clauses. Both kinds of behaviour are untypical for subordination in Russian and are, in fact, not observed with the other two causal constructions, which should be classified as c-subordinating.

### 4.4.2.2 Functional structure

The second set of syntactic properties is related to those definitions of coordination and subordination that refer to symmetry or asymmetry. A typical definition of this kind, albeit somewhat vague, is found in Haspelmath (2004: 3): “A construction [A B] is considered coordinate if the two parts A and B have
the same status (in some sense that needs to be specified further), whereas it is not coordinate if it is asymmetrical and one of the parts is clearly more salient or important, while the other part is in some sense subordinate”.

Unfortunately, it is difficult to be more precise than Haspelmath’s definition without using particular formal theoretical notions (which I will do in the next section). However, informally, it should be rather clear that in a construction that is coordinating in the dependency-based sense (i.e. f-coordinating), all elements are in some sense “co-dependent” on some other element if the construction is itself found in a subordinate position. This can be schematically represented as in (60), where A and B are coordinate, and both are co-subordinate (as a set) to some element C.

\[
\text{(60) coordination (A & B)}
\]

\[
\begin{array}{c}
A \\
B \\
C
\end{array}
\]

At the same time, dependency-based subordination (f-subordination) implies that only the superordinate clause takes part in the interaction with upper strata of the sentence. This can be represented as in (61), where B is subordinate to A, and only A is then visible to all upper parts of the dependency tree.

\[
\text{(61) subordination (A → B)}
\]

\[
\begin{array}{c}
A \\
B \\
C
\end{array}
\]

Thus, any operation that applies to a coordinating construction must either apply to all conjuncts at once or not apply at all; in a subordinating construction, such operations only apply to the main clause. This is, essentially, the motivation behind the Coordinate Structure Constraint and the rules of assigning mood, case and other categories to complex phrases.

In this understanding, all three constructions are f-subordinating, regardless of their semantics or linear order properties.

### 4.4.3 Informal conclusion

The central idea of my approach is that coordination and subordination in the sense of dependency or symmetry (f-coordination and f-subordination) are notions that are distinct from coordination and subordination in the sense of constituent structure (c-coordination and c-subordination), and both are distinct from coordination and subordination in the semantic sense. While
all the three causal constructions surveyed in this paper are f-subordinating, only tak kak and poskol’ku can be considered to be truly c-subordinating. And neither of these properties correlates with the semantic properties related to scope. The generalization can be represented in the following table:

<table>
<thead>
<tr>
<th>connective</th>
<th>c-structure</th>
<th>f-structure</th>
<th>semantics</th>
</tr>
</thead>
<tbody>
<tr>
<td>potomu čto</td>
<td>coordination</td>
<td>subordination</td>
<td>subordination / coordination</td>
</tr>
<tr>
<td>tak kak</td>
<td>subordination</td>
<td>subordination</td>
<td>coordination</td>
</tr>
<tr>
<td>poskol’ku</td>
<td>subordination</td>
<td>subordination</td>
<td>subordination</td>
</tr>
</tbody>
</table>

The informal motivation behind these distinctions seems to be rather clear. However, in order to show how exactly the predictions follow from the analysis, a formalization is needed. I will briefly present it in the next section.

4.5 Formalization

In this section, I will generally reproduce the definitions in Belyaev (2014), which will then be applied to the Russian constructions in question.

4.5.1 Syntax

I define c-coordination in a rather straightforward way:

- Nodes \( A \) and \( B \) are **c-coordinate** iff all of the following are true:
  - \( A \) is the sister of \( B \);
  - The category of \( A \) is the same as the category of \( B \) and the category of the immediately dominating node \( C \);
  - All sisters of \( A \) and \( B \) either have the same category as \( A \) or have the category Cnj.

This defines the structure in (58). For the purposes of this paper, I ignore the possibility of the coordination of unlikes or non-constituent coordination.

In contrast, in c-subordination categorial information is only inherited from one of the nodes. In the LFG \( X' \) model of phrase structure, this can be handled by saying that the subordinate constituent occupies the complement, specifier or adjunct positions of the superordinate constituent’s structure. In
LFG, an additional provision must be made for the non-endocentric category S, which is the only category not adhering to \( X' \) theory.

- A maximal projection \( B \) is **c-subordinate** to a maximal projection \( A \) iff both of the following are true:
  - \( A \) dominates \( B \);
  - Every maximal projection that dominates \( B \), if it is not \( B \) itself, dominates \( A \).

Essentially, the definition states that a constituent (which must be a maximal projection) is c-subordinate to the nearest dominating maximal projection.

At f-structure, coordinate constituents are elements of a set while a subordinate constituent occupies an argument or adjunct position in the superordinate constituent’s f-structure:

- Two f-structures \( f_1 \) and \( f_2 \) are **f-coordinate** iff they both belong to the same local f-structure sequence.\(^3\)
- An f-structure \( f_2 \) is **f-subordinate** to an f-structure \( f_1 \) iff \( (f_1 \text{\hspace{1pt}GF}) = f_2 \), where \( \text{GF} \equiv \{ \text{SUBJ} | \text{OBJ} | \text{OBJ}_\theta | \text{OBL}_\theta | \text{COMP} | \text{XCOMP} | \text{ADJ} \in | \text{XADJ} \in \} \).

The way sets are handled in LFG ensures that a distributive feature (which include mood, grammatical relations and usually case), if taken of a set, must have the same value for all elements of this set. This ensures that any long-distance dependency that targets a coordinate set, including extraction relations, must apply equally to each member of a set. The same applies to case and mood assignment. Thus, the effects of the CSC and feature assignment in LFG stem from one source, which predicts that these diagnostics should never contradict each other.

### 4.5.2 Semantics

If the CI approach to coordination is adopted, the definitions of semantic coordination and subordination are rather clear: coordinating conjunctions introduce CIs (the at-issue meaning is just logical conjunction), while subordinating conjunctions introduce at-issue meanings. Thus:

\(^3\) The term is from Kuhn & Sadler (2007): essentially an ordered set. Required for single conjunct agreement and other phenomena.
(62) \[
\llbracket\text{John came home and went to sleep}\rrbracket = \llbracket\text{came}_1(e_1, j) \land \text{slept}(e_2, j), \\
\text{and}(\text{came}_1(e_1, j), \text{slept}(e_2, j))\rrbracket
\]

(63) \[
\llbracket\text{When John came home, he went to sleep}\rrbracket = \llbracket\text{came}_1(e_1, j) \land \text{slept}(e_2, j) \land \\
e_1 < e_2, \epsilon\rrbracket
\]

The implementation in LFG, using the system in D. Arnold & Sadler (2010) implementing the Pottsian notion of CI, is fairly straightforward:

(64) \[
\llbracket\text{and}\rrbracket = \lambda P. \lambda Q. [P \land Q, \text{and}(P, Q)] : p_{(t)} \sim q_{(t)} \sim f_{(t)} \otimes f_{(t')}.
\]

Accordingly, the definition of s-coordination will be:

- The clauses \(f_1\) and \(f_2\) in the minimal \(f\)-structure \(g\) that contains both of them are s-coordinate iff the proof contains the expressions \(P : (f_1)_{\sigma(t)}\), \(Q : (f_2)_{\sigma(t)}\) and \([P \land Q, R(P, Q)] : g_{\sigma(t)} \otimes g_{\sigma(t')}\), where \(P\) and \(Q\) are logical formulae, \(R\) is some relation and \(P\) does not contain \(Q\) or vice versa.

Different kinds of s-subordinating constructions will not have much in common except for not being s-coordinating, i.e. not involving a conventional implicature, and involving some at-issue semantic relation.

The rhetorical relations approach is more difficult to directly implement in LFG due to the lack of a compositional version of SDRT. However, in purely representational terms, the definitions may still be provided, such as the following:

- Two clauses are s-coordinate iff they map to different speech act discourse referents which are linked by a rhetorical relation.

- One clause is s-subordinate to the other iff they are both found within a single SDRS corresponding to the same speech act, and are connected by a predicate linking their propositional content.

4.5.3 Short illustrations of various constructions and their structures

In this section, I will provide short illustrations of the structures for each of the constructions under consideration. I am using a simplified representation of Russian c-structure, which is adequate for the purposes of this paper; for a more detailed LFG analysis, see King (1995).
4.5.3.1 Canonical coordination

A canonically coordinating construction is classified as coordination at all three levels of grammar: c-structure, f-structure and semantic. Thus, in the following example, the c-structure is flat, the f-structure is a set and the semantics consists of two speech acts linked by a rhetorical relation:

\begin{center}
\begin{align*}
\text{Prošël dožd',} & \quad \text{passed rain} \\
\text{Conj} & \quad \text{and} \\
\text{asfal’t stal mokrym} & \quad \text{asphalt became wet}
\end{align*}
\end{center}

\begin{center}
\begin{tabular}{c|c}
\hline
\text{S} & \text{S} \\
\hline
\text{π₁, π₂} & \\
\hline
\text{e₁, x} & \text{rain(x)} \quad \text{pass(e₁, x)} \\
\text{π₁} & \text{e₂, y} \\
\hline
\text{asphalt(y)} & \text{become_wet(e₂, y)} \\
\text{π₂} & \text{Result(π₁, π₂)} \\
\hline
\end{tabular}
\end{center}

4.5.3.2 Causal constructions

The only causal construction which is canonically subordinating is the *poskol’ku* ‘since’ construction. At the level of c-structure, the subordinate clause is embedded within the main clause as an adjunct (I assume that it is adjoined to VP; this may be contested but is not crucial for the central claim of the analysis). At f-structure, the clause is an adjunct and at c-structure, it is a presupposition that is linked to the main clause via an additional semantic predicate (\(\partial\) is the presupposition operator of Beaver (1992)). Both clauses are part of a single speech act (\(\pi_0\)).
Potomu čto ‘because’ may be both semantically coordinating and subordinating. I will only illustrate the subordinating variant here. The only semantic difference from poskol’ku ‘since’, apart from a slightly different causal meaning (not shown here), is the fact that the subordinate clause is not presupposed. At f-structure, there are no differences. At c-structure, the construction is coordinating. The example provided below is of the “split” variant of the construction, as the existence of this variant demonstrates that it is čto ‘that’ that serves as the c-coordinating conjunction here; potomu ‘for that reason’ is merely a cataphoric element referencing the following clause.
Finally, *tak kak* ‘as’ also involves a mismatch, but of a different kind. In this construction, the semantics is coordinating, involving the rhetorical relation of Explanation between two speech acts. The f- and c-structure, however, are subordinating, as the construction is freely embeddable within the main clause and behaves as a subordinating construction according to all the f-structure diagnostics.

\[
\begin{array}{|c|}
\hline
\pi_0 \\
\hline
\begin{array}{l}
\pi_0 : \\
\begin{array}{l}
e_1, x, e_2, y \\
\text{asphalt}(x) \\
\text{become}_\text{wet}(e_1, x) \\
\text{rain}(y) \\
\text{pass}(e_2, y) \\
\text{cause}(e_2, e_1)
\end{array}
\end{array}
\end{array}
\]

(68)

\[
\text{Asfal’t, asphalt} \quad \text{tak kak prošël dožd’, as passed rain} \quad \text{stal mokrym became wet}
\]

\[
\begin{array}{|c|}
\hline
\pi_1, \pi_2 \\
\hline
\begin{array}{l}
\pi_1 : \\
\begin{array}{l}
e_1, x \\
\text{rain}(x) \\
\text{pass}(e_1, x)
\end{array}
\end{array}
\end{array}
\quad
\begin{array}{|c|}
\hline
\pi_2 : \\
\begin{array}{l}
e_2, y \\
\text{asphalt}(y) \\
\text{become}_\text{wet}(e_2, y)
\end{array}
\end{array}
\quad
\begin{array}{l}
\text{Explanation}(\pi_1, \pi_2)
\end{array}
\]

### 4.6 Conclusions

In this paper, I have applied the approach previously elaborated in Belyaev (2014) on the data of Ossetic to Russian causal constructions, the differences between which are a long-standing problem of Russian syntax. I have shown
that these constructions generally fit into the three-level approach, and the allowance of mismatches between the three levels explains their otherwise puzzling properties.

These results, especially the semantic classification of the constructions, are not new; similar ideas have already been proposed in Russian linguistics. However, it is important to highlight the usefulness of distinguishing between different levels. This allows us to separate those properties which are truly semantic from those properties which belong to the area of syntax. In particular, various properties related to extraction and anaphora have long been believed to be directly reflecting semantics, in large part due to the influence of Culicover & Jackendoff (1997) and later work on the topic. The data of Russian show that, whatever semantic approach one adopts, these properties are in fact logically independent from the meanings of the constructions in question. At the same time, they are also distinct from those properties which are related to constituency or linear order, and are thus situated at a level intermediate between syntax and semantics: a kind of dependency-based structure.

In this paper, I have used LFG’s c- and f-structures as the constituency-based and dependency-based representations, respectively. While c-structure is a conventional syntactic tree, f-structure is a level unique to LFG. In principle, corresponding representations in other frameworks, such as the deep syntactic structure of Meaning↔Text Theory, or HPSG’s synsem, should also be able to reflect the relevant generalizations. But this does not mean that the analysis is translateable to any framework. The key features of LFG that make this analysis possible are the clear separation between constituency- and dependency-based syntax and a rather unconstrained, almost construction-based, approach to the interface between syntax and semantics. The importance of these features for any grammatical theory which aims to capture the whole complexity of the coordination vs. subordination distinction is one of the more broadly relevant claims of this paper.

Another claim that has wider importance is that a multi-level approach must be combined with a proper truth-conditional semantic theory instead of the more representational approach of, inter alia, Culicover & Jackendoff (1997), Yuasa & Sadock (2002) in order to account for the data. When such a theory is used, the semantic distinctions involved in the coordination vs. subordination opposition can be described in ways which do not directly correspond to the traditional symmetry vs. asymmetry distinction: either as the opposition between at-issue meanings and conventional implicatures, or as the opposition between rhetorical relations connecting separate speech acts and
asserted predicates connecting abstract objects (facts, events or propositions). While similar ideas have been expressed in functionally oriented work (for example, in the communicative approach of Pekelis 2009), a key advantage of this approach is that it is formally explicit; therefore, analyses of particular constructions in individual languages are comparable among each other and lead to clear and testable predictions for each language.


Achimova, Asya, Kristen Syrett, Julien Musolino & Viviane Déprez. submitted. Children’s developing knowledge of wh-/quantifier question-answer relations. *Language Learning and Development*.


Arkadiev, Peter. 2015. Теория грамматики в свете фактов языка каяридилт [Grammatical theory in light of the facts of Kayardild]. Unpublished manuscript.


Bulygina, Tatiana V. 1982. К построению типологии предикатов в русском языке [Towards a typology of predicates in Russian]. In Olga N. Seliverstova (ed.), *Семантические типы предикатов* [Semantic predicate types], 7–85. Москow.


Iatridou, Sabine. 2014. About determiners on event descriptions, about time being like space (when we talk), and about one particularly strange construction. *Natural Language Semantics* 22. 219–263.

Iatridou, Sabine. ms. *Temporal Existentials?* Ms., MIT.


Janda, Laura A. 2012. Русские приставки как система глагольных классификаторов [Russian prefixes as a system of verb classifiers.] Voprosy jazykoznanija 6. 3–47.


Kennedy, Christopher & Beth Levin. 2002. Telicity corresponds to degree of change. handout from a talk given at Georgetown University.


Kodzasov, Sandro V. 1996. Законы фразовой акцентуации [Principles of phrasal accentuation]. In Tatiana M. Nikolaeva (ed.), *Просодический строй русской речи* [Prosody of Russian], 181–204. Moscow: Institut russkogo jazyka RAN.

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Bibliography


Bibliography

Lyutikova, Ekaterina & Sergei Tatevosov. 2014. Causativization and event structure. In Bridget Copley & Fabienne Martin (eds.), Causation in gram-


Maslov, Yury S. 1948. Вид и лексическое значение глагола в русском языке [Aspect and lexical meaning of the verb in Russian]. Izv. AN SSSR. Ser. lit. i jaz. 7(4). 303–316.


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Partee, Barbara Hall. 1983. Uniformity vs. Versatility: The Genitive, a Case Study. In Johan van Benthem & Alice ter Meulen (eds.), The Handbook of Logic and
Bibliography


Plungian, Vladimir A. 2011. Введение в грамматическую семантику. Грамматические значения и грамматические системы языков мира [Introduction to Grammatical Semantics: Grammatical meanings and systems in the languages of the world]. Moscow: RGGU.


Richards, Norvin. 2007. Lardil “case stacking” and the structural/inherent case distinction. Unpublished manuscript. MIT. Available at http://ling.auf.net/lingBuzz/000405.


Serdobolskaya, Natalia V. 2011. К типологии выражения генерического события в конструкциях с сентентиальными актантами [Towards a typology of expressing generic events in sentential argument constructions]. Handout for 8 International Conference on Typology and Grammar, Saint-Petersburg.


Szendrői, Kriszta. 2006. Focus movement (with special reference to Hungarian). In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell Companion


Tatevosov, Sergei. to appear. Акциональность в лексике и грамматике [Actionality and grammar and lexicon]. Moscow: Jazyki Slavjanskoj Kultury.


Thorward, Jennifer. 2009. The interaction of contrastive stress and grammatical context in child English speakers’ interpretations of existential quantifiers. The Ohio State University BA thesis.


Богуславский, Игорь Михайлович. 2001. Модальность, сравнительность и отрицание. Русский язык в научном освещении (1). 27—51.
Витгенштейн, Людвиг. 1944a. Логико-философский трактат. В Философские работы. Часть 1. Москва.
Витгенштейн, Людвиг. 1944b. Философские исследования. В Философские работы. Москва.
Герасимова, Ирина Алексеевна. 2000. Формальная грамматика и интенсивная логика. Москва: ИФ РАН.
Грязнов, Александр Феодосиевич. 1985. Эволюция философских взглядов Л. Витгенштейна. Москва: Изд-во МГУ.


Куслий, Петр Сергеевич (ред.). 2013. Философия языка и формальная семантика: сборник статей. Москва: Альфа-М.

Куслий, Петр Сергеевич. 2014. О «Логике для философов». Эпистемология и философия науки 4. 232—239.


Ледников, Евгений Евгеньевич. 1973. Критический анализ номиналистических и платонистских тенденций в современной логике. Киев: «Наукова думка».

Лекторский, Владислав Александрович. 2012. Предисловие. В Владислав Александрович Лекторский (ред.), Релятивизм, плюрализм, критицизм: эпистемологический анализ. Москва: ИФ РАН.

Макеева, Лолита Б.. 1996. Философия Х. Патнэма. Москва: ИФ РАН.

Мамчур, Елена Аркадьевна. 2008. Еще раз об истине. Эпистемология и философия науки 2. 66—79.


Никифоров, Александр Леонидович. 2012а. Онтологический статус референтов имен собственных. Эпистемология и философия науки 2. 50—58.


Падучева, Елена Викторовна. 2014. Модальность. Материалы для проекта корпусного описания русской грамматики rusgram.ru. На правах рукописи. Москва.


Томова, Наталья Евгеньевна & Владимир Иванович Шалак. 2014. Введение в логику для философов. Москва: ИФ РАН.

Уорф, Бенджамин Л.. 1960а. Наука и языкознание. В Новое в лингвистике. Вып. 1. Москва.

Уорф, Бенджамин Л.. 1960б. Отношение норм поведения и мышления к языку. В Новое в лингвистике. Вып. 1. 135—168. Москва.

Фейерабенд, Пол К. 1986. Против метода. Очерк анархистской теории познания. В Фейерабенд П. Избранные труды по методологии науки, 125—467. Москва: Прогресс.
Фреге, Готтлоб. 2000а. О смысле и значении. В Логика и логическая семантика. Москва.
Фреге, Готтлоб. 2000б. Структура мысли. В Логика и логическая семантика. Москва.
Целищев, Виталий Валентинович. 1977. Философские проблемы семантики возможных миров. Новосибирск: Наука.