***FASL* 22, ###-###**
Michigan Slavic Publications
2014

Givenness and the position of the direct object in the Czech clause*

Radek Šimík
University of Potsdam / SFB 632

Marta Wierzba
University of Potsdam / SFB 632

Beste Kamali
ZAS Berlin

We study the impact of givenness on the position of direct object with respect to three other clause-mate constituents: subject, verb, and a VP-modifying PP. Based on two controlled acceptability judgment experiments, we establish two main observations: (i) objects in all-new clauses are significantly less acceptable in a preverbal position than in a postverbal position and (ii) given objects are free to occur anywhere (preverbally or postverbally) as long as they do not appear in the linearly final position with default main sentence stress.

We argue that the latter finding provides evidence for an interaction between givenness and prosody in Czech in that given expressions avoid sentence stress. We propose to model this interaction by a DESTRESS-GIVEN constraint. We do not find evidence for an obligatory given-new partition in Czech clauses: except for the sentence-final position with

* We would like to thank an anonymous reviewer and the audiences at FASL-22, the Syntax Oberseminar at Goethe University Frankfurt, the syntax colloquium at Potsdam University, and the SFB 632 internal workshop (all in 2013) for valuable comments. This work was supported by DFG grant 747/4 to Hubert Truckenbrodt.

sentence stress, any position is acceptable for a given object, completely irrespective of the givenness status of the subject.

Our general conclusion is that neither relative word order phenomena nor scrambling give us a reason to believe that the information structural category of givenness is represented in the syntax, whether in the form of movement-triggering formal features or in the form of Kučerová's (2012) LF operator which imposes a given-new partition on propositional domains. Our proposal is that givenness "communicates" with prosody via the DESTRESS-GIVEN constraint and the fact that given direct objects tend to scramble out of their base positions follows from the tendency to realize sentence stress clause finally.

The paper is organized as follows. Section 1 gives the necessary background on the category of givenness. In Section 2 we introduce two prominent approaches to the formal realization of givenness: the prosodic approach and the partition approach of Kučerová (2007, 2012). Section 3 describes two experiments designed to test some particular predictions of these approaches. In Section 4 we discuss open issues and conclude.

1 Preliminaries

1.1 Background on Givenness

Like other IS notions, givenness has been used in many different ways (see Prince 1981 for an early overview). In this paper, we define givenness in terms of presupposed discourse salience (see e.g. Wagner 2012): an expression A is given if the discourse participants know that there is an expression B (of the same semantic type as A) in the recent discourse that counts as an antecedent of A. Whether B counts as an antecedent of A depends on the semantic type of A and B. For the type of entities (referential arguments), B counts as an antecedent of A if $||A|| = ||B||$. For functional types (predicates, propositions, etc.), B counts as an antecedent of A if for all x of the relevant type it holds that $||B||(x) \rightarrow ||A||(x)$.

Some examples are provided below. In (1) the expressions *him/this friend of mine* are given (marked by boldface) because there is an

antecedent in the preceding discourse, namely *John,* and the meaning of *him/this friend of mine* and *John* is identical (relative to some variable assignment). This is the case of a given expression which has the type of an entity, where semantic identity is required. In English, givenness influences accentuation: sentence stress usually falls on the rightmost element, but *him/this friend of mine* would be deaccented here by shifting the sentence stress to the verb. If *him/this friend of mine* did not refer to John, it would not be given, and would thus receive sentence stress.

(1) I thought about John yesterday. I decided to call **him/this friend of mine**.

(2) provides cases of given expressions which are of a functional, or particularly predicative type (assuming this type of semantics for nonspecific objects of intensional verbs). In (2a) *octopus* in the second sentence counts as given thanks to an occurrence of the same noun in the first sentence. In this case, the semantics of the given expression and its antecedent is identical (for all x, it holds that octopus(x) ↔ octopus(x)). In (2b), the predicate *is musical* counts as given due to the occurrence of the predicate *play the guitar* in the previous sentence. This is because everyone who plays the guitar is also musical.

(2) a. – Did you see an octopus when you were diving?
– No, I didn't look for an **octopus**.
b. – Does anyone of them play the guitar?
– I heard that Tom **is musical**.

What matters for givenness under this approach is whether an expression with the relevant meaning has been mentioned in the discourse, there is no need for there to be a specific referent that matches the description of the expression. For instance in (2a), there need not be any specific octopus in the discourse participants' minds in order for the second occurrence of *octopus* to count as given. More generally, givenness is independent of referential specificity.

Recently, Kučerová (2007) argued that givenness in Czech influences word order, and that it is a stronger notion than the property that causes deaccentuation in English. According to her, the condition on discourse

salience characterized above is a necessary but not sufficient condition for an expression to be given in Czech. For instance, in the Czech paraphrase of (2a), the second occurrence of *chobotnici* 'octopus' does not count as given according to Kučerová.

(3) – Viděl jsi při potápění chobotnici?
saw aux.2sg at diving octopus
– Ne, já jsem chobotnici nehledal.
no I aux.1sg octopus neg.looked.for
' – Did you see an octopus when you were diving?
– No, I didn't look for an octopus.'

According to Kučerová, an expression in Czech is given if it is discourse salient in the above sense and in addition the discourse participants know that there is a particular referent that satisfies the description of that expression. In other words, given expressions are assumed to satisfy the existence presupposition. In the second sentence of (3), no particular octopus is presupposed to exist and hence *chobotnici* 'octopus' does not count as given. It follows from this approach that given expressions in Czech are always referentially specific.[1] Examples of expressions that are given in this stronger sense are *ji/bankovku* 'it/banknote' in (4a) and *ho/Honzu* 'him/Honza' in (4b): they have salient discourse antecedents and satisfy the existence presupposition.[2]

(4) a. Na zemi ležela bankovka. Martin **ji/bankovku** zvedl.
On floor lay banknote Martin it/banknote picked.up
'There was a banknote on the floor. Martin picked it/the banknote up.'

[1] Kučerová (2007) assumes that partitive indefinite NPs can also be given. Even though the existence of a particular referent is not necessarily presupposed in this case, what is presupposed is the existence of a particular set of referents.

[2] It is important to keep in mind that the satisfaction of existence presupposition in itself is not a sufficient condition for an expression to count as given. It must also have an explicit discourse antecedent. For instance, the first occurrence of *Honza* in (Xb) is not given even if the discourse participants know the person the proper name refers to.

b. – Je tady i Honza?
is here also Honza

– No, já jsem **ho/Honzu** nepozval.
well I aux.1sg him/Honza neg.invited
'– Is Honza also here? – Well, I didn't invite Honza.'

For the purposes of this paper we remain agnostic which one of these two notions of givenness is the right one for Czech.[3] In what follows, if we call an expression "given", it is given in both of the senses above. This allows us to test the predictions related to givenness marking, irrespective of which one of the two givenness notions is assumed in the tested theory.

1.2 Background on Sentence Prosody in Czech

In Czech, word stress is on the left whereas both phonological and intonational phrase stress is on the right (Daneš 1957). Exemplified below in grid notation, this causes the rightmost grid mark of a phrase such as starší pár 'older couple' to project to the level of φ, and the rightmost φ thus formed to project to the level of ι .

(5) (x) ι
(x) (x) (x) (x) (x) φ
(x x x x x x) ω
V Praze prý útočník napadl starší pár kvůli penězům.
in Prague allegedly offender attacked older couple because.of money
'In Prague allegedly some criminal attacked an older couple because of money.'

We postulate that for the relevant purposes Czech uses the OT constraints HEAD-ι-R (Féry 2013) and DESTRESS-GIVEN (Féry & Samek-Lodovici 2006). These are defined below:

[3] See Šimík and Wierzba (under review) for a detailed comparison of the two notions and a defense of the weaker one for Czech.

(6) a. HEAD-ι-R: Align the right boundary of every intonation phrase with its HEAD
b. DESTRESS-GIVEN: A postnuclear given phrase is prosodically non-prominent.

HEAD-ι-R is responsible for the observed realization of ι-level stress at the right edge. DESTRESS-GIVEN is a higher-ranking constraint that ensures that given elements in the sense of presupposed discourse-salience as described in the previous section do not receive ι-level stress called for by HEAD-ι-R. By virtue of ranking higher, this constraint simply overrides and shifts the accent to another nearby position. It has been observed as early as Daneš (1957) that stress shift is an option to achieve this destressing of given elements in Czech.

2 Two Approaches to Deriving Word Order Alternations in Czech

In Kučerová (2007, 2012), the strong claim is made for a number of Slavic languages including Czech that given elements must linearly precede new elements within a propositional domain.[4] This is due to a G(iven)-operator which is present in the LF of every propositional domain (Kučerová 2012). The G-operator adds a givenness[5] presupposition to all elements that asymetrically c-command it and thus "partitions" the domain into a given and a new area.

This kind of partition approach predicts that any word order in which a given element is preceded by a new element within the relevant domain will be outruled. This is because without a partition, any insertion of the G-operator would either add a givenness presupposition to a new element (leading to a presupposition failure) or leave a given element without a presupposition (leading to a violation of Heim's (1991) Maximize Presupposition principle). If this partitioning requirement is not satisfied in the basic word order, scrambling can be used to amend that.

[4] According to Kučerová (2012:14), the relevant domain can be the finite clause, but it can also be smaller: if a tense auxiliary is present, its complement is the relevant domain. For all materials tested in this study, we made sure that all crucial constituents were within one domain.

[5] In the version proposed by Kučerová for Czech, as described in Section 1.1.

Scrambling is, however, restricted by an economy principle: changing the basic word order is allowed only if it yields an interpretation that would not be available otherwise. In what follows, we will evaluate the theory both with and without this additional economy assumption where different predictions emerge.

In the prosodic account that we are proposing, word order alternations arising from givenness are at heart due to prosodic well-formedness in the way described in the previous section. In light of the recent literature, we pursue the idea that word order change can also be used to satisfy prosodic well-formedness constraints (cf. Féry 2013 among others). The DESTRESS-GIVEN constraint thus interacts with some additional word order constraints to yield output linear orders where a given element is effectively moved away from the rightmost position, thus satisfying HEAD-ι-R and DESTRESS-GIVEN simultaneously.

For our simple DESTRESS-GIVEN constraint to be satisfied, it is enough that a given element is simply not stressed, either by stress shift, or by occurring in a different position than the stressed ι-final position. Therefore we do not expect to find any interactions regarding the given/newness of other elements solely based on this constraint. Given the availability of stress shift, we expect that givenness-based word order alternations are optional, however the details regarding the exact nature and interaction between such prosodic and word order constraints were not sought to be investigated by the experiments reported here.

3 Experiments

We conducted acceptability judgment experiments to test the predictions of the two approaches. We report the results of two new experiments here that we ran together within one experimental set-up.

Auditory stimuli were used, since the prosody of the materials had to be controlled. More precisely, stimulus sentences were all recorded by a native speaker of Czech in an all-new context, requiring, and instantiating as required, pitch accents on all phrases where the rightmost was the most prominent (as in 5 above). Each stimulus sentence was presented as a response to a context utterance (read by two different

native speakers), forming a short dialog. A Latin-Square design was used, so that each participant saw each item in only one of the conditions. 44 students from the University of Olomouc participated in the experiment. They were instructed to rate the acceptability of the target sentence in relation to the given context on a scale from 1 (unacceptable) to 9 (perfectly acceptable). Each participant heard and rated 142 dialogs in a pseudo-randomized order. 32 of those were for experiment 1, 32 for experiment 2, and the rest were for other studies not reported here.

3.1 Experiment 1 – What happens in an all-new context?

The goal of experiment 1 was to find out which positions are acceptable for an object in an all-new context, in which no givenness-related movement is assumed to happen.

We used a within-subjects design with two independent variables: referentiality of the object (referential vs. non-referential) as a between-items factor, and position of the object (four levels, see below) as a within-items factor. The proportion of referential and non-referential subjects was balanced.[6] We constructed 32 items. None of the elements of the target utterance was mentioned in the preceding context utterance. An example item set illustrating this and the four possible positions of the object in the target utterance is given in (7) and (8).[7] Sentence stress (indicated by underlining) was always on the rightmost element.

(7) C. Co ses dočetl v novinách?
'What did you read in the newspaper?'

[6] Referential NPs used in the experiment include proper names and definite NPs. Non-referential NPs are always non-specific indefinites.

[7] An anonymous reviewer points out that the object in (7) is ambiguous between accusative and nominative (in the referential condition, the object was ambiguous in 3 out of the 16 items; in the non-referential condition, it was ambiguous in 9 out of the 16 items). We performed a post-hoc analysis and found that items with a case ambiguous object in the preverbal position were rated significantly lower than comparable items with a case unambiguous object. As suggested by the reviewer, the relatively lower acceptability of these items might be due to a garden path effect: the case-ambiguous objects can temporarily be read as subjects. We come back to this issue in the discussion, where we show that the case-ambiguity factor confounds with the referentiality factor.

a. V Praze prý starší pár útočník napadl
in Prague allegedly older couple$_{ACC}$ offender$_{NOM}$ attacked
kvůli peněžům.
because.of money
'In Prague allegedly some criminal attacked an older couple because of money.' O S V PP
b. V Praze prý útočník starší pár napadl kvůli peněžům. S O V PP
c. V Praze prý útočník napadl starší pár kvůli peněžům. S V O PP
d. V Praze prý útočník napadl kvůli penězům starší pár. S V PP O

(8) C. Píšou něco zajímavého v novinách?
'Do they write anything interesting in the newspaper?'
a. Včera prý Dalíka soudce poslal do vězení.
yesterday allegedly D.$_{ACC}$ judge$_{NOM}$ sent to prison.
'Yesterday allegedly a judge sent Dalík to prison.' O S V PP
b. Včera prý soudce Dalíka poslal do vězení. S O V PP
c. Včera prý soudce poslal Dalíka do vězení. S V O PP
d. Včera prý soudce poslal do vězení Dalíka. S V PP O

The results are illustrated graphically in Figure 1 and summarized in Table 1.

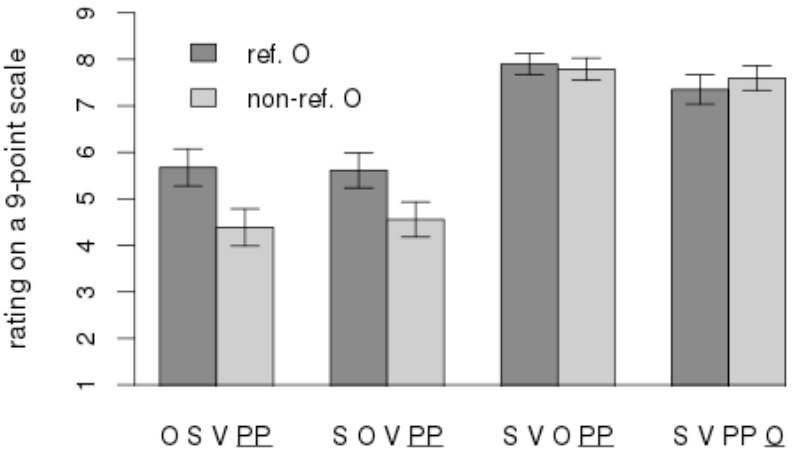

Figure 1: mean ratings with 95% confidence intervals for Experiment 1

Word order	Referential object	Non-referential object
O S V PP	5.68 (0.20)	4.39 (0.20)
S O V PP	5.61 (0.19)	4.56 (0.19)
S V O PP	7.90 (0.11)	7.79 (0.12)
S V PP O	7.35 (0.16)	7.60 (0.13)

Table 1: mean ratings for Experiment 1, standard errors in brackets

An ANOVA revealed significant main effects for object position (F_1 = 160.61; F_2 = 86.70) and referentiality of the object (F_1 =19.62, F_2 = 11.01; all ps < 0.001). There was also a significant interaction between the two factors (F_1 = 29.50, $p < 0.001$; F_2 = 6.53, $p = 0.002$). Post-hoc pairwise t-tests showed that non-referential objects were rated significantly lower than referential ones in initial and preverbal position (Holm-Bonferroni adjusted p-values < 0.001 for both pairs), but equally high in the other two positions, where no significant differences were found for any of the pairs.

2.2 Experiment 2 – Where can a given object scramble to?

The goal of the second experiment was to test whether givenness influences word order options in Czech, and if it does, in which way.

If it is true that a partition between new and given elements is necessary in Czech sentences, a given object should only be acceptable in positions in which it precedes all new elements. The prosodic approach, on the other hand, predicts that any position should be fine for a given object as long as it does not carry main stress.

Again, we used a within-subjects design with two independent variables. The position of the object was manipulated in the same way as in experiment 1, but this time, the object was given, i. e. mentioned in the context utterance. The second manipulated factor was givenness of the subject (given vs. new). The verb and the PP were always new and did not contrast with anything in the context. In order to keep the number of factors manageable, definiteness was not manipulated in this experiment: all objects and subjects were definite. This makes them given also in the sense of Kučerová (2007, 2012), who requires an element to be both given and presupposed in order to count as given in Czech. All target

utterances began with the words *protože prý* 'because allegedly' in order to avoid potential interferences from the left-peripheral position, which might trigger some special information-structural interpretation. We assume that these two clause-initial elements are not relevant for the predictions in any other way because they cannot be given/new in a non-trivial way. We constructed 32 items. An example item set with a new subject is shown in (9) and an example with a given subject in (10). As before, given elements are in boldface and sentence stress is underlined.

(9) C. Zjistil jsi, proč dnes sekretářka tak nadávala?
'Did you find out why our secretary was so angry today?'
a. Protože prý **sekretářku** Karel poslal do <u>obchodu</u>.
because allegedly secretary K. sent to store
'Because allegedly K. sent the secretary to the store.' **O** S V <u>PP</u>
b. Protože prý Karel **sekretářku** poslal do <u>obchodu</u>. S **O** V <u>PP</u>
c. Protože prý Karel poslal **sekretářku** do <u>obchodu</u>. S V **O** <u>PP</u>
d. Protože prý Karel poslal do obchodu **<u>sekretářku</u>**. S V PP **<u>O</u>**

(10)C. Zjistil jsi, proč dnes sekretářka tak nadávala na Karla?
'Did you find out why our secretary was so angry with K. today?'
a. Protože prý **sekretářku Karel** poslal do <u>obchodu</u>.
because allegedly secretary K. sent to store
'Because allegedly K. sent the secretary to the store.' **O S** V <u>PP</u>
b. Protože prý **Karel sekretářku** poslal do <u>obchodu</u>. **S O** V <u>PP</u>
c. Protože prý **Karel** poslal **sekretářku** do <u>obchodu</u>. **S** V **O** <u>PP</u>
d. Proto že prý **Karel** poslal do obchodu **<u>sekretářku</u>**. **S** V PP **<u>O</u>**

Applied to our experimental materials, the partition approach predicts only the object-initial structure to be acceptable when the subject is new. When the subject is given, the predictions depend on whether an economy condition is assumed to be active in Czech scrambling. If it is, the object is expected to move to the position preceding the (new) verb, but following the (given) subject, since this is the minimal movement necessary for establishing a partition. If no economy condition is assumed, the initial position should also be acceptable. In any event, an interaction between object position and givenness status of the subject is expected under the partition approach.

In contrast, the prosodic approach does not predict such an interaction; only the position in which the given object is in sentence-final position carrying sentence stress should be unacceptable, irrespective of the givenness status of the subject.

The results are illustrated in Figure 2 and summarized in Table 2.

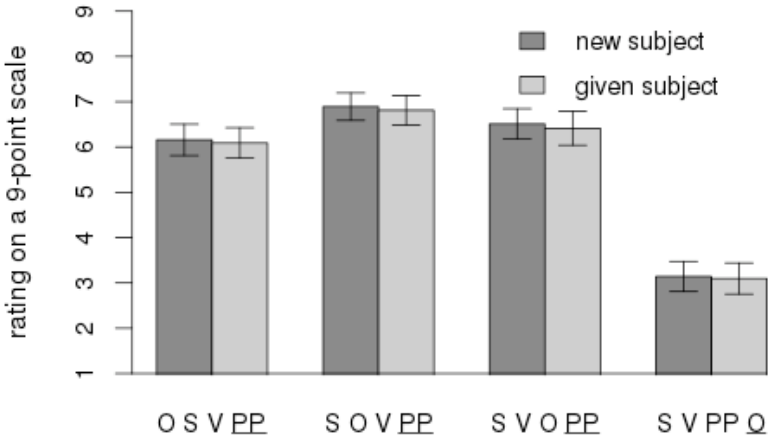

Figure 2: mean ratings with 95% confidence intervals for Experiment 2

Word order	Given subject	New subject
O S V PP	6.09 (0.17)	6.16 (0.17)
S O V PP	6.81 (0.16)	6.89 (0.15)
S V O PP	6.41 (0.19)	6.51 (0.17)
S V PP O	3.10 (0.17)	3.14 (0.17)

Table 2: mean ratings for Experiment 2, standard errors in brackets

An ANOVA showed a significant main effect of object position ($F_1(1,43) = 132.90$, $F_2(1,31) = 151.87$; ps < 0.001). The factor givenness of the subject did not have a main effect ($F_1 = 0.42$, $p = 0.52$; $F_2 = 0.22$, $p = 0.64$) and did not interact with the other factor ($F_1 < 0.001$, $p = 0.95$; $F_2 = 0.01$, $p = 0.92$). A post-hoc analysis showed that all four levels of the factor object position differed significantly from each other, with S V PP

O <* O S V PP <** S V O PP <** S O V PP (**Holm-Bonferroni adjusted $p = 0.001$; *$p < 0.05$).

3.3 Discussion

As for the first experiment, we interpret the results as an indication that there are two fully acceptable word orders in the absence of any givenness-related movement: S V PP O and S V O PP. We assume that both orders can be base-generated. When the object is scrambled to a position further to the left, acceptability decreases significantly. At the same time, a refrentiality effect shows up for these orders, in that the acceptability decrease is larger for non-referential than for referential objects.

Yet, upon a closer look we find that this referentiality effect is partly due to the confounding factor of case ambiguity (we are grateful to an anonymous reviewer for drawing our attention to this factor; see also footnote 7). We found that the items in which the object was ambiguous between accusative and nominative were rated as significantly less acceptable than the items in which the object was unambiguously accusative. Importantly, there were many more non-referential case-ambiguous objects (9 out of 16) than referential ones (3 out of 16). The high proportion of such items in the non-referential condition contributed to the relatively low acceptability of the whole non-referential condition. Indeed, after removing the case-ambiguous items from the analysis we find no significant difference between the referential and non-referential preverbal condition. However, this step also decreases the number of items and thus the statistical power, and it is unclear whether the observed contrast can be fully reduced to an effect of the confounding factor of case ambiguity or whether a part of the contrast has to be attributed to a genuine referentiality effect; a trend for higher acceptability of referential objects in preverbal position was found both within the ambiguous and unambigiuous items. This remains to be tested in a study with a more careful control of the ambiguity factor.

The results of the second experiment confirm the prediction of the prosodic approach: S V PP <u>O</u> is the only order that is clearly unacceptable, which was distinguished from the other candidates by the fact that the given object carried sentence stress. The prosodic approach

does not have anything to say about the significant differences between the other conditions. However, these were very small numerically. With ratings consistently higher than 6 on a 9-point-scale, we believe that all three orders with the object in non-final position should be considered acceptable options and an adequate model of Czech grammar should be able to generate them. If we are right in our assumption that S V O PP is a word order that can be base-generated, it is particularly interesting that this structure is also acceptable when the object is given: this means that scrambling is possible, but not obligatory for given elements if they are not in a position to receive sentence stress to begin with.

The main prediction of the partition approach was not borne out: no interaction was found between the givenness status of the subject and the position of the given object. In fact, givenness of the subject did not have any effect whatsoever, which is unexpected under the view that a partition between all given and all new items is the crucial requirement for acceptability. Within the items with a new subject, the fact that S O V PP and S V O PP were both rated better than O S V PP clearly contradicts the prediction that the only acceptable position for the given object should be one where it precedes all other (new) elements. Within the items with a given subject, the fact that S O V PP is the most acceptable order is expected under a partition approach with an economy condition. However, the rather marginal size of the acceptability difference to the second- and third-best options makes it doubtful that a presupposition failure or a violation of Maximize Presupposition should be involved there, as the partition approach in Kučerová's implementation in terms of a G-operator would predict. We conclude that a given-new-partition is not a relevant condition on acceptability of Czech sentences.[8]

[8] An anonymous reviewer points out that the givenness of the subject might be accommodated (drawing a comparison with existence presupposition accommodation in definite NPs). If that were the case, the participants would somehow come to believe that the new subject was in fact mentioned earlier in the discourse (prior to the context that they were exposed to). If new subjects were indeed systematically interpreted as given, the lack of an interaction between subject givenness and object position would be expected. Such an explanation needs backing by independent evidence. At this point, we can only point out that we found no such evidence in our reaction time data: the participants did not take significantly more time to rate the new-subject items than they

4 Conclusion and open issues

In this paper we provided experimental evidence for the view that the expression of givenness in Czech is primarily related to prosody and only secondarily to word order and word order alternations (scrambling).

Even though the results are consistent with the prosodic theory, the theory is clearly not sufficient to explain all the contrasts (or lack thereof) found in the results. Strictly speaking, the prosodic theory overgenerates and an adequate model of the results would ultimately have to refer to additional rules and/or constraints.

Consider first the most robust contrast found in experiment 1: in all-new sentences, preverbal positions of the object are less acceptable than postverbal positions. The prosodic theory itself predicts no such contrast: in none of the conditions is DESTRESS-GIVEN (or any other prosodic constraint) violated. The contrast could follow from an economy constraint prohibiting unmotivated movement (of the kind argued for e.g. in Reinhart 2006), assuming that the preverbal position is derived by scrambling. A relevant motivation for such movement could, for instance, be the satisfaction of the prosodic constraint DESTRESS-GIVEN. Since this constraint is satisfied by the base-generated order, there is no reason for scrambling, a consequence of which is that the conditions with the preverbal object are rated as less acceptable. Unfortunately, this reasoning is problematic from the perspective of the results of experiment 2. The main result of this experiment was that the scrambling of the given object is just as acceptable as keeping it in situ – as long as it is not placed clause-finally to receive main stress. Under our assumptions, there is a base-generated order which satisfies DESTRESS-GIVEN (the O PP order), and as such scrambling should be unmotivated and therefore prohibited – contrary to the observed facts.

---

needed for the given-subject items. This is unexpected, since accommodation needs time, as was first experimentally shown by Haviland and Clark (1974) (see also Šimík and Wierzba under review for a reaction time effect found for uniqueness presupposition accommodation in Czech).

It seems as though given expressions, as opposed to new ones, are allowed to scramble freely, provided that independent constraints are not violated. Giving a "permission" to constituents to undergo scrambling based on their givenness status would effectively introduce the need to represent givenness in syntax, though perhaps in a rather loose way.[9]

From a prosodic perspective as well, we are far from having exhausted relevant possibilities regarding the realization of preferred and dispreferred options we have considered. Finer and further prosodic distinctions such as rules governing minor or prosodic phrase construction, phonological phrase-internal organization, or focus realization when taken separately from the realization of givenness, may impose additional restrictions on the well-formedness of some of the relevant structures that we may be unaware of. The investigation of factors such as these warrant hypothesis testing in their own right.

References

Daneš, František. 1957. *Intonace a věta ve spisovné češtině*. Praha: Československá akademie věd.

Féry, Caroline. 2013. Focus as prosodic alignment. *Natural Language and Linguistic Theory* 31:683-734.

Féry, Caroline, and Vieri Samek-Lodovici. 2006. Focus projection and prosodic prominence in nested foci. Language 82:131–150.

Fanselow, Gisbert and Denisa Lenertová. 2011. Left peripheral focus: Mismatches between syntax and information structure. *Natural Language and Linguistic Theory* 29*:* 169-209.

[9] It could be that what we have considered scrambling is just base-generation plus freedom to linearize in different positions. This option might be worth exploring in the light of Fanselow and Lenertová (2011), who argue that expressions without "structural accent" are linearized "late" and hence need not reflect the position in which they occur in syntax. However, it is unclear that given expressions in prenuclear positions lack "structural accent" in Czech.

Haviland, Susan, and Herbert Clark. 1974. What's new? Acquiring new information as a process of comprehension. *Journal of Verbal Learning and Verbal Behavior* 13:512-521.

Heim, Irene 1991. Artikel und Definitheit. In *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, ed. Arnim von Stechow and Dieter Wunderlich, 487–535. Berlin: Mouton de Gruyter.

Kučerová, Ivona. 2007. *The syntax of givenness*. PhD dissertation, MIT.

Kučerová, Ivona. 2012. Grammatical marking of givenness. *Natural Language Semantics* 20: 1-30.

Prince, Ellen. 1981. Toward a taxonomy of given-new information. In *Radical pragmatics*, ed. Peter Cole, 223-255. New York: Academic Press.

Reinhart, Tanya. 2006. *Interface strategies: Optimal and costly computations*. Cambridge, MA: MIT Press.

Šimík, Radek and Marta Wierzba (under review). The role of givenness, presupposition, and prosody in Czech word order: an experimental study.

Wagner, Michael. 2012. Focus and givenness: A unified approach. In *Contrasts and positions in information structure*, ed. Ivona Kučerová and Ad Neeleman, 102-147. Cambridge: Cambridge University Press.

simik@uni-potsdam.de
wierzba@uni-potsdam.de
kamali@zas.gwz-berlin.de