The Syntax of Givenness
by
Ivona Kučerová

Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of
PhD
at the
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
June 2007

Author . . . .
Department of Linguistics and Philosophy
May 25, 2007

Certified by . . . .
Danny Fox
Associate Professor of Linguistics
Thesis Supervisor

Certified by . . . .
Sabine Iatridou
Professor of Linguistics
Thesis Supervisor

Certified by . . . .
Alec Marantz
Professor of Linguistics
Thesis Supervisor

Certified by . . . .
David Pesetsky
Professor of Linguistics
Thesis Supervisor

Accepted by . . . .
Irene Heim
Professor of Linguistics, Chair of the Linguistics Program
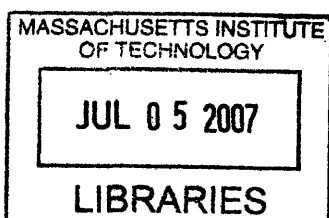
The Syntax of Givenness

by

Ivona Kučerová

Submitted to the Department of Linguistics and Philosophy
on May 25,2007, in partial fulfillment of the
requirements for the degree of
PhD

Abstract

The goal of this thesis is to account for distributional patterns of given and new items in Czech, especially their word order. The system proposed here has four basic components: (i) syntax, (ii) economy, (iii) interpretation, and (iv) reference set computation. The approach belongs to the family of interface driven approaches.

The syntactic part of the thesis introduces a free syntactic movement (G-movement). The movement causes very local reordering of given elements with respect to new elements in the structure. G-movement is licensed only if it creates a syntactic structure which leads to a semantic interpretation that would not otherwise be available. The economy condition interacts with the way givenness is interpreted. I introduce a recursive operator that adds a presupposition to given elements. The distribution of the operator is regulated by the Maximize presupposition maxim of Heim (1991). The reference set for purposes of this evaluation is defined as the set of derivations that have the same numeration and the same assertion.

Finally, I argue that the licensing semantic conditions on givenness in Czech are not identical to the licensing conditions on deaccenting in English. The givenness licensing conditions are stronger in that they require that for an element to be given it must not only have a salient antecedent but also satisfy an existential presupposition.

Thesis Supervisor: Danny Fox
Title: Associate Professor of Linguistics

Thesis Supervisor: Sabine Iatridou
Title: Professor of Linguistics

Thesis Supervisor: Alec Marantz
Title: Professor of Linguistics

Thesis Supervisor: David Pesetsky
Title: Professor of Linguistics

Acknowledgments

Two things were difficult about writing my thesis: (i) choosing the topic (there were too many things I would like to write a thesis about) and (ii) choosing an adviser. There were several people I wanted to have as my adviser. In the end I decided to write my thesis on four different topics and to have four advisers. The first decision turned out to be untenable and I ended up dropping three of the topics. The second decision, on the other hand, paid off; except for typographical issues while trying to typeset the cover page of my thesis I have never regretted it.

Alec, Danny, David and Sabine (in alphabetical order) are more than wonderful scholars. They have been my mentors and guides without ever telling me what to do. In a sense, they are coauthors of many ideas in my thesis: most of the ideas took their shape while sitting together for hours, playing with puzzles and trying different ways to attack them. I have really enjoyed the eight months I have spent writing my thesis.

My stay at MIT was of course more than my dissertation. It is impossible to thank all the people I have met here and whom I have learned from. Among my teachers a special place belongs to Noam Chomsky, Mike Collins, Morris Halle, Irene Heim and Donca Steriade. I want to thank them here for their time and interest in my work.

Sometimes it is hard to draw a clear line between a friend and a colleague. Many people were both. Asaf Bachrach, Roni Katzir and Raj Singh became my 'classmates' and provided me with intense underground education and great food. Brooke Cowan, Svea Heinemann and Sarah Hulsey made sure I would know that life at MIT is more than linguistics.

Special thanks go to Béďa Jelínek without whom I would have never applied to MIT. He knows best that there is more I should thank him for.

I want to thank also my former teachers without whom I would have not even thought about starting a PhD: Vlasta Dvořáková, Jindřich Rosenkranz, Jaroslava Janáčková, Michael Špirit, Jiří Homoláč and †Alexander Stich (in chronological order).

There is no way I could thank my parents and Roni Katzir without trivializing their place in my life.

Contents

Chapter 1

To Be Given

Consider the Czech sentences in (1).[1,2]

(1)   a.   SVO: Chlapec našel lízátko.
                          boy.Nom found lollipop.Acc

        b.   OVS: Lízátko   našel chlapec.
                          lollipop.Acc found boy.Nom

        c.   SOV: Chlapec lízátko   NAŠEL.
                          boy.Nom lollipop.Acc found

        d.   OSV: LÍZÁtko   chlapec našel.
                          lollipop.Acc boy.Nom found

The sentences in (1) describe *a similar situation*. In each of them the speaker asserts that there was a time interval in the past such that an event of finding took place in that interval. Furthermore, we learn that the event of finding had two participants (a finder and a findee)

---

[1]Capital letters here and throughout the text stand for a contrastively stressed syllable.

[2]The four combinations given in (1) are the only combinations that can be used as declarative clauses. The remaining permutations, given in (i) and (ii), are grammatical but only as questions. The following chapters will deal with declarative clauses only.

(i)   VSO: Našel chlapec lízátko?
                found boy.Nom lollipop.Acc
                'Did the boy found the lollipop?'

(ii)   VOS: Našel lízátko   chlapec?
                found lollipop.Acc boy.Nom
                'Was it the lollipop what the boy found?'

and we also learn who these participants were (some boy and a lollipop). The sentences in (1) nevertherless differ in *their meaning and in the set of contexts* they are felicitous at.

To see this, let's first concentrate on the first two orders, i.e., the *SVO* and the *OVS* order. Corresponding *English translations* of the Czech sentences are given in (2).[3]

(2)   a.   SVO : Chlapec našel lízátko.
                 boy.Nom found lollipop.Acc

           (i)   'A boy found a lollipop.'

           (ii)   'The boy found a lollipop.'

           (iii)   'The boy found the lollipop.'

           (iv)   #'A boy found the lollipop.'

       b.   OVS : Lízátko   našel chlapec.
                 lollipop.Acc found boy.Nom
                 'A boy found the lollipop.'

As we can see in (2-a), the *SVO* order in Czech is compatible with several different interpretations. The very same Czech string can correspond (i) to a situation where *neither a boy, nor a lollipop* are *given*, in the sense that there is no referent determined by the previous context, i.e., the existence of the referent has not been asserted yet; (ii) to a situation where *only a boy* has been previously determined by the context; or (iii) to a situation where *both the boy and the lollipop* have a unique referent but they have not been introduced by the previous context. Crucially, however, the SVO order *is not felicitous* in a situation in which only the lollipop has been introduced by the previous context, (iv).

To achieve the *missing interpretation*, i.e., the interpretation in which only the object has been determined by the previous context, the word order *must* be OVS, as in (2-b), translated as 'A boy found the lollipop.'.

---

[3]The hash sign # stands for an utterance that is not felicitous in the given context. In this particular case, it stands for an infelicitous translation.

What is the nature of the reordering? Notice that in order to capture the intuition about meaning differences corresponding to different word orders, I used indefinite and definite articles. Since Czech does not have any overt morphological marking of definiteness – with the exception of demonstrative and deictic pronouns – we could understand the different word orders as a strategy to achieve the same interpretation that English can achieve by using overt determiners. This would be, however, a simplification. The object in the OVS order does not need to correspond to a definite description. It is enough that it has been introduced in the previous discourse, as in (3).[4]

(3)   a.   We left for kids in the garden some cookies and lollipops. Who found a lollipop?

        b.   Lízátko   našla Maruška a   Janička.
            lollipop.Acc found Maruška and Janička
            'Little Mary and little Jane found a lollipop.'

We will see in chapter 4 though that the correlation with definite articles is not accidental. I will argue that the purpose of both reordering for givenness and definiteness marking is to maximize presupposition (Heim, 1991). While the two strategies are in principle different, their realization may be sometimes identical.

I thus argue that the nature of the reordering found in (2-b) is indeed to *mark that something has already been introduced in the discourse*. An interesting fact to observe is that even though the SVO order has multiple interpretations, certain interpretations are excluded and they can be achieved only by reordering. This suggests that the purpose of the reordering is to achieve an interpretation that *would not be available* otherwise.[5]

---

[4]The reordering observed in (2-a) and (2-b) might remind the reader of the Mapping Hypothesis of Diesing 1992 or of a more general discussion of specificity as in Enç 1991; van Geenhoven 1998; Farkas 2002, among many others. One might think that for a DP to become specific (whatever it means) such a DP must move to (or it must be base-generated in) a certain syntactic position. As we will see shortly, not only referential, but also predicational or propositional elements can be introduced in a discourse in the same way as the object in (2-b). I do not know at this point whether there is any connection between specificity and the data discussed here. In general, I will ignore possible relations between quantification and information structure here.

[5]We will see in this chapter and especially in section 1.2 that SVO is the basic word order in Czech. I will argue that a basic word order in general allows more flexibility in interpretation than a derived word order.

11

I will argue shortly that this ordering correlates with a requirement that *given* (old, presupposed) elements linearly precede elements that are *new* (asserted, non-presupposed) in the discourse. While in (2-a) this requirement can be satisfied within the SVO order, in case of the (2-b) examples, reordering is needed.

The examples in (1-c) and (1-d), repeated below as (4-a) and (4-b), are rather different. While in the examples in (2-a) and (2-b) *at least one participant* has *not been introduced* in the discourse yet, the examples in (4-a) and (4-b) contain *only previously introduced participants*. In other words, the utterances in (2-a) and (2-b) correspond to an assertion that combines something already presupposed with something that has not been presupposed yet. In contrast, the utterance in (1-c)–(1-d) operates on an *already asserted proposition*. The meaning of the SOV order in (4-a) can be either *verification* of the true value of the proposition, or *correction* of a part of the proposition by excluding other alternatives.[6] Similarly, the example in (4-b) corresponds to an utterance about *already introduced participants* and it comments on their relation (*contrastive topic* or *topic*).

(4) a. SOV: The boy did find the lollipop. (He did not steal it.)

  b. OSV: As for the lollipop, the boy found it (but as for the chocolate, he got it from his mother).

The study presented here concerns mainly the type of examples given in (2). Before I undertake a closer investigation of these cases I want to provide the reader with some further observations that will help to clarify why it is useful to treat the examples in (2) as a separate case from the examples in (4). We have already seen that the type of reordering witnessed in (2) may teach us something about the way presupposed and non-presupposed elements are marked in a language that does not have overt articles. Everything being equal, the English translations of the Czech examples in (2) differ only in the use of the articles. There are no other obvious changes in syntax, prosody or morphology. The En-

---

[6]In literature on information structure, this type of construction is often referred to as *verum focus*, i.e., a construction where the speaker verifies or denies that an already presupposed proposition is true, or *contrastive focus* or *correction*, in case the speaker asserts an exclusion of an alternative that might have been introduced by the previous context.

glish translations of the Czech examples in (4) are in this respect very much different. Both have marked prosody (pitch accent on the auxiliary *did* in (4-a) and pitch accent on the *lollipop* in (4-b), both followed by optional deaccenting). Furthermore, the (4-a) example contains additional morphological material (*did*) and the (4-b) example may correspond in English to a cleft, i.e., to a structurally rather complex structure. I suggest that Czech is like English in that the processes that lead to the reordering in Czech (2-b) are of a very different nature than the processes that lead to the reorderings witnessed in Czech (4). If we want to understand these processes we should study them separately.[7]

There is another parallel between Czech and English worth mentioning. It concerns differences between prosodic properties of (2) versus (4). As in English, the Czech intonation of the examples in (2) is neutral. Furthermore, there are no relevant differences between (1-a) and (1-b). Compare figure 1-1 and 1-2. In contrast, the intonation of (4) is marked. In (4-a), the verb *našel* 'found' is distinct in its duration and intensity. As we can see in figure 1-3, the duration of the bisyllabic verb is roughly doubled in comparison with the pronunciation of the same word in other syntactic environments. In (4-b), the sentence initial object *lízátko* 'lollipop' is pronounced with a higher tone and the sequence is followed by deaccenting and an optional intonational break, as in figure 1-4.

Before we get to the actual proposal there is another empirical observation to be established. Notice that in the examples in (2) the verb occupies the *second* position. In contrast, in the examples in (4) the verb linearly *follows* the arguments.[8] As we will see shortly, two factors turn out to be crucial for understanding Czech word order variations: the *relative position of arguments* and the *relative position of the verb* with respect to the arguments.

---

[7]Reordering processes, superficially similar to those seen in (2) and (4), are often referred to as *scrambling*. The term originated in Ross 1967 as a term for stylistic reordering. In the more recent literature, scrambling may refer to A-movement, A-bar movement or base generation (for example, Williams 1984; Saito 1989; Webelhuth 1989; Grewendorf and Sternfeld 1990; Mahajan 1990; Lasnik and Saito 1992; Saito 1992; Corver and van Riemsdijk 1994; Miyagawa 1997; Bošković and Takahashi 1998; Bailyn 2001; Karimi 2003; Sabel and Saito 2005). I will avoid the term *scrambling* here in order to minimize possible confusion that might come from various interpretations the term has been assigned in the literature.

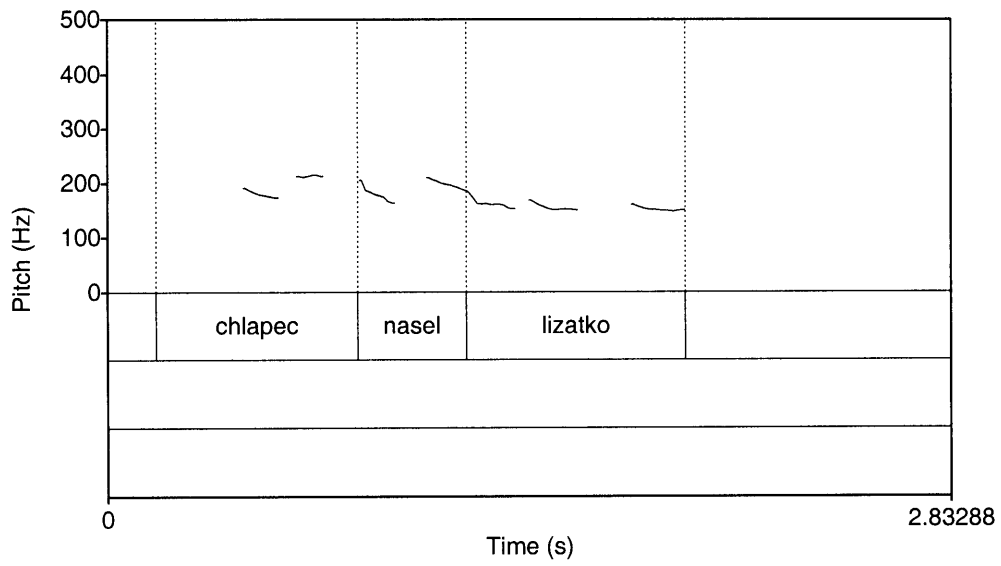[8]To make the picture complete, in questions the verb *precedes* the arguments.
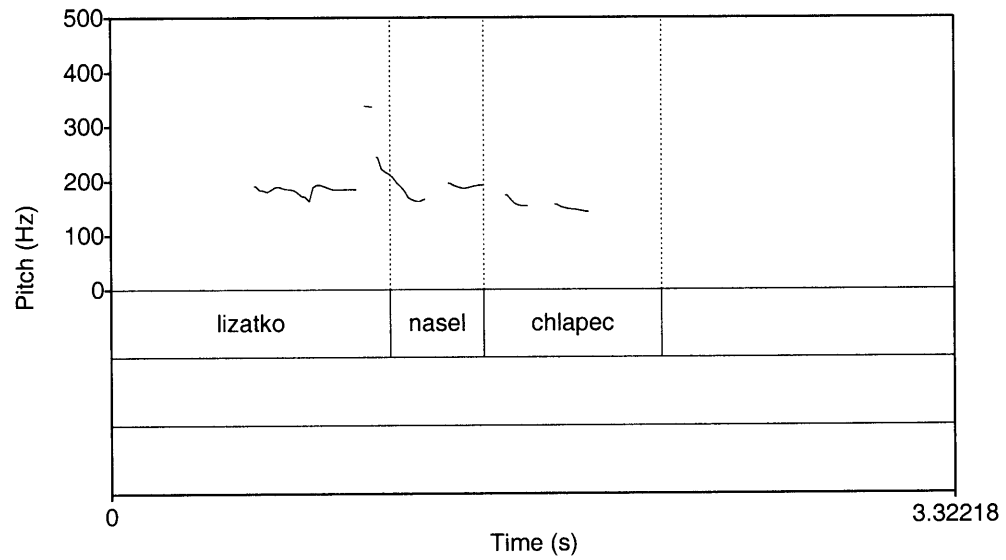
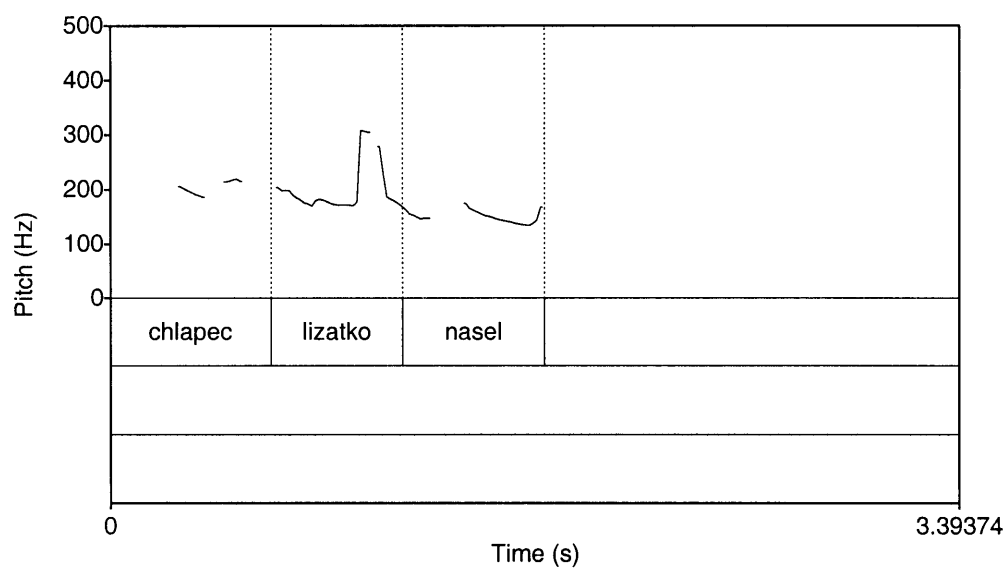Figure 1-1: SVO order

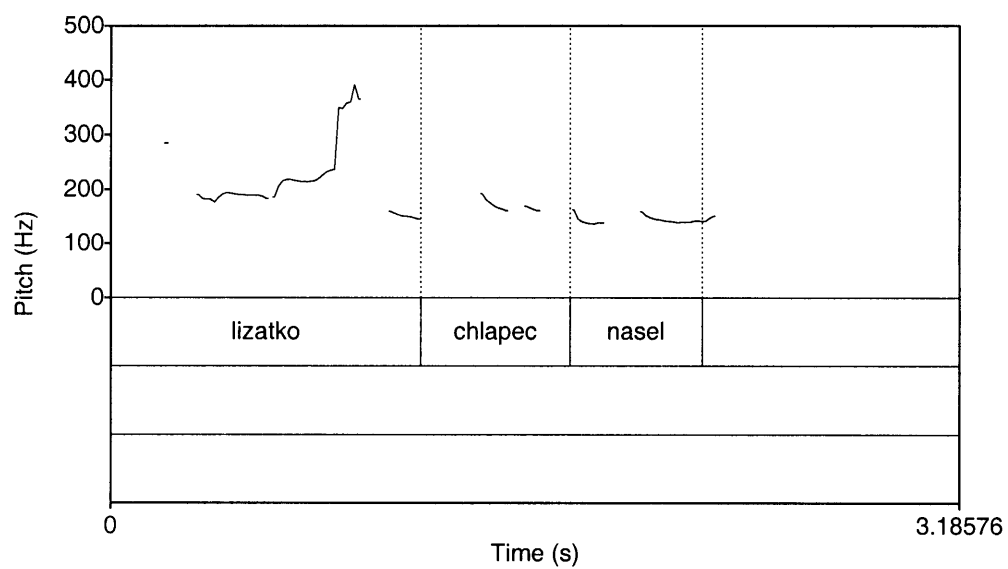Figure 1-2: OVS order

14

Figure 1-3: SOV order

Figure 1-4: OSV order

15

In the rest of this chapter and in the following chapters I will closely investigate the nature of the reordering witnessed in (2). I will argue that this type of reordering is derived by short A-movement that is sometimes parasitic on verb head movement. I will call this movement *G-Movement*. This movement happens, I will claim, only in order to derive a semantic interpretation that would not be available otherwise. As such this kind of movement is driven by interpretation requirements and is restricted by economy.

The goal of section 1.1 is to introduce basics of a system that can account for the Czech word order data observed in (2). I will present the proposal in stages.

The first version of the system, introduced in this section, is designed to account for the order of the arguments and the position of the verb. Further refinements will be introduced in the following chapters. In the next section, section 1.2, I will address the question how come multiple interpretations are available (only) for basic word orders, such as SVO. In particular, I will argue that the ambiguity follows from G-movement being a last resort operation. Section 1.3 will more closely investigate the fact that the verb intervenes between the two arguments, in contrast to other types of reorderings, such as questions and contrastive foci readings. I will argue that even though G-movement is independently restricted by syntax like any other type of movement, it differs from other types of movement in that it is *parasitic on head movement*. The emergence of verb second will be seen as a consequence of this restriction. In section 1.4 I will explore further consequences of this restriction, namely, differences in locality restrictions on G-movement dependent on head movement properties of the relevant head. In the last section of this chapter, 1.5, I will provide independent evidence for the proposed machinery. I will argue based on the distribution of pronouns that G-movement is a last resort operation. As such it takes place only if the relevant interpretation would not otherwise be available.

1.1 G-movement

The idea that word order in a language such as Czech is sensitive to the discourse in the sense that parts of a clause that are old (given, in the background etc.) linearly precede the elements that are new in the discourse has been investigated in Czech linguistics for a long time.[9]

The questions that have not been to my knowledge successfully addressed yet is (i) how exactly is the linear partition (i.e., given $\succ$ new) derived, and (ii) how is the word order within the old and the new part determined.

Consider the example in (5). This sentence could be an answer to 'What did Petr do yesterday with his car?' The ‖ sign corresponds to the partition between given and new. Now compare (5) and (6). The example in (6) shows the basic word order and as such it is a suitable answer to the question 'What happened?'.[10] As we can see schematized in (7), the two word orders differ quite radically.

(5)   Petr   auto   včera   ‖ řídil rychle. ←— S O Adv1 V Adv2
        Petr.Nom car.Acc yesterday   drove fast
        'Yesterday Petr drove his car fast.'

(6)   Petr   řídil včera   rychle auto.   ←— S V Adv1 Adv2 O
        Petr.Nom drove yesterday fast   car.Acc
        'Yesterday Petr drove fast his car.'

---

[9]The relevance of the discourse for the word order has already been observed by traditional grammarians (for example, Gebauer 1900). In the pre-modern tradition, the observation was stated in terms of *psychological* and *structural subjects*. To my knowledge, the intuition about the broader relevance of the discourse was for the first time formalized in a more systematic way by Vilém Mathesius in Mathesius [1929] 1983 and Mathesius 1939 (the first version of the paper was presented in Prague in 1908). In order to describe the relation between word order and the discourse, Mathesius introduced the term *aktuální členění*. This term is usually translated as *topic focus articulation*. This is not an exact translation though. The literal translation would be something like *structuring [of the sentence] dependent on the current context* and referred to *theme* versus *rheme* distinction. Authors that further developed the notion of word order dependence on the current context include, for example, Daneš 1954, 1957, 1974; Novák 1959; ; Dokulil and Daneš 1958; Šmilauer 1960; Adamec 1962; Firbas 1964; Hausenblas 1964; Sgall 1967; Benešová 1968; Hajičová 1973, 1974; Sgall et al. 1980, 1986; Hajičová et al. 1998, among many others. There is no way I can acknowledge in this study all of the empirical observations, generalizations and linguistic insight that is present in the previous work on *aktuální členění* in Czech.

[10]I will provide diagnostics for determining basic word order in 1.2.
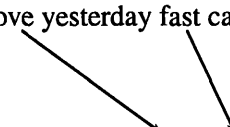
(7)   **Petr** drove **yesterday** fast **car** ⟶ **Petr car yesterday** ‖ drove fast

There are two facts to be noticed. (i) The given elements in (5) *precede* the new elements. (ii) While the relative order of the new items in (5) is *preserved* relative to (6), the relative order of the given items has *changed*. The changes are highlighted in (8) and (9).

(8)   *Word order of the given elements:*

   a.   *Basic:*   Petr drove yesterday fast car

   b.   *Derived:*   Petr car yesterday ‖ drove fast

(9)   *Word order of the new elements:*

   a.   *Basic:*   Petr drove yesterday fast car

   b.   *Derived:*   Petr car yesterday ‖ drove fast

As we will see throughout the coming sections and chapters, this is a typical pattern that arises in other places as well: The relative order of given items with respect to the basic word order may undergo various permutations, while the relative order of new items usually stays unchanged. The only exception is in fact a new finite verb, as we will see shortly. In all other cases, new items do not change their relative order at all. As we will see later in this section, this observation is important and it will become crucial for the way we are going to account for different Czech word order patterns. As we will see, re-orderings happen in a principled way and they can be directly predicted from the relevant syntactic structure.

Another important fact is that the relative order of given items only *sometimes* changes. As we can see in (8), the relative order of the subject *Petr* with respect to 'car' and 'yesterday' does not change. In contrast, the order of the object *auto* 'car' and the adverbial *včera* 'yesterday' is reversed. For example, in the same sentence but without the adverbial

'yesterday', the relative word order of the given items would be the same, (10).

(10)   Petr   auto   ‖ řídil   rychle.
         Petr.Nom car.Acc   drove fast
         'Petr drove his car fast.'

I propose that these word order facts suggest that only given elements move for information structure purposes. This is a simplistic picture because new finite verbs sometimes move as well but let's stay with the simple generalization for the sake of building the proposal in stages.

Notice that there is no optionality in the word order of given elements in a sentence with a particular meaning. Thus, we need to have a restrictive syntactic system that would account for the word order. I argue that given elements undergo a special kind of movement that I will call *G-movement*. The rules governing G-movement are given in (11). Further restrictions on G-movement are stated in (12).

(11)   **G-Movement** [version 1]

         G-movement must take place

         a.   iff α_G is asymmetrically c-commanded by a non-G element,

         b.   unless the movement is independently blocked.

(12)   **Restrictions on G-movement:**

         G-movement is restricted as follows:

         a. α_G moves to the closest position X, such that no non-G element asymmetrically c-commands α_G.

         b.   If α is XP, then α moves to an XP position.

         c.   If α is a head, then α moves to an X^0 position.

(13)   **Closeness:** (after Rizzi (1990))

         X is the closest to Y only if there is no Z such that Z c-commands Y and does not c-command X.

19

Following Reinhart 1997, 2006; Fox 1995, 2000, I argue that G-movement is a syntactic operation that takes place *only if it affects one or both of the interfaces*. In particular, I argue that G-movement must have a *semantic* import. In other words, the grammar I argue for is restricted by economy in that it allows only syntactic operations that lead to a distinct semantic interpretation. Notice that if there is no non-G element asymmetrically c-commanding α_G the closest position that satisfies the requirement on G-movement is the position of α_G itself. Thus, if there is no structurally higher new element, α_G does not move.

The definition of G-movement implies that an element *does not enter* the computation marked as given but it is only the *result of the computation* that the element is interpreted as such. As we will see in 1.5, this property is crucially connected to the fact that G-movement is a last resort operation.

Furthermore, (11) crucially relies on notion of the asymmetrical c-command (Kayne, 1994)[11] and it does not distinguish heads from phrases, in the sense that both heads and phrases are required to undergo G-movement.[12] Consider the trees in (14).

Taking into account that Czech is an SVO language, there are two basic cases to consider. Either (i) α_G is a head and β (a non-G element) is a phrase, as in (14-a); or (ii) α_G is a phrase and β is a head, as in (14-b).

---
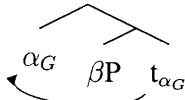
[11]The relevant definitions are given below:

(i)   X asymmetrically c-commands Y iff X c-commands Y and Y does not c-command X. (Kayne, 1994, p. 4, (2))

(ii)   X c-commands Y iff X and Y are categories and X excludes Y and every category that dominates X dominates Y. (Kayne, 1994, p. 16, (3))

(iii)   In the sense of Chomsky 1986, p. 9: X excludes Y if no segment of X dominates Y. (Kayne, 1994, p. 133, ftn.1)

[12]The proposal predicts that if there were rightward movement, a given element might follow a new element. Unfortunately, I am not aware of any case of rightward movement in Czech that would allow to test this prediction.

(14) a. $\beta P \quad \alpha_G$ b. $\beta \quad \alpha_G P$
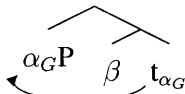
In case of (14-a), the definition of G-movement requires the head α_G to move above the phrase, resulting in (15). I leave open for now what exactly is the landing site of such a movement. I will address this question in section 2.3.

(15) $\alpha_G \quad \beta P \quad t_{\alpha_G}$

An example of such movement is found in unergatives. In Czech, in the basic word order an unergative subject precedes an unergative verb, as in (16). If the verb is given and the subject is new, the word order is reversed, as in (17).[13]

(16) a. *What happened?*

     b. Marie tancovala.
        Marie danced

(17) a. *Who danced?*

     b. Tancovala ‖ Marie.
        danced   Marie
        ‘Marie danced.’

In case of (14-b), the definition of G-movement requires the phrase α_G to move over the head β, resulting into (18).

(18) $\alpha_G P \quad \beta \quad t_{\alpha_G}$

A simple case of such movement can be found with unaccusatives. In contrast to unergatives, in the basic word order, an unaccusative subject *follows* an unaccusative verb, as in (19). If the verb is new and the subject is given, the word order is reversed, as in (20).

---

[13]I simplify the derivation here. In the full derivation, V moves to v, resulting into structure that requires another instance of G-movement. I will go through derivations in more details in the coming chapters. For now, I leave many details aside.

(19)   a.   *What happened?*

        b.   Přijel vlak.
              arrived train
              'A train arrived.'

(20)   a.   *What happened to the train?*

        b.   Vlak ‖ přijel.
              train   arrived
              'The train arrived.'

This is basically the story.[14] There are still many questions that need to be addressed – and I will address them in the coming sections and chapters – but the core of the argument is as simple as this: If a given element α_G is asymmetrically c-commanded by a non-G element, α_G needs to move. If there is no offending c-command relation, G-movement does not take place.

Before I approach to developing the syntactic system in more detail, I want to shortly address what I mean by *given*.

In the literature on information structure it is agreed at least since Halliday (1967) that an utterance may be divided between two parts, one of which is more established in the discourse (common ground, context...) than the other. While the terminology and the actual approaches widely vary (see for example Kruijff-Korbayová and Steedman (2003) for a recent overview), there is a strong intuition that the two parts are complementary to each other. Thus, it is a reasonable assumption that a grammar might refer only to one of the parts. The question then is which part is relevant.

The approach I take here is based on the idea that the part encoded in the grammar is the given part (on given/new or given/focus scale). For arguments for this type of approach see, for instance, Williams (1997); Schwarzschild (1999); Krifka (2001); Sauerland (2005); Reinhart (2006).

---

[14]There is one crucial piece missing: dependence of G-movement on head movement. I will discuss this property in section 1.3 and 2.3.

As to the question how exactly given is defined, I will for now adopt Schwarzschild's definition of givenness, stated in (21). The definition is based on the observation that for element α to be given, which in English roughly corresponds to being deaccented, α must be entailed by the previous discourse and α must have a salient antecedent. Since entailment refers to proposition, the definition insures that entailment can be stated for any α (not only propositional but also referential and predicational), (21-b).

(21)   **Definition of Given** (modified from Schwarzschild 1999, p. 151, (25))

   α is interpreted as Given in an utterance U iff there is a salient antecedent A such that

   a. α and A corefer; or

   b. A entails (α, U) where (α, U) is an utterance derived by replacing all maximal constituents of U (except for α) by variables existentially quantified over.

   Any other element is a *non-G* element.

The definition will be more than sufficient for the discussion of the syntax of givenness in chapters 1–3. We will see, however, in chapter 4 that the proposed syntactic mechanism covers only a subset of the relevant cases. For the rest of the Czech empirical pattern we will need to combine the syntactic system with a semantic one. In chapter 4 we will also see that the Schwarzschild definition is too weak for the Czech facts. But all this must wait. Let's concentrate on the syntax first.

1.2   Basic word order and Focus projection

This section shows that only basic word orders are compatible with *multiple interpretations*. In order to account for this fact, I will argue that the lack of ambiguity for derived orders follows from G-movement being a last resort operation. If a structure is such that there is no new (non-G) element asymmetrically c-commanding given α_G, no G-movement is expected. The core idea that I will introduce in this section is that while a structure without

any instance of G-movement may be compatible with several interpretations, *G-movement always disambiguates.*

So far I have not established how we define the basic word order. I propose, following Veselovská (1995); Junghanns and Zybatow (1997); Lavine and Freidin (2002); Bailyn (2003), among others, that the basic word order in Czech is the all-new word order. This means that the basic word order is an order that can be used as a felicitous answer to the question *What happened?.*[15] An example of such an order is given in (22). Notice also that binding that is sometimes used for determining basic word order cannot be used as a diagnostic for Czech. The reason is that Slavic languages have A-movement scrambling that can change the basic word order and create new binding configurations. I will comment on binding properties of G-movement in appendix A.

(22)   *Basic word order:*

A: *What happened at the party?*

B_1:   [Marie   dala Pavlovi   facku]$_{New}$.
         Marie.Nom gave Pavel.Dat slap.Acc

B_2: #Marie   dala facku   Pavlovi.
         Marie.Nom gave slap.Acc Pavel.Dat

B_3: #Pavlovi   dala Marie   facku.
         Pavel.Dat gave Marie.Nom slap.Acc

B_4: #Facku   dala Marie   Pavlovi.
         slap.Acc gave Marie.Nom Pavel.Dat
         'Marie slapped Pavel. [literary: Marie gave Pavel a slap.]'
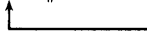
It has been also observed that in the basic word order various constituents may be understood as new. The only condition for an SVO language like Czech is that a new constituent be aligned to the right edge of a clause. We can test this property by using wh-questions targeting different constituents, as seen in (23).

---

[15]The cited authors address only Slavic languages, more precisely Czech, Ukrainian, and Russian.

(23) *What can be understood as new?*

    a. (i)   What did Marie give to Pavel?

        (ii) Marie dala Pavlovi [**facku**]$_{New}$ ←— slap

    b. (i)   What did Marie give to whom?

        (ii) Marie dala [**Pavlovi facku**]$_{New}$ ←— Pavel a slap

    c. (i)   What did Marie do?

        (ii) Marie [**dala Pavlovi facku**]$_{New}$ ←— gave Pavel a slap

    d. (i)   What happened?

        (ii) [**Marie dala Pavlovi facku**]$_{New}$ ←— Marie gave Pavel a slap

In contrast, if an utterance contains any deviance from the basic order, then such an utterance is infelicitous in an all-new context. It means that if any reordering takes place, *at least one constituent* must be α_G, i.e., introduced in the previous discourse. In other words, any reordering limits the number of structural positions in which we can identify the partition between given and new. For example, in a derived word order, as in (24), there is only one felicitous interpretation of the information structure. More precisely, only the rightmost constituent can be interpreted as new (non-G). In this particular case, it is the indirect object *Pavel*. Thus, in (24) there is *only one possible partition* between given and new, in contrast to (22) that is compatible with *several partitions*, as schematized in (25).

(24) *Focus Projection within a derived word order:*

    a. Marie dala facku [**Pavlovi**]$_{New}$ ←— S V DO ‖ IO t$_{DO}$

    b. #Marie dala [facku Pavlovi]$_{New}$

    c. #Marie [dala facku Pavlovi]$_{New}$

    d. #[Marie dala facku Pavlovi]$_{New}$

(25) a. Marie dala facku ‖ Pavlovi.

    b. (‖) Marie (‖) dala (‖) Pavlovi (‖) facku.

What we can learn from the observed pattern is that in the basic word order there is a relative freedom in what parts of such an utterance can be interpreted as new and what parts

can be interpreted as given. As I have already anticipated in the previous discussion of G-movement, this pattern can be described in the following manner: whatever is interpreted as given cannot be linearly preceded by anything interpreted as new.

Let's now turn to the question how exactly the multiple partition effect follows from our system. To see that we will look at a very simple case: a transitive clause that has no modifiers, only a subject, a verb, and an object. Consider first the case when the subject is the only given element. As we already know, the resulting word order is SVO, as seen in (26) and (27).[16]

(26)   a.   Subject-G verb Object ←—

      b.   #Object verb Subject-G

      c.   #Subject-G Object verb

      d.   ...

(27)   What did Mary do afterward?

      a.   (Potom) Maruška ‖ zavolala nějakého chlapce ze sousedství.
           afterward Mary.Nom called   some   boy.Acc from neighborhood

      b.   #(Potom) Maruška nějakého chlapce ze sousedství zavolala
           afterward Mary.Nom some   boy.Acc from neighborhood called
      'Afterward Mary called some boy from her neighborhood.'

I have proposed in 1.1 that G-movement is *a last resort operation*. We predict that G-movement takes place only if there is a non-G element asymmetrically c-commanding the given subject. Since there is no such element, in this particular case there is no G-movement taking place. A corresponding tree representation is given in (28).

[16]I use here examples with *potom* 'then, afterward' instead of a wh-question. The reason is that *potom* creates a natural context where only the subject is presupposed/given. For reasons that are not clear to me, it is difficult to obtain the same pragmatic effect with a wh-question.

(28)   Derivation of [Subject]-G verb Object

```
              vP
            /    \
      Subject_G   vP
                 /  \
                v    VP
                    /  \
                  t_V   Object
```
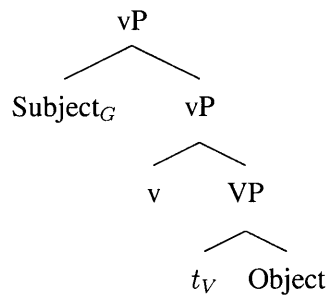
Let's now consider the same sentence but with both the subject and the verb given. An example is given in (29) and (30).

(29)   a.   Subject-G verb-G Object ⟵—

        b.   #Object verb-G Subject-G

        c.   #Subject-G Object-G verb

        d.   ...

(30)   Whom did Mary call afterward?

        a.   Potom Maruška   zavolala ‖ nějakého chlapce ze   sousedství.
              then   Mary.Nom called   some   boy.Acc from neighborhoud

        b.   #Potom Maruška   nějakého chlapce ze   sousedství   zavolala
              then   Mary.Nom some   boy.Acc from neighborhoud called

        'Then Mary called some boy from her neighborhoud.'

Since neither the subject nor the verb is asymmetrically c-commanded by anything new, it follows that the derivation should be the same as in (28). The reason is that neither in (26) nor in (29) does G-movement take place. The representation I argue for is given in (31).

(31)   Derivation of [Subject]-G verb-G Object

```
                        vP
                      /    \
               Subject_G    vP
                           /   \
                         v-G    VP
                               /  \
                              t_V  Object
```
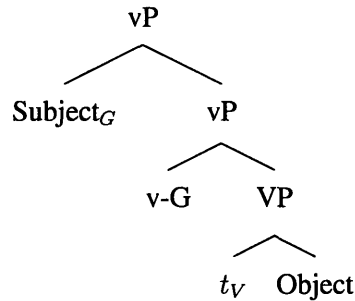
The logic that arises is the following: if a structure is *monotonous* in the sense that there is no point where a new element would asymmetrically c-command a given element, syntax does not have any tool to mark what part exactly is given and what part exactly is new. In contrast, if there is any deviance from the basic word order, the partition between given and new is syntactically realized. Thus, the interpretation of the utterance is restricted by syntactic tools. I will argue in chapter 4 that if there is no G-movement, the partition is established by the semantic component.

I argue that any basic word order sentence – if presented out of the blue – is ambiguous with respect to its information structure. Since within basic word order there is no syntactic marking of the partition between given and new, determining of the partition is left entirely to the semantic interface. I argue that this follows from the fact that in a neutral word order sentence there is no G-movement taking place. Thus the syntactic output of such a sentence is identical no matter how many semantic interpretations of the sentence are available.

This conclusion is supported by the fact that there is no difference in prosody of (27-a) and (30-a). If we assume that phonology reads prosody directly off the syntactic structure (see, for example, Bresnan 1972; Truckenbrodt 1995; Wagner 2005; Büring 2006, among many others) this is an unsurprising result. Therefore, it is only the semantic component that may interpret such a clause in different ways depending on the actual context. For syntax and the syntax-phonology interface there is only one structure to be considered. Crucially, this behavior is a consequence of G-movement being a last resort operation. If G-

movement had to take place whenever there was something potentially given, the semantic (but also word order and prosodic) ambiguity of the basic word order would be unexpected.

In this section, we have seen that there is a close connection between the last resort character of G-movement and multiple interpretations available for basic word orders. In the next section we will look at ambiguities that arise within derived orders. I will argue that this type of ambiguity follows from G-movement being dependent on head movement.

1.3   Verb partition and its semantic ambiguity

In Czech the partition between given and new is often manifested by a finite verb. The fact that Czech verb usually appears between the given and the new part has already been observed by Vilém Mathesius (Mathesius, [1929] 1983, 1939). In the following Czech functionalist tradition there has been a prevailing disagreement on whether the inflected verbal form can be characterized as given or new (for example, Sgall (1967); Hajičová (1974); Sgall et al. (1980)) or whether the verb forms a special category which is neither given nor new (for example, Firbas 1964; Svoboda 1984). I will argue that the finite verb is indeed either given or new. The reason why it is so difficult to characterize its information structure status is that the verb is often ambiguous between being given and new. More precisely, the partition between given and new often either immediately precedes the finite verb or immediately follows it.

I will argue that this is a side-product of an independent property of G-movement. In particular, I will argue that G-movement is *parasitic on head movement*. The idea that a certain type of movement may be dependent on head movement has been already proposed in other contexts (see, for example, Holmberg 1986 for Object shift and Heycock and Kroch 1993; Johnson 2002 for coordination) but it is not well understood. I will provide a possible motivation of this restriction on G-movement in section 2.3. In this section I will show that we can find two possible motivations for head movement in connection with G-movement. Either (i) head movement is an independent instance of G-movement,

then the verb is given, or (ii) the verb is new and head movement facilitates G-movement of some other element. In both cases head movement is understood as part of the narrow syntax (contrary to Chomsky (2000, 2001, 2004a)).

In the simple cases we have considered so far, the relative word order of the new part was the same as in the basic word order. Consider (32).

(32)   a.   And what about the lollipop?

   b.   #Lízátko   malá holčička našla.←— # O ‖ S V
         lollipop.Acc little girl.Nom found

   c.   Lízátko   ‖ našla malá holčička. ←— O ‖ V S
         lollipop.Acc   found little girl.Nom
         'A little girl found the lollipop.'

Our system as it is set up now predicts that the word order of the new elements should not change, thus, the verb should linearly *follow* the subject, as in (32-b). This prediction is, however, incorrect. As we see in (32-c), the verb *must* precede the subject. I argue that this is a result of a more general restriction on G-movement that has not been discussed yet. A first approximation of the restriction is given in (33). I will discuss the restriction in further detail in section 2.3.

(33)   **Head movement restriction on G-movement:**

   α_G can G-move out of XP only if X^0 moves out of XP as well.

The restriction is meant to capture the fact that if α_G G-moves, the head in which projection α_G was base generated moves as well. We will see only in section 2.3 how exactly the head movement restriction is motivated and when it applies. For now, let's stay with the following claim: there are *two cases* in which a *head moves* because of G-movement: (i) the head itself is given and as such it needs to *undergo G-movement*; (ii) the head itself is not given but its movement is necessary to *facilitate G-movement* of some other given element.

30
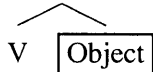
As a consequence, we predict that the verb may appear on either side of the partition between given and new.[17] If the head itself undergoes G-movement, *the partition follows the head*.[18] If the head moves in order to facilitate G-movement, *the partition precedes the head*. Thus we predict the pattern to be as in (34).

(34)　a.　O V ‖ S ←— head undergoes G-movement

　　　b.　O ‖ V S ←— head facilitates G-movement

The pattern is indeed correct. Example (32-c) is not only a felicitous answer to the question *And what about the lollipop? What happened to the lollipop?* but it is also a felicitous answer to the question *Who found the lollipop?*, as in (35).

(35)　a.　Who found the lollipop?

　　　b.　Lízátko　　našla ‖ malá holčička.
　　　　　lollipop.Acc found　little girl.Nom
　　　　　'A little girl found the lollipop.'

In other words, the semantic ambiguity that we found with a basic word order repeats itself on a smaller scale here as well. Even though we know that because of G-movement of the object, the object is given (translated as *the lollipop*), we cannot conclude anything about the status of the verb. The reason is that the head might have undergone either G-movement, or it might have moved only in order to facilitate G-movement. The suggested derivation is given in (36). I leave for now open the question of the exact landing site of G-movement. In the following graphs, the landing site is marked as ?P.

(36)　a.　　　VP

　　　　V　[Object]

---

[17]Notice that the verb can be either the rightmost element in the given part, or it can follow the given part but it can *never intervene* between two given elements. Thus if, for example, both the subject and the object are given the resulting order is either SOV or OSV, depending on other factors such as topicalization.

[18]I put aside for now what determines the relative order of the given elements. I will address this question in chapter 3.

b.

```
              vP
            /    \
      Subject     vP
                 /   \
              v-V     VP
                     /  \
                    V   [Object]
```

c.

```
              ?P
            /    \
        v-V       vP
                 /   \
            Subject    vP
                      /   \
                   v-V     VP
                          /  \
                         V   [Object]
```

d.

```
              ?P
            /    \
      [Object]    ?P
                 /   \
              v-V     vP
                     /   \
                Subject    vP
                          /   \
                       v-V     VP
                              /  \
                             V  [Object]
```
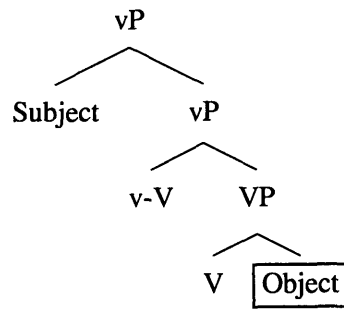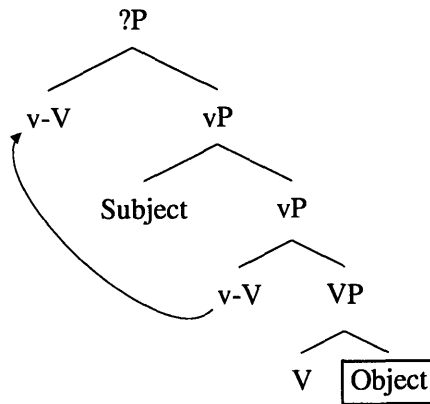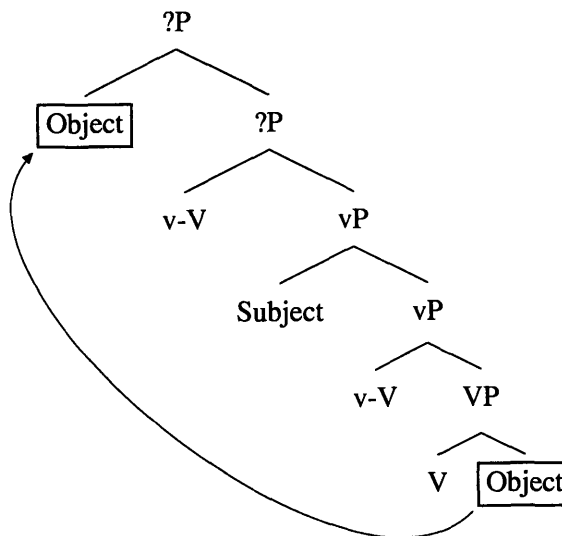
I argue that the only difference between the interpretation in which the verb is given and the interpretation in which the verb is new is in the *motivation* for head movement. Thus, the

32

syntactic output for PF and LF is the same. For native speakers, OVS structures presented out of the blue are ambiguous and there is also no difference in the prosody they could use to disambiguate.

We have now seen that there are two configurations under which information structure ambiguity arises: either no G-movement takes place, thus, no partition is established, or the partition could be placed in more than one position because there is no way to distinguish between G-movement of the verb and independently motivated verb movement. It is left up to the semantic interface to decide according to the relevant context. In chapter 4 I will present a semantic system which is designed to make this type of decision.

In order to obtain the ambiguity of the new versus given partition with respect to the verb and in order to derive the correct word order, I have assumed that G-movement is dependent on head movement. In the next section I will look closely at predictions this assumption makes. I will present evidence that the domain in which G-movement takes place is indeed independently restricted by restrictions on head movement. Thus, head movement and G-movement share the same locality restrictions. This fact thus provides further support in favor of the assumption that G-movement is dependent on head movement.

1.4   Boundedness of G-movement

In this section, I will explore further predictions and consequences of restricting G-movement by head movement, namely, differences in locality restrictions on G-movement that depend on the movement properties of the relevant facilitating head.

First of all, since head movement is clause bounded, we expect G-movement to be clause bounded as well. This is indeed correct. As we can see in the following examples, given elements can move only to the edge of their own embedded clause, even if the matrix clause introduces only new information.

(37) For a long time I didn't know what was going on with Mary.

    a.   Ale pak mi bývalá spolužačka řekla, že **Marie** si vzala Petra.
            but then me former classmate told that Marie.Nom REFL took Petr.Acc
            'But then a former classmate of mine told me that Marie got married to Petr.'

    b.   Ale pak mi bývalá spolužačka řekla, že **Marii** potkalo velké
            but then me former classmate told that Marie.Acc met big
            štěstí.
            happiness
            'But then a former classmate of mine told me that Marie got extremely lucky.

            (She won a lottery.)'

    c.   #**Marii** mi bývalá spolužačka řekla, že potkalo velké štěstí.
            Marie.Acc me former classmate told that met big happiness

In this respect G-movement differs from both wh-movement and contrastive focus movement, which are not clause bound, as can be seen in (38) and (39).

(38)   **Koho,** že jsi říkala, že si Marie bude brát?
           whom.Acc that Aux-you said that REFL Marie.Nom will take
           'Whom did you say Marie is going to Mary?'

(39)   **Pavla,** jsem ti říkala, si bude brát Marie, ne Lucie.
           Pavel.Acc Aux-I you.Dat said REFL will take Marie.Nom not Lucie.Nom
           'I've (already) told you that it is Pavel who is going to marry Marie not Lucie.'

If G-movement were only restricted to clause boundaries, one might come up with another explanation. For example, one could argue this follows from the fact that G-movement is A-movement (see appendix A for details)sec:AMovement. If this were the right explanation, we would not expect further locality restrictions. In contrast, if G-movement is restricted by head movement, we predict that G-movement is also not possible out of infinitive domains because the infinitive head cannot move out of the domain either. The latter prediction is borne out, as can be seen in (40). The relevant verbal head is marked by a box.

(40)   What happened to the antique chair you got many years ago from Mary?

    a.   Můj bývalý partner se pokusil **tu židli** spálit .
            my former partner REFL tried that chair burn.Inf
            'My ex-partner tried to burn the chair.'

b. Můj bývalý partner chtěl **tu** **židli** $\boxed{\text{spálit}}$.
   my former partner wanted that chair burn.Inf
   'My ex-partner wanted to burn the chair.'

c. Můj bývalý partner dokázal **tu** **židli** $\boxed{\text{spálit}}$.
   my former partner managed that chair burn.Inf
   'My ex-partner managed to burn the chair.'

d. #**Tu** **židli** můj bývalý partner dokázal $\boxed{\text{spálit}}$.
   that chair my former partner managed burn.Inf
   'My ex-partner managed to burn the chair. (OK: As to the chair, my ex-
   partner managed to burn it.)'

If we do not bind G-movement to head movement, this behavior is unexpected also because other elements, for example clitics, can climb up from the infinitive domain as in (41) with a reflexive tantum *posadit se* 'sit down'.

(41) a. Petr **se** chtěl posadit __.
         Petr.Nom REFL wanted sit-down
         'Petr wanted to sit down.'

      b. Petr **se** dokázal posadit __.
         Petr.Nom REFL managed sit-down
         'Petr managed to sit down.'

If we assume that infinitives that allow clitic climbing are restructuring verbs (cf. Dotlačil 2004; Rezac 2005), then the infinitival restriction on G-movement cannot follow from presence of a phase boundary. Whatever allows the clitic to get to the main clause, should be able to get the given element out as well.[19] As we can see, however, this is not so. On the other hand, if we allow G-movement of α_G to take place, only if the relevant head moves as well, the difference between clitics and given material is predicted.

Furthermore, we predict that if a verbal head is selected by another verbal head (an auxiliary), G-movement should be blocked as well. We find a useful minimal pair if we compare sentences in the Present or the Past tense with sentences in the Future tense. The main verb in the future tense, in contrast to other tenses where the verb moves out of VP,

---

[19]Clitic climbing in Czech is a syntactic not a phonological process. This can be shown, for example, by the fact that different clitics in Czech climb differently. See Dotlačil 2004 for more details.

stays in VP and the future auxiliary is base generated in vP (Veselovská, 2004; Kučerová, 2005). As we can see in (42), (43), and (44), the difference in the different head movement properties, especially lack of head movement in the Future tense, propagates to the domain in which an element can undergo G-movement. While in (42) and (43) the verbal head is free to move and the given object can therefore G-move, in (44) the given object can only immediately precede the main verb. Any other instance of G-movement is not possible.[20]

(42)   a.   What happened to the book?

        b.   **Tu knihu** ‖ dala Marie   Petrovi. ⟵ Past
            the book.Acc   gave Marie.Nom Petr.Dat
            'Marie gave the book to Petr.'

(43)   a.   What is happening to the book?

        b.   **Tu knihu** ‖ dává Marie   Petrovi. ⟵ Present
            the book.Acc gives Marie.Nom Petr.Dat
            'Marie gives the book to Petr.'

(44)   a.   What will happen to the book?

        b.   Marie   bude **tu knihu**   dávat Petrovi. ⟵ Future
            Marie.Nom will   the book.Acc give.Inf Petr.Dat
            'Marie will give the book to Peter.'

        c.   **#Tu knihu**   bude Marie   dávat Petrovi.
            the book.Acc will   Marie.Nom give.Inf Petr.Dat
            'Marie will give the book to Peter.'

            (OK as 'As to the book (in contrast to the violin), Marie will give it to Peter.)

Interestingly, we find differing morphological formation even within one tense – the past tense. While there is no overt auxiliary for 3rd person, 1st and 2nd person are formed by a finite auxiliary and a past participle. If G-movement depends on head movement we predict non-local G-movement of a given object to be possible with a 3rd person subject but not with a 1st or a 2nd person subject. This prediction is indeed correct, as can be seen in (66) and (67)

---

[20]These examples are vastly simplified. To keep the pairs minimal I use in the present tense an iterative form. The reason is that the corresponding word does not have a periphrastic future. Another important point is that (44-c) is a plausible structure but the object would have to be interpreted as a topic (*As to the book, Marie will give the book to Peter*).

(45)   *3sg.: Non-local G-movement possible:*

    a.   What happened to the boat that got demeged in the last storm?

    b.   **Loď**   │opravil│ jeden technik.
         boat.Acc repaired one   technician.Nom
         'A technician repaired the boat.'

(46)   *1pl.: Only local G-movement:*

    a.   What happened to the boat that got demaged in the last storm?

    b.   Jeden technik   a já│jsme│ **loď**   │opravili│.
         one   technician.Nom and I Aux.1pl boat.Acc repaired
         'A technician and I repaired the boat.'

Tying G-movement to head movement makes an additional prediction. If there is no head that can move, only very local G-movement should be possible. A case to consider is a small clause. As we can see in (47), this prediction is indeed correct. As with infinitives, in a small clause, a given element can undergo only very local G-movement. No further movement is possible.

(47)   a.   Why does Peter look so happy?

        b.   Marie   je **na Petra** pyšná __.
            Marie.Nom is of Petr   proud
            'Marie is found of Peter.'

        c.   **#Na Petra** je Marie pyšná.
            of Petr   is Marie proud

Another interesting pattern arises from interactions of G-movement and the EPP requirement of T. Simplifying considerably, in Czech T attracts whatever is the structurally closest element (for more details see Kučerová (2005)). Thus, if there is a subject in Spec,vP, T attracts the subject. On the other hand, if there is no subject (Czech is a pro-drop language), T may attract the verbal head occupying v. See the examples in (48) and (49), illustrating the point.

(48)   a.   Marie   koupila husu.
            Marie.Nom bought goose.Acc

'Marie bought a goose.'

b.　[$_{TP}$ Marie T [$_{vP}$ t$_{Marie}$ bought goose]]
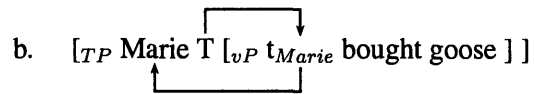
(49)　a.　Koupila husu.
　　　　bought goose.Acc
　　　　'She bought a goose.'

b.　[$_{TP}$ bought T [$_{vP}$ t$_{bought}$ goose]]
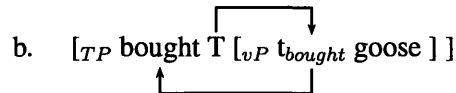
We can now make an interesting prediction. If a given element moves to the left edge of vP, then it can be attracted by T even if T is realized as an auxiliary. Thus, we expect to find a word order that superficially looks like a violation of the head movement constraint on G-movement. This is correct, as can be seen in (51). Notice that there is nothing wrong with moving a given element over an auxiliary. The given element just cannot undergo G-movement. Other instance of movement are not a problem.

(50)　Scenario: And what about all the money you inherited?

(51)　Všechny peníze $\boxed{\text{jsem}}$ $\boxed{\text{poslala}}$ osamělým dětem.　←— Past
　　　all　　money Aux.1sg sent　　lonely　　children.Dat
　　　'I sent all (the) money to lonely children.'

(52)　*Past tense:*

a.　VP level: the given object moves over V:

b.　V moves to v:

38

vP
gave   VP
       money   VP
              t_{gave}   VP
                     children   t_{money}

c. the object undergoes G-movement over v:

vP
money   vP
        gave   VP
               t_{money}   VP
                           t_{gave}   VP
                                      children   t_{money}
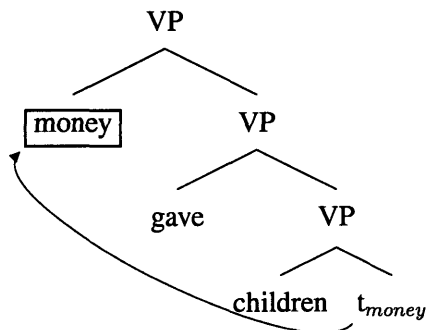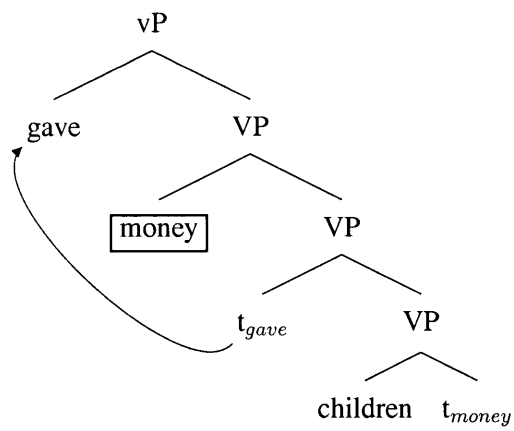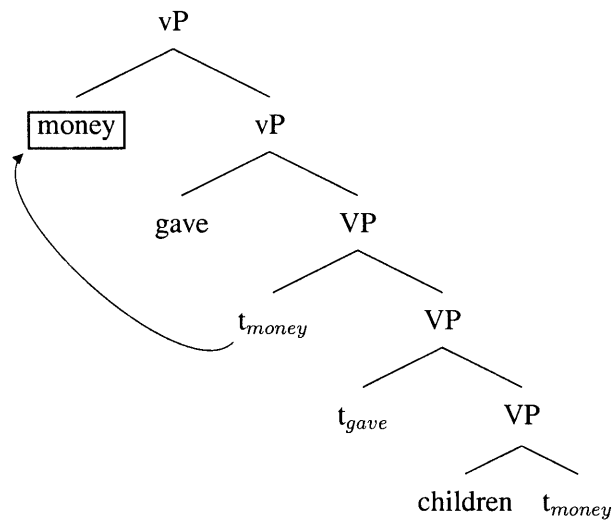
d. T-auxiliary is merged and probes for the closest element:
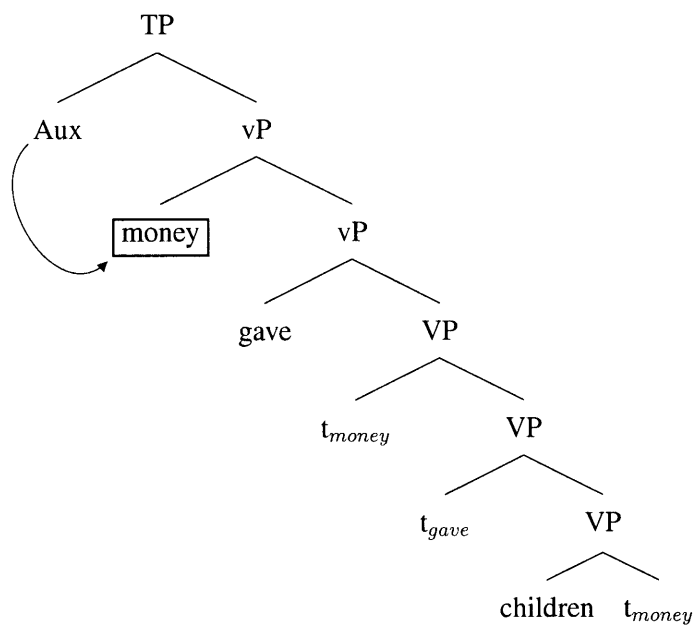
e.   the given object moves to T:
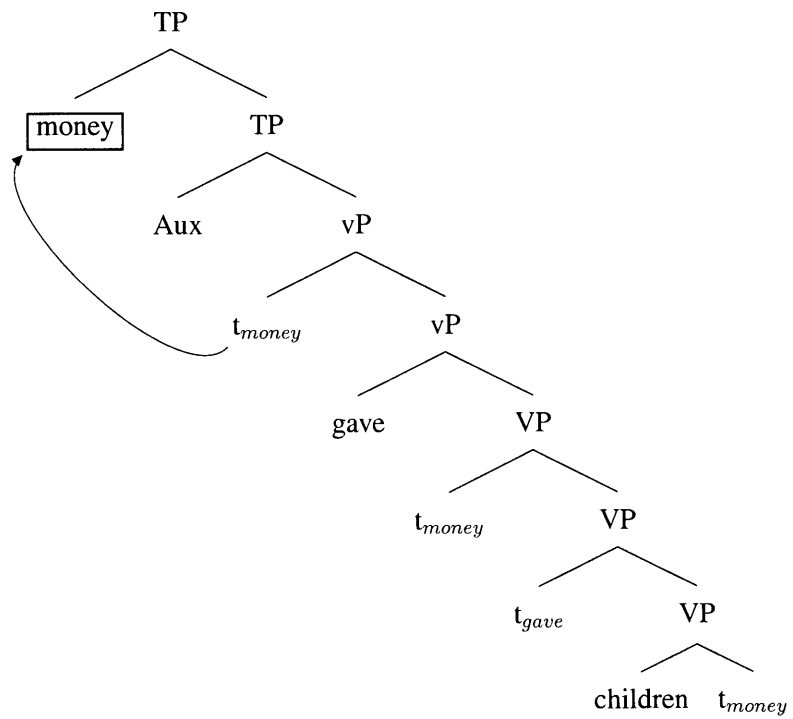
In contrast, in the future tense there is no V-to-v movement. Thus, a given object cannot reach the vP edge, as the object in (54). Since the future auxiliary is base generated in v and there is no overt subject, T attracts the auxiliary. The derivation is schematized in (55).

(53) Scenario: And what about all the money you will inherit?

(54) ⟦Budu⟧ **všechny peníze** ⟦posílat⟧ osamělým dětem.⟵— Future
      will.1sg all   money send.Inf lonely   children.Dat
      'I will send all (the) money to lonely children.'

(55) *Future tense:*

   a. VP level: the given object moves over V:

```
              VP
            /    \
       money      VP
          ↰      /   \
            give      VP
                    /    \
              children   t_money
```
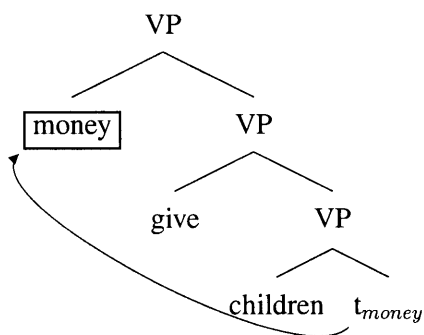
   b. v-auxiliary is merged and the object cannot G-move further:

```
              vP
            /    \
        Aux       VP
                /    \
           money      VP
                    /    \
               give      VP
                        /   \
                 children   t_money
```

   c. T is merged and probes for the closest element:

41

```
                    TP
                   /  \
                  T    vP
                 ⌒    /  \
               Aux  VP
                   /   \
              [money]   VP
                       /  \
                    give   VP
                          /  \
                   children  t_money
```
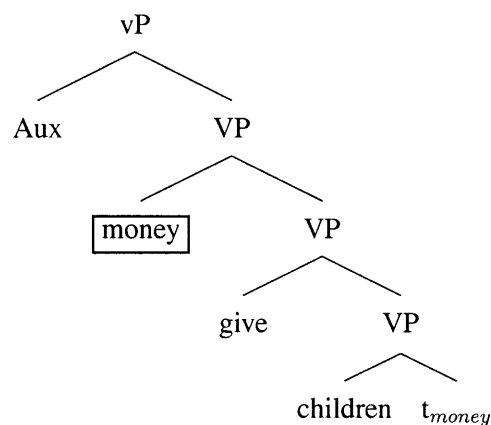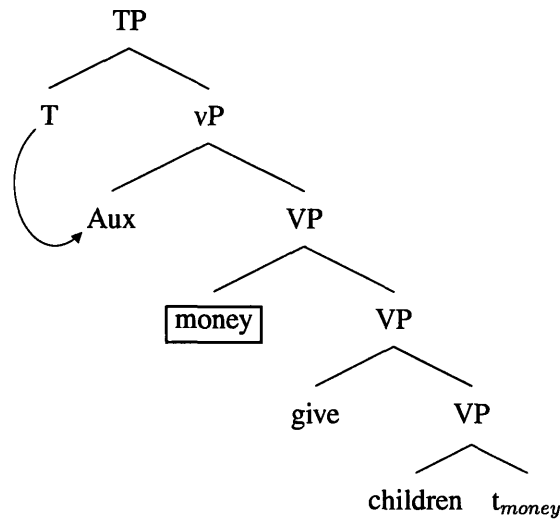
d. the auxiliary moves to T:

```
                    TP
                   /  \
                 Aux   TP
                  ↑   /  \
                  ⌒  T    vP
              t_Aux    /   \
                     VP
                    /  \
              [money]   VP
                       /  \
                    give   VP
                          /  \
                   children  t_money
```
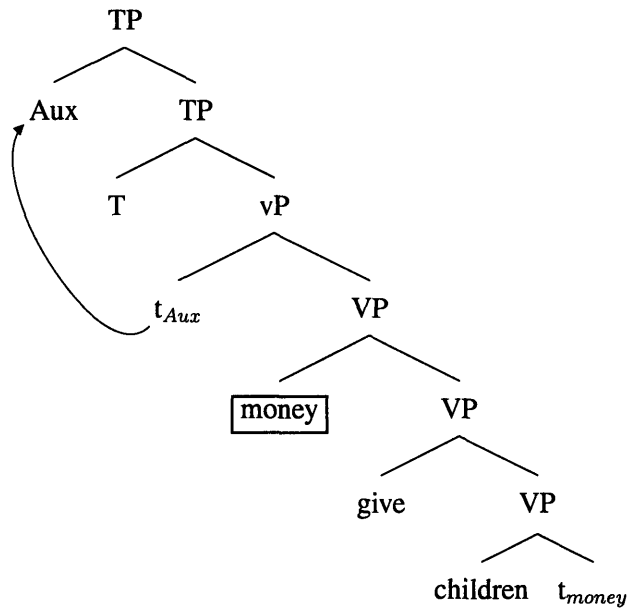
Notice that the sentences we have considered in this section crucially differ from the sentences that originally motivated introducing G-movement into the system. The difference is that if head movement is blocked, α_G *may be asymmetrically c-commanded by new material*. Recall the definition of G-movement from (11), repeated below as (56). Even

42

though we can identify what element must be given, we cannot establish a perfect partition between given and new as we were able to do in the previous cases.

(56)   **G-Movement** [version 1]

G-movement must take place

a.   iff α_G is asymmetrically c-commanded by a non-G element,

b.   unless the movement is independently blocked.

The definition of G-movement given in (11)/(56) takes care of these cases by the clause *unless the movement is independently blocked*. Thus, the pattern that arises can be described as *do as much as you can*. But does it mean that anything goes? I will address this question in the next section. I will show that if α_G is required to G-move, α_G must move at least once.

In chapter 4, I will address the question why it is sometimes okay to move a given element only locally even if there is a higher new element, while in other cases, non-local movement is required. The distinction will follow from the way we will interpret givenness. For now, let's stay with the soft constraint formulation which requires a given element to move across as many new elements as syntactically possible.

In this section, we have seen that tying G-movement to head movement makes correct predictions since G-movement is able to move only as far as the relevant head can move. If movement of the head is independently blocked (for example, by the head being selected by another head), G-movement can be only very local.

1.5   Distribution of pronouns: G-movement as a last Resort

In this section (i) I will provide independent evidence for the assumption that G-movement is *a last resort operation*. (ii) I will also address the question what happens if α_G is re-

quired to move but the movement is independently blocked by syntax. I will also introduce an observation that that elements that are given by their lexical entry, such as pronouns, do not undergo G-movement. I will use the difference between lexically given items and non-lexically given items to investigate when G-movement must take place.

I will first look at cases in which G-movement is independently blocked. In contrast to the previously discussed cases where α_G was able to locally G-move, we will now consider cases in which α_G cannot move at all. We will see that in such a configuration if α_G is asymmetrically c-commanded by a new element, α_G must be realized by a pronoun, i.e., an element that comes marked as given already from the lexicon. I will argue that if G-movement of α is required, α must G-move at least once. On the other hand, as we will see, if α_G is trapped in a position that is *not* asymmetrically c-commanded by any new element, α_G does not need to be lexically given. This fact will provide independent evidence for the assumption that G-movement is a *last resort* operation.

I will refine this analysis in chapter 4 where I will introduce a global comparison system which will enforce lexical givenness in cases that would not be otherwise interpreted as given. In this chapter, however, we will stay with the surface oriented generalization.

A question we have not asked yet is whether G-movement applies to all given elements. The answer is no. *G-movement does not apply to pronouns.* To see this, consider the example in (57). As we can see, there is a difference in the position of the same given element depending on whether the element is realized as a full DP (*Pavel*) or as a pronoun (*ho/jeho*, 'him').[21]

---

[21]Personal pronouns in Czech come in two flavors: *weak pronouns*, in this case *ho*, and *strong pronouns*, in this case *jeho* (Cardinaletti and Starke, 1999). They differ in their syntactic distribution and interpretation. Crucially, weak pronouns are excluded from the left edge of a prosodic constituent, including the sentence initial position. The reason is that Czech requires main word stress to be aligned to the left edge of a prosodic constituent (see, for example, Petr et al. 1986; Palková 1994; van der Hulst 1999) and since weak pronouns cannot be stressed they are excluded from the left edge. If a pronoun needs to be, for instance, in the sentence initial position, it must be realized as a strong pronoun. For further details about the distinction between weak and strong pronouns see Cardinaletti and Starke 1999. More details about distributional properties of Czech weak pronouns can be found at Vos and Veselovská 1999.

(57)   What do you know about Pavel?

    a.   Marie   **ho**   viděla na nádraží.   ✓new > pronoun
        Marie.Nom him.Acc saw   on railway-station

    b.   #Marie   **Pavla**   viděla na nádraží.   #new > DP
        Marie.Nom Pavla.Acc saw   on railway-station

    c.   #**Jeho**   viděla Marie   na nádraží.   #pronoun new t
        him.Acc saw   Marie.Nom on railway-station   └_____┘

    d.   **Pavla**   viděla Marie   na nádraží.   ✓DP new t
        Pavel.Acc saw   Marie.Nom on railway-station   └_____┘

'Marie saw him/Pavel in the railway-station.'

One could argue that pronouns are excluded from the sentence initial position on independent grounds. As we can see in (58), with a different information structure, i.e, if the pronoun is *contrastive*, the pronoun initial clause is fully acceptable.

(58)   JEHO   Marie   neviděla. Jenom Petra.
       him.Acc Marie.Nom not-saw   only   Petr.Acc
       'Marie didn't see HIM. She saw only Peter.'

It is well established that pronouns undergo movement from their base generated position.[22] I argue, however, that this is *not* G-movement. If pronouns underwent G-movement we would expect them to appear in the same position as full DPs that are given. Most importantly, they would not be able to be asymmetrically c-commanded by a new element. As can be seen in (57-a), no such requirement holds for pronouns. In this particular example, *ho* 'him' is asymmetrically c-commanded by *Marie*, a new element, but this is not a reason for the pronoun to move. I argue that pronouns do not undergo G-movement because G-movement is *a last resort operation* and as such it takes place if and only if the relevant semantic interpretation would not be otherwise available. Since pronouns are *already marked from the lexicon* as given, G-movement is not needed, hence not allowed. As such, we can understand G-movement as a *disambiguating method*: G-movement applies only

---

[22]Czech weak pronouns are usually analyzed as second position clitics. As such they move to a position following the first syntactic constituent. For details see, for example, Veselovská 1995; Franks and King 2000; Bošković 2001.

to syntactic elements that are *lexically ambiguous*, i.e., G-movement applies only to lexical items that can be interpreted either as given, or as new.

This brings in an important point: what is the purpose of G-movement? If G-movement is a last resort operation, it cannot be the grammatical operation which marks or licenses an element as given. And yet, it does not apply to an element which is already given. I will argue in chapter 4 that the purpose of G-movement is to create a syntactic configuration that can be interpreted by the semantic component as containing given elements. If an element is already in the right configuration, G-movement does not apply to it. If an element is already given, G-movement does not take place either.

At this point we do not have the right tools yet to explain the interactions between given elements and G-movement. Before we can get there, we need to understand better the properties of the syntactic configuration in which G-movement occurs.

So far our system does not contain anything that would enforce the difference between elements marked as given from the lexicon and elements marked as given by syntax. I will thus modify the definition of G-movement from (11) in order to capture the distinction between lexically given and lexically ambiguous items. The new definition of G-movement is given in (59). A definition of what it means to be lexically given is in (60).

(59) **G-Movement** [version 2]

G-movement is required iff α_G is asymmetrically c-commanded by a non-G element; unless

a. the movement is independently blocked, or

b. α_G is *lexically given*.

(60) **Lexically given**

α_G is lexically given if its semantic lexical entry requires α_G to have a salient antecedent A such that α and A corefer.

Let's first have a look at what happens if α_G is required to move but it is in a position from which it cannot move at all.[23] In Czech, G-movement is impossible *out of a specifier* or *out of a syntactic island.*[24] Consider the context in (61). As we can see in (62)–(64), if a given element is within a specifier, it cannot be realized as a bare NP/DP, as can be seen in (a)–(b).[25] To make such a sentence felicitous, the given element must be realized either as a *possessive pronoun*, as in the (c) examples, or the relevant DP must be *modified by a demonstrative pronoun*, as in the (d) examples.

(61)   Na programu byla diskuse   o   nové učitelce.   ←— `context I`
        on program was discussion about new teacher
        'The topic of the program was a discussion about a new teacher.'

(62)   a. #Důvodem bylo podezření, že dcera   (nové) **učitelky** bere drogy.
           reason   was suspicion that daughter of-new teacher takes drugs
           'The reason was a suspicion that a daughter of a new teacher is a drug-addict.'

        b. #Důvodem bylo podezření, že **učitelčina** dcera   bere drogy.
           reason   was suspicion that teacher's daughter takes drugs
           'The reason was a suspicion that a daughter of a new teacher is a drug-addict.'

        c. Důvodem bylo podezření, že **její** dcera   bere drogy.
           reason   was suspicion that her daughter takes drugs
           'The reason was a suspicion that her daughter is a drug-addict.'

        d. Důvodem bylo podezření, že dcera   **té**   (nové) **učitelky** bere drogy.
           reason   was suspicion that daughter of-that new   teacher takes drugs
           'The reason was a suspicion that a daughter of that new teacher is a drug-
           addict.'

(63)   a. #Diskuse proběhla bez   vědomí   (nové) **učitelky.**
           discussion ran   without knowledge of-new teacher
           'The discussion went without knowledge of a new teacher.'

        b. #Diskuse proběhla bez   **učitelčina** vědomí   .
           discussion ran   without teacher's knowledge

---

[23]I thank to Danny Fox for suggesting this test to me and helping me to figure out its consequences.

[24]It has been argued that Slavic languages, including Czech, allow Left-branch extraction, thus, movement out of the specifier might be possible, see for example, Bošković 2005; Citko 2006. Putting aside whether or not there is Left-branch extraction in Czech, the restriction on moving from specifiers does not need to follow from this constraint. Since no head movement can take place out of a specifier, G-movement is expected to be blocked independently of the Left-branch extraction properties of Czech.

[25]In the (a) examples, the DP is realized post-nominally, while in the (b) examples it is realized pre-nominally. Both options are possible in Czech. The difference is that a DP in a pre-nominal position cannot be further modified.

47

'The discussion went without knowledge of a teacher.'

c. Diskuse proběhla bez **jejího** vědomí.
discussion ran without her knowledge
'The discussion went without her knowledge.'

d. Diskuse proběhla bez vědomí **té** (nové) **učitelky**.
discussion ran without knowledge of-the new teacher
'The discussion went without knowledge of the new teacher.'

(64) a. #Nikdo nebyl na straně **učitelky**.
no-one not-was at side of-teacher
'No one was on the side of a teacher.'

b. #Nikdo nebyl na **učitelčině** straně.
no-one not-was at teacher's side
'No one was on side of a teacher.'

c. Nikdo nebyl na **její** straně.
no-one not-was at her side
'No one was on her side.'

d. Nikdo nebyl na straně **té** **učitelky**.
no-one not-was at side of-the teacher
'No one was on the side of the teacher.'

As we can see in (65) and (66), other possible continuations of the context in (61), the same observation holds also for *islands*. If an element that needs to undergo G-movement is trapped in a syntactic island, then such an element must be realized either as a personal pronoun, or it must be modified by a demonstrative pronoun.

(65) a. #Debata proběhla bez **učitelky**.
debate ran without teacher
'The debate took place without a teacher.'

b. Debata proběhla bez **ní**.
debate ran without her
'The debate took place without her.'

c. Debata proběhla bez **této učitelky**.
debate ran without this teacher
'The debate took place without this teacher.'

(66) a. Bylo to myšleno jako útok proti **ní**
was it though as attack against her
'It was meant as an attack against her.'

b. #Bylo to myšleno jako útok proti **učitelce**
was it though as attack against teacher
'It was meant as an attack against a teacher.'

c. Bylo to myšleno jako útok proti **této učitelce**
was it though as attack against teacher
'It was meant as an attack against this teacher.'

Consider now the example in (67). The example is offered here as a control showing that in general there is no problem with having the unmodified form *teacher* as a continuation of the discourse in (61). Crucially, in this example, G-movement is not required since there is no new element asymmetrically c-commanding the DP *učitelka* 'teacher'.

(67) **Učitelka** o diskusi (ale) nevěděla.
teacher about discussion but not-knew
'However, the teacher did not know about the discussion.'

I argue that the reason why the non-modified DP in (62)–(66) is infelicitous as a continuation of the context given in (61) is that the DP needs to be interpreted as given but it is in a syntactic position from which it cannot undergo G-movement. Since there is *no syntactic operation* that could achieve the desired semantic interpretation, inserting an element that is lexically marked as given is the only option.[26] The generalization stating the relation between pronouns and G-movement is given in (68).

(68) **Generalization about syntactic distribution of pronouns**

If α_G is asymmetrically c-commanded by a new element and α_G cannot move at least once, then α_G must be lexically given.

The above pattern provides an independent argument that G-movement is *a last resort operation*. If there is no new element asymmetrically c-commanding α_G, α_G may be realized as a full DP even if it is in a position from which it cannot move. It follows that an element can be interpreted as given even if it does not undergo G-movement. Thus, we can conclude that the purpose of G-movement cannot be to mark or license an element as given (for example, by checking a G(iven) feature). There must be other tools to interpret an

---

[26]Another option would be to choose a structure which allows G-movement to take place.

element as given. In chapter 4 I will argue that the syntax-semantics interface does exactly that.

If G-movement is a last resort operation, we predict that the restriction on specifiers observed in (62)–(64) should disappear if the relevant specifier is the highest element in the structure. As we can see in (69) this is indeed correct.

(69) **Učitelovi** žáci si   totiž stěžovali   na jeho učební metody.
      teacher's pupils REFL PART complained at his   teaching methods
      'Students of the teacher complained about his teaching methods.'

Additional support for the argument that G-movement is a last resort operation comes from coordinated DPs. If we assume coordinate structure constraint (Ross, 1967), we predict that a DP should not be able to move out from a coordination. Thus, a coordinated given DP should be degraded, unless it is modified by a demonstrative pronoun. As we can see in (70), this prediction is borne out.

(70) a. #Žáky   a   **učitelku** to překvapilo.
          students and teacher it surprised
          'Students and a teacher were surprised by that.'

      b. Žáky   a   **tu učitelku** to překvapilo.
          students and that teacher it surprised
          'Students and that teacher were surprised by that.'

      c. Žáky   i   **ji** to překvapilo.
          students and her it surprised
          'She (=the teacher) and students were surprised by that.'

In the same time we predict, that if the given element 'teacher' is the first conjunct, there should be no need for G-movement to take place because according to the definition of G-movement in (11), G-movement takes place only if there is a new element asymmetrically c-commanding the given DP. Thus, if the given DP is independently high enough, it should not matter that it is caught within a coordination. As we can see in (71), this prediction is borne out as well.

(71)   Na programu byla debata o   novém učiteli.   ...
        on program was debate about new   teacher.Masc

(72)   **Učitele** a   (jeho) žáky   to překvapilo.
        teacher and his   students it surprised
        'A teacher and (his) students were surprised by it.'

The examples in (73) are here as a control. If the same coordination is in a object position, i.e., if it is further embedded in the structure, the fact that the given DP is the first conjunct is of no help.

(73)   a. #To se   nelíbilo ani **učiteli** ani žákům.
            it REFL not-liked nor teacher nor students
            'Neither a teacher nor students were happy about it.'

        b. To se   nelíbilo ani **jemu** ani žákům.
            it REFL not-liked nor him   nor students
            'Neither he nor students were happy about it.'

        c. To se   nelíbilo ani **tomu učiteli** ani žákům.
            it REFL not-liked nor that   teacher nor students
            'Neither the/that teacher nor students were happy about it.'

So far so good. We have seen an independent argument for the assumption that G-movement is a last resort operation. In the same time we have seen that *if α_G is required to G-move, α_G must G-move at least once.* Thus, we can formulate a minimal requirement on G-movement, as in (74).

(74)   **Minimal requirement on G-movement:**

        If α_G is asymmetrically c-commanded by a new element, α_G must move at least once. Otherwise, α_G must be lexically given.

Immediate questions that arise are (i) what happens to α_G that does not have a lexically given counterpart, and (ii) why sometimes one instance of G-movement is sufficient and why sometimes more than one instance of G-movement is required. I will leave the questions open for now and I will come back to them in chapter 4.

51

In this section, I have provided two arguments that G-movement is a *last resort* syntactic operation. The arguments were based on two facts about the *distribution of pronouns* in Czech. First, I have shown that pronouns do not undergo G-movement. I have suggested that this shows that G-movement applies only to elements that are to be interpreted as given but that in the same time do not enter the derivation *lexically* marked as given. The second part of this section addressed the question of what happens if an element cannot undergo G-movement because of independent syntactic restrictions on movement, such as islands. We have observed that in such configurations an element must already come from the lexicon marked as given because there is no other way it could be marked as given in syntax. Last, we have seen that if an element is trapped within an island but high enough in the structure, the fact that it cannot undergo movement does not matter because the relevant interpretation can be obtained without movement. Thus G-movement is not required.

1.6 Summary

In this chapter, I have offered several generalizations about distribution of given and new information in a Czech clause. I have shown that in an optimal configuration, the given part linearly precedes the new part and the partition is marked by a verb which can be on either side of the partition. I have proposed to account for the linear order facts in terms of G-movement: an economy restricted movement that asks a given element to move only if such an element is asymmetrically c-commanded by a new element and is not lexically marked as given. I have presented several arguments in favor of understanding G-movement as a last resort operation, including arguments from distribution of pronouns and semantic ambiguity of certain strings. We have also seen that elements that are lexically given do not undergo G-movement and that the linear partition between given and new is not always perfect. In chapters 2 and 3 I will develop the current toy system in detail. After that, in chapter 4, I will refine my answer to the question of how G-movement is motivated and how it is treated by the interfaces. In particular, I will argue that G-movement is free syntactic movement the purpose of which is to create a configuration which can be semantically interpreted in a way that is required by the contextually established common ground.

Chapter 2

G-movement

In chapter 1, I introduced several basic generalizations about Czech word order and its dependence on the information structure of an utterance. I proposed to account for the Czech word order facts by movement which takes place only if a given element is asymmetrically c-commanded by a new element. I called this movement G-movement. I provided evidence that G-movement is restricted by head movement. In particular, a given element may G-move only if the head in the projection of which the given element was base generated moves as well. Another important point I made was that G-movement cannot be the grammatical tool that marks or licenses elements as given. The piece of evidence comes from the fact that only some given elements undergo G-movement. If a given element is in a configuration where there is no asymmetrically c-commanding new element, the given element not only does not move, it cannot move. A consequence of this observation is that G-movement does not seem to be feature-driven.

The purpose of this chapter is to formalize the notion of G-movement and to fill in parts of the syntactic system that are still missing. In particular, I will look closely at the following three questions: (i) what is the syntactic target of G-movement? (ii) at what point of the derivation may G-movement take place? and (iii) what kind of syntactic operation is G-movement?

In section 2.1, I will provide a partial answer to the question what is a plausible landing

53

site of G-movement. I will argue that Czech has no unique syntactic position that is always interpreted as given. Thus, we cannot associate G-movement with any particular syntactic projection. I will refine the analysis of possible landing sites of G-movement in section 2.2. I will concentrate on the question when during the derivation G-movement takes place. I will argue that G-movement may take place after any merge (both internal and external), thus strengthening the point that G-movement may target various syntactic positions. In section 2.3, I will explain the apparent lack of a unique landing site of G-movement and the fact that G-movement may take place after any merge as a consequence of G-movement being parasitic on head movement. I will show how the head movement restriction relates to the timing of G-movement and to the apparent lack of a landing site for G-movement. In particular, I will argue that the parasitic nature of this type of merge is closely connected to the strict locality conditions and to the lack of a unique syntactic landing site. In chapter 3, I will use the formalization offered in this chapter to show how G-movement, a relatively simple syntactic tool, can account for complex word order patterns.

2.1 Target of G-movement

In this section, I will address the question of the landing site of G-movement. I will show that in Czech there is no unique syntactic position that is always interpreted as given. The argument will be based on properties of movement to T. The logic behind this move is that the element that moves to Spec,TP or to T is often interpreted as given. In the same time such an element can be new as well. If, for example, Spec,TP were a unique syntactic position for being interpreted as given, the possibility of new elements in Spec,TP would be unexpected.[1] I will argue that movement to Spec,TP is a result of an Attract Closest condition on T and as such it has nothing to do with the information structure nature of the projection. I suggest that the ambiguous property of movement to Spec,TP can be extended to other functional projections as well.[2]

---

[1] The argument is in line with Lavine and Freidin (2002); Bailyn (2003), among others, who argue that Spec,TP is not a designated given position.

[2] The argument crucially assumes that given DPs target an A-position. One might argue that the given interpretation arises only if the relevant DP undergoes A-bar movement. I will argue in the appendix that G-movement is indeed A-movement. Thus, there is no reason to assume that there is a positional difference

Notice that the argument goes only in one direction. It says that it cannot be true that whatever moves to Spec,TP must be given. Thus, the argument does not exclude the possibility that whatever is to be interpreted as given moves to Spec,TP. We have seen, however, in section 1.4 that this is not true either. In section 2.2, I will provide examples that make the point that G-movement can target other positions as well.

We now proceed to the first half of the argument, i.e., to the claim that Spec,TP does not have a uniform interpretation. We have already seen in the discussion of basic word orders (in section 1.2), that in the basic word order the leftmost element can be either given or new. Consider the example in (1). *Nějaká paní* 'some lady' does not need to be presupposed and it can still occupy the subject position (Spec,TP).

(1)   a.   What happened?

      b.   Nějaká paní   poslala osamělým dětem   dárky.
           some   lady.Nom sent   lonely   children.Dat presents.Acc
           'Some lady sent presents to lonely children.'

I argue that movement to T (Spec,TP or head-adjunction to T) in Czech is driven by an EPP-like principle, not by, for example, some given feature (see also Saito (1989); Tateishi (1994); Sauerland (1999) for scrambling in Japanese). If this is correct, we predict that *movement to Spec,TP is dependent on the internal structure of vP*, in the sense that it is the highest element within vP that moves to Spec,TP by virtue of being closest. Thus, even in basic word order cases we expect word order variations depending on the internal structure of vP.

We have already seen such a case in the discussion of unergative and unaccusative verbs in section 1.1. Consider again the examples in (2) and (3). As these examples show, there is a word order difference between unergative and unaccusative verbs. While an unergative verb *follows* the subject, an unaccusative verb linearly *precedes* the subject.

---

between a DP being interpreted as given and a DP being interpreted as new.

(2) *Basic word order of unergative verbs:*

    a.   [Marie tancovala]$_{New}$
        Marie danced

    b.   #[Tancovala Marie]$_{New}$
        danced   Marie
    'Marie danced.'

(3) *Basic word order of unaccusative verbs:*

    a.   [Přijel vlak]$_{New}$
        arrived train

    b.   #[Vlak přijel]$_{New}$
        train arrived
    'A train arrived.'

If the subject of an unaccusative verb is structurally lower (VP) than the subject of an unergative verb (vP), the word order difference follows under the following assumptions. First, an inflected verb must undergo movement from V to v.[3] Second, in Czech a DP can establish syntactic relations by Agree; it therefore does not need to raise from its base generated position. Third, v does not need to have a specifier. The resulting structures are given in (4) and (5). In the case of unergatives, T attracts the subject because it is the closest element. On the other hand, in the case of unaccusatives, T attracts the v head (or the v-V complex) because it is the structurally closest element.[4]

---

[3] In Czech, this condition holds both for finite and inflected infinitival forms such as participles. For more details on syntax of Czech verbal morphology see, for example, Junghanns (1999); Veselovská (2004); Veselovská and Karlík (2004); Kučerová (2005).

[4] In functionalist Czech literature, verbs like 'arrive' are traditionally classified as 'verbs of appearing on the scene' (Sgall et al., 1980, 1986, among others). Putting aside that it is unclear how to determine this category, other unaccusative verbs behave in the same way even when they are not semantically verbs of appearing on the scene (David Pesetsky, p.c.). See the examples in (i) and (ii).

(i)   a.   [Líbí se   mi   knihy]$_{New}$
            like REFL to-me books.Nom
       b.   #[Knihy   se   mi   líbí]$_{New}$
            books.Nom REFL to-me like
       'Books appeal to me.'

(ii)   a.   [Existují různé názory   na dějiny]$_{New}$
           exist   various opinions.Nom at history

(4) *Derivation of basic word order of unergatives:*

```
                TP
              /    \
            T       vP
          (          /  \
           \   [subject]   vP
            \__→            / \
                         v-V   VP
                                |
                               t_V
```
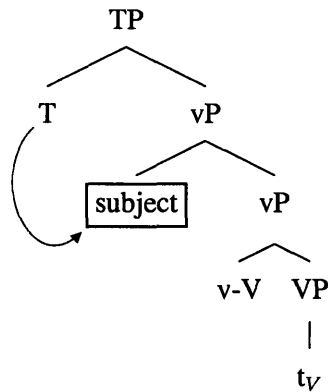
(5) *Derivation of basic word order of unaccusatives:*

```
                TP
              /    \
            T       vP
          (          /  \
           \      [v-V]   VP
            \__→          /  \
                        t_V   subject
```
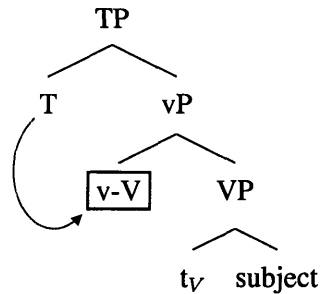
I argue that there is nothing special about unaccusatives and unergatives with respect to G-movement. The leftmost element can also be interpreted as given, without any word order change, as seen in (6) and (7).

(6) a. What did Mary do?

 b. **Marie** ‖ tancovala
 Marie   danced
 'Marie danced.'

(7) a. What arrived?

 b. **Přijel** ‖ vlak
 arrived   train
 'A train arrived.'

---

 b. #[Různé názory   na dějiny existují]$_{New}$
 various opinions.Nm at history exist
 'There are various opinions about history.'

Furthermore, as the examples in (8) and (9) show, if the word order is reversed, the all new interpretation is not available anymore and the leftmost element *must* be interpreted as given.

(8) a. What happened?

     b. #[Tancovala Marie]$_{New}$
         danced   Marie
         'Marie danced.'

     c. Who danced?

     d. **Tancovala ‖**   Marie
         danced   Marie
         'Marie danced.'

(9) a. What happened?

     b. #[Vlak přijel]$_{New}$
         train arrived
         'A train arrived.'

     c. What about the train?

     d. **Vlak ‖**   přijel
         train arrived
         'The train arrived.'

To conclude, we have seen that even though an element in Spec,TP is often interpreted as given, there is nothing about this particular syntactic position that enforces given interpretation. I argue that this conclusion can be extended to other syntactic positions as well, i.e., there is no syntactic projection that is in Czech canonically associated with given interpretation. As we will see in the next section, G-movement may take place after any merge. This means that it can target various syntactic positions. One might conclude that basically any syntactic position is a good enough landing site for G-movement. In section 2.3, I will show, however, that the possibilities of various landing sites are restricted by G-movement being parasitic on head movement. In chapter 4, I will refine the generalization even further. I will show that the landing sites are further restricted by their semantic type.

2.2 When in the derivation does G-movement apply?

In this section I will address the question of timing of G-movement. In order to distinguish among different theories, I will look more closely at more complex word order facts. On the basis of this data, I will argue that G-movement may take place *after any merge* (both internal and external).

I will consider in turn three hypotheses: (i) G-movement may take place only *at a phasal level*, (ii) G-movement may take place *at the end of any maximal projection*, and (iii) G-movement may take place *after any merge*, the hypothesis I will argue for.

(10)   **Timing of G-movement:**

G-movement may take place after any merge.

Consider first the examples in (11) and (12). The example in (11) shows the basic word order in a ditransitive construction. The example in (12) differs only in a local word order change: while in the basic word order, the indirect object *Pavel* precedes the direct object 'horse', the order of the objects is reversed in (12). The rest of the order is the same.

(11)   Neutral order: S V IO DO

    a.   What happened? / What did Mary give to Pavel? / . . .

    b.   (‖) Marie   (‖) dala (‖) Pavlovi   (‖) koně.
         Marie.Nom   gave   to-Pavel.Dat   horse.Acc
         'Marie gave Pavel a horse.'

(12)   a.   Whom did Marie give a horse?

    b.   **Marie   dala koně**   ‖ Pavlovi.
         Marie.Nom gave horse.Acc   Pavel.Dat
         'Marie gave a horse to Pavel.'

Crucially, I assume that the DO > IO order is not base generated. The argument is difficult to make though. We will see, however, in chapter 3 that the phenomenon of local G-movement reordering is widespread and rather complex; we can make better predictions if we do not allow base generated word order permutations. I will also shortly comment on

base generation approaches in the appendix.

With this assumption in place, the question is how exactly we can derive the local word order change in (12). Much depends on what we assume is the position of the verb. For example, if we assume that the verb may be higher than vP, for instance at TP, then all three hypotheses would derive the same result. To see this point, consider the following derivations.

(i) If G-movement takes place *at the end of vP phase*, we predict the following derivation.[5] After vP is built, the direct object (DO) undergoes G-movement to the edge of the phase, resulting into (13-b). For convenience, I assume a Larsonian VP shell for ditransitive verbs (Larson, 1988; Hale and Keyser, 2002). In the end of this section, I will address the possibility that ditransitives are formed by an applicative head. In the next step of the derivation, the verb and the subject move to T, as in (13-c). We have seen in 2.1 that in Czech the subject does not need to move to Spec,TP but let's assume for the sake of the argument that it might move there. I put aside for now what exactly is the landing site of G-movement. I mark the landing site as ?P.

(13)   *G-movement takes place at a phase level:*

---

[5] I assume that in Czech vP is a phase. It has been argued that VP can be phase in some languages as well (cf. Ko (2007) for Korean and Fox and Pesetsky (2005) for Scandinavian languages). The difference is immaterial for our discussion. The option that VP is a phase equals to the hypothesis that G-movement takes place in the end of a maximal projection. As we will see shortly, this hypothesis make incorrect predictions as well.

a.

```
                    vP
                   /  \
            subject    vP
                      /  \
                     v    VP
                         /  \
                        V    VP
                            /  \
                          IO    VP
                               /  \
                              V   [DO]
```

b.

```
                    ?P
                   /  \
               [DO]    vP
                      /  \
                subject    vP
                          /  \
                         v    VP
                             /  \
                            V    VP
                                /  \
                              IO    VP
                                   /  \
                                  V   [DO]
```

61

c.

```
                          TP
                        /    \
                  subject      TP
                             /    \
                            T      ?P
                                 /    \
                              [DO]     vP
                                     /    \
                                subject     vP
                                          /    \
                                         v      VP
                                              /    \
                                             V      VP
                                                  /    \
                                                 IO     VP
                                                      /    \
                                                     V    t_{DO}
```
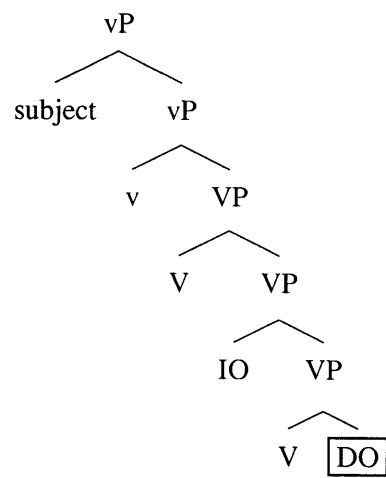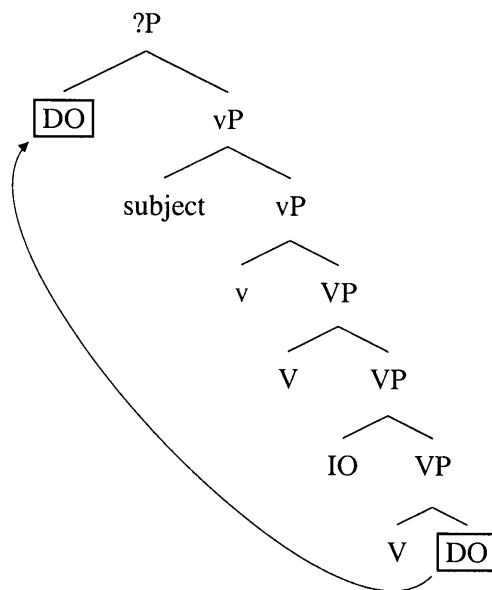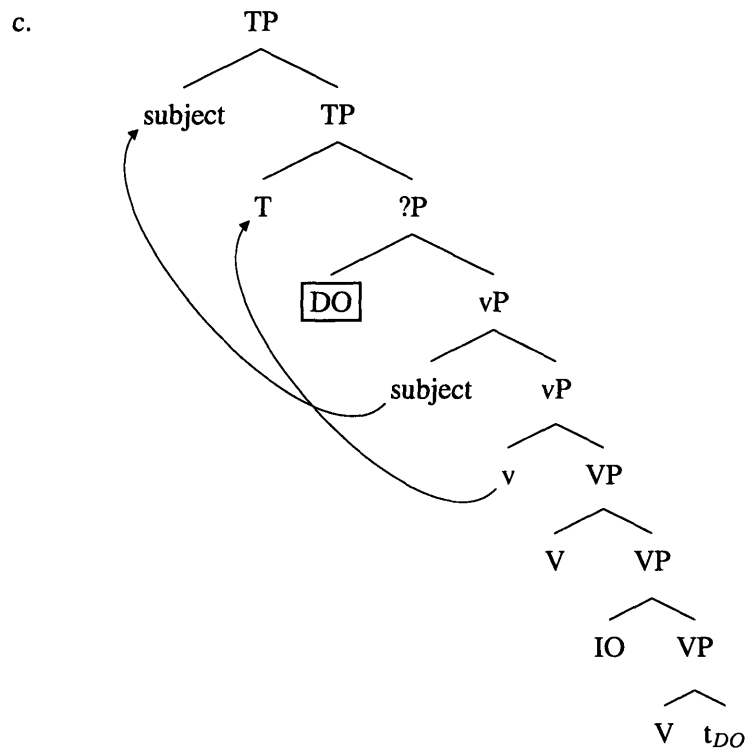
(ii) If G-movement takes place *at the end of a maximal projection*, the verb may stay in v or it can move to T. The direct object moves to the edge of VP and it stays there. The derivation proceeds as in (14).

(14)   *G-movement takes place at a maximal projection level:*

62

a.
```
              VP
           /      \
        [DO]       VP
                 /    \
                V      VP
                     /    \
                   IO      VP
                         /    \
                        V    [DO]
```

b.
```
                    vP
                 /      \
           Subject       vP
                       /    \
                      v      VP
                    /  \    /    \
                   v   V  [DO]    VP
                            /    \
                          t_V     VP
                                /    \
                              IO      VP
                                    /    \
                                  t_V    t_DO
```
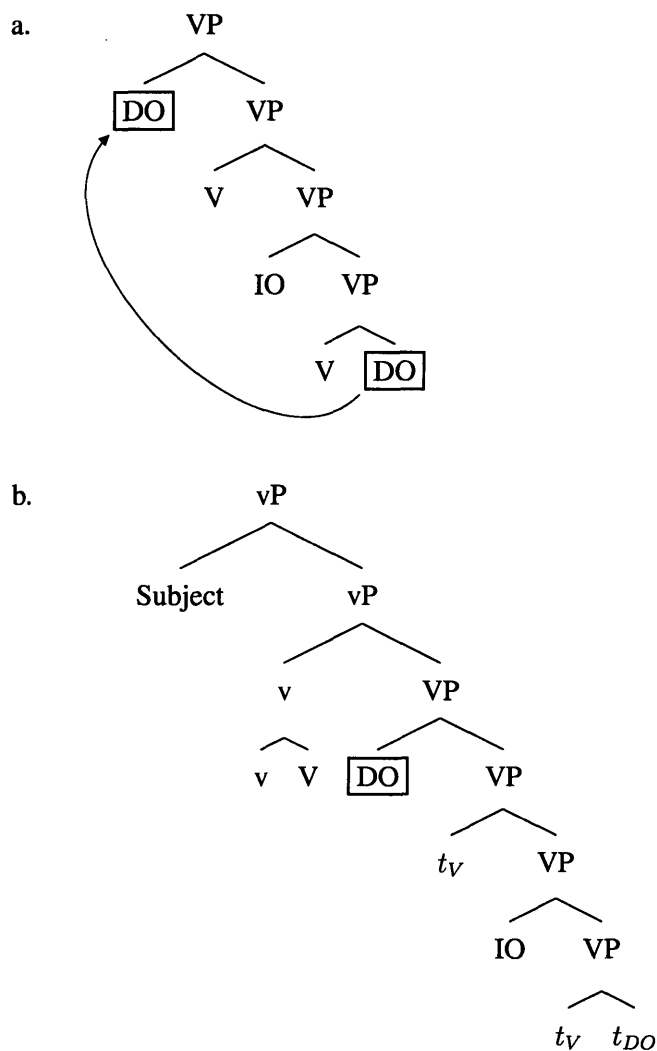
(iii) If the movement takes place *after any merge*, the direct object can move immediately after the indirect object is merged.[6] In the next step the verb moves higher, followed by merge of the subject, as in (15).
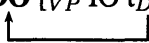
(15)   *G-movement takes place after any merge:*

---

[6]Notice that the direct object does not need to move over the verb because the verb is given as well.

a.
     ?P
    ┌──────┴──────┐
   [DO]   VP
       ┌────┴────┐
      IO   VP
          ┌────┴────┐
          V [DO]

b.
      vP
     ┌──────┴──────┐
   subject   vP
         ┌────┴────┐
         v   VP
           ┌────┴────┐
           V   ?P
             ┌────┴────┐
            [DO] VP
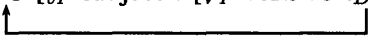   ┌────┴────┐
                IO   VP
                    ┌──┴──┐
                    V *DO*
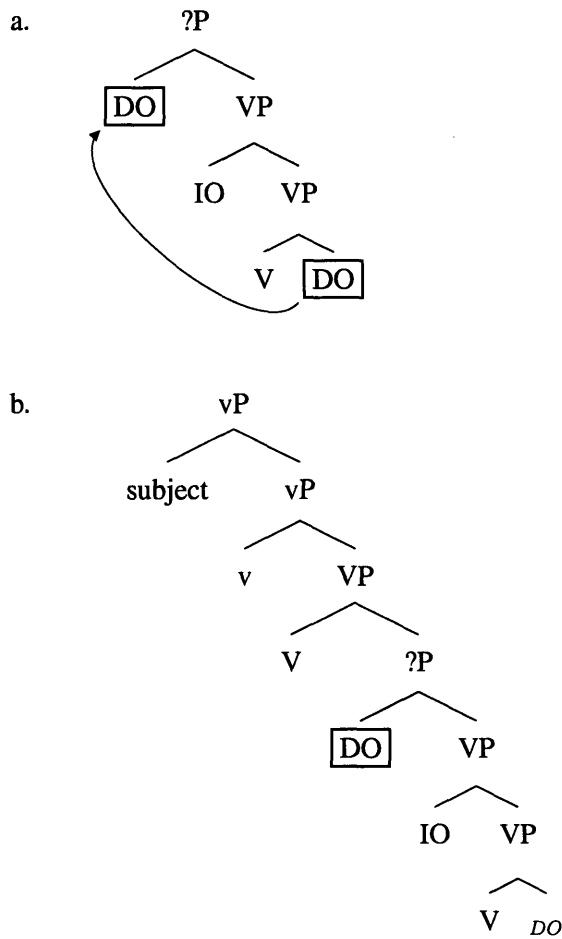
Even though we cannot decide among the three hypotheses by looking at the example in (12), the hypotheses make different predictions that can distinguish among them. The first prediction concerns *the position of the main verb*. I have already mentioned in 1.4 that in Czech the main verb obligatory moves out of VP in the present and the past tense but not in the future tense (cf. Veselovská 2004; Kučerová 2005). Thus, if G-movement takes place in the end of the phase or in the end of VP, the main verb in the future tense should follow the direct object. In contrast, if G-movement takes place after any merge, the verb is expected to be able to precede the direct object. The relevant structures are schematized in (16).

(16) *Different predictions for the position of the main verb in Future:*

a. [$_{?P}$ **DO** [$_{vP}$ subject v [$_{VP}$ **verb** IO t$_{DO}$]]] ←— end of phase

b. [$_{vP}$ subject v [$_{?P}$ **DO** [$_{VP}$ **verb** IO t$_{DO}$]]] ←— maximal projection

c. [$_{vP}$ subject v [$_{VP}$ **verb** [$_{?P}$ **DO** [$_{VP}$ IO t$_{DO}$]]]] ←— any merge

The examples in (17) show that only the hypothesis that G-movement takes place *after any merge* makes the right prediction.[7] The example in (17-b), predicted by the two other theories, is a plausible answer to the question *What will Mary do with the horse?*, i.e., it is felicitous in a situation in which both the verb and the indirect object are new, but it cannot be used when only the indirect object is new.

(17)   *Whom will Mary give a horse?*

    a. Marie bude [$_{VP}$ dávat koně ‖ Pavlovi].
       Marie.Nom will   give   horse.Acc   Pavel.Dat

    b. #Marie bude koně dávat ‖ Pavlovi.
       Marie.Nom will   horse.Acc give   Pavel.Dat
       'Marie will give the/a horse to Pavel.'

Furthermore, the three hypotheses make different predictions with respect to the *distribution of adverbs*. I assume that adverbs in Czech, with the exception of prosodically heavy adverbials, are left branching and they adjoin immediately to a functional head. Thus, for example a vP adverb can linearly intervene between the subject and the finite verb in v.[8] Consider the examples in (18). Time adverbials, such as *yesterday*, that are base generated at vP may precede the finite verb and both the direct and indirect object, irrespective of the word order of the objects. If G-movement of the direct object took place only at the phase level, this order would be unexpected without additional assumptions about movement of adverbs. Thus, we can conclude that the reordering of the direct and indirect object takes place *within vP*.

---

[7]The sentences in (17) may sound slightly awkward to a native speaker. The reason is that in order to keep minimal pairs I use an iterative form of verb 'give' that is perfective. This is necessary because the basic root does not have a periphrastic future. See also ftn. (41) in chapter 1, concerning the same issue.

[8]For a detailed discussion of adverbial syntax in Czech, see, for example, Biskup (In preparation).

(18)   *vP adverbs:*

    a.   Marie   [$_{vP}$ **včera**   dala Petrovi   koně].
          Marie.Nom   yesterday gave to-Peter.Dat horse.Acc
          'Marie gave yesterday Peter a horse.'

    b.   Marie   [$_{vP}$ **včera**   dala koně   Pavlovi].
          Marie.Nom   yesterday gave horse.Acc Pavel.Dat
          'Marie gave yesterday a horse to Pavel.'

We can further restrict the domain of the reordering by looking at VP adverbs. Assuming that VP adverbs adjoin to VP, we predict that if G-movement targets the end of the maximal projection, the direct object should precede the adverb. If, on the other hand, G-movement takes place within VP, there is no problem with the adverb preceding the direct object. As we can see in (19), a manner adverb *rychle* 'quickly' may indeed precede the direct object.

(19)   *VP adverbs:*

    a.   Marie   dala [$_{VP}$ **rychle** Petrovi   koně].
          Marie.Nom gave   quickly to-Peter.Dat horse.Acc
          'Marie gave quickly Peter a horse.'

    b.   Marie   dala [$_{VP}$ **rychle** koně || Pavlovi].
          Marie.Nom gave   quickly horse.Acc Pavel.Dat
          'Marie gave quickly a horse to Pavel.'

The examples in (20) are here as a control showing that the reordering with respect to the VP adverb takes place within VP. Thus the only way we can derive the examples in (20) with our current assumptions is to assume that *G-movement takes place after any merge.* The derivation of (20-b) is schematized in (21). The only new element – the indirect object – is marked by a box.

(20)   *vP and VP adverbs:*

    a.   Marie   [$_{vP}$ **včera**   dala [$_{VP}$ **rychle** Petrovi   koně]].
          Marie.Nom   yesterday gave   quickly to-Peter.Dat horse.Acc
          'Marie gave yesterday quickly Peter a horse.'

    b.   Marie   [$_{vP}$ **včera**   dala [$_{VP}$ **rychle** koně || Pavlovi]].
          Marie.Nom   yesterday gave   quickly horse.Acc Pavel.Dat
          'Marie gave yesterday quickly a horse to Pavel.'

(21)   a.   *VP is built and the DO undergoes G-movement above the IO:*

```
              ?P
           /      \
      horse        VP
                 /    \
            Pavel      VP
                      /  \
                  gave    t_horse
```
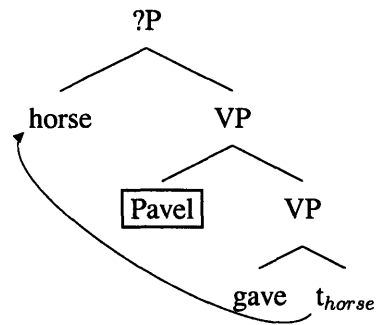
b.   *V moves within the VP shell:*
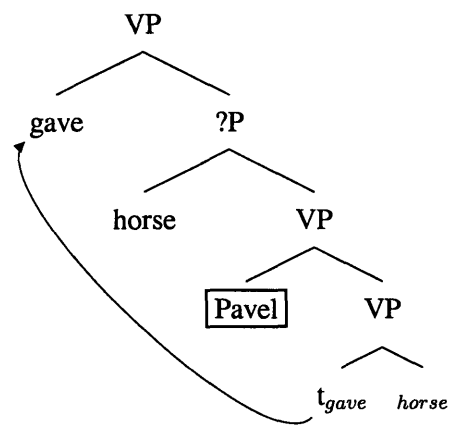
```
              VP
           /      \
      gave         ?P
                 /     \
            horse       VP
                      /     \
                 Pavel       VP
                            /  \
                       t_gave   horse
```

c.   *the VP adverb is merged:*

```
              VP
           /      \
    quickly        VP
                 /    \
            gave       ?P
                     /    \
                horse      VP
                          /   \
                     Pavel     VP
                              /  \
                         t_gave  horse
```

d.   *the verb moves to v:*

67

vP
gave
VP
quickly
VP
t_{gave}
?P
horse
VP
Pavel
VP
t_{gave} *horse*

e. *the vP adverb is merged:*

vP
yesterday
vP
gave
VP
quickly
VP
t_{gave}
?P
horse
VP
Pavel
VP
t_{gave} *horse*

f. *the subject is merged:*

```
                              vP
                          ╱        ╲
                      Marie          vP
                                ╱        ╲
                          yesterday        vP
                                      ╱        ╲
                                  gave           VP
                                            ╱        ╲
                                        quickly        VP
                                                  ╱        ╲
                                              t_gave        ?P
                                                        ╱        ╲
                                                    horse          VP
                                                              ╱        ╲
                                                          [Pavel]        VP
                                                                      ╱    ╲
                                                                 t_gave   horse
```
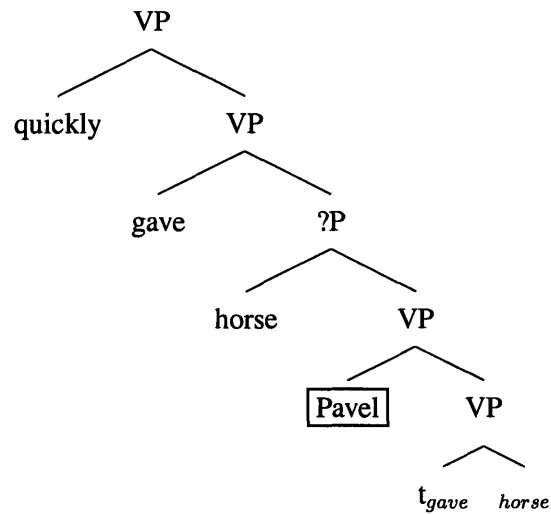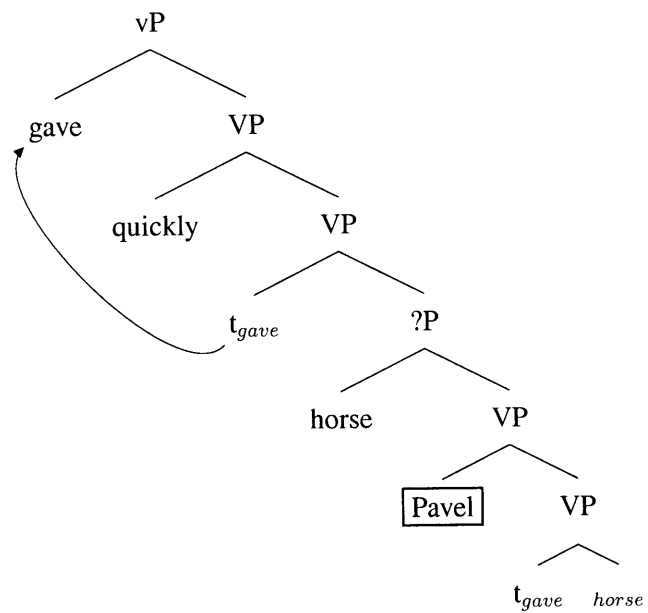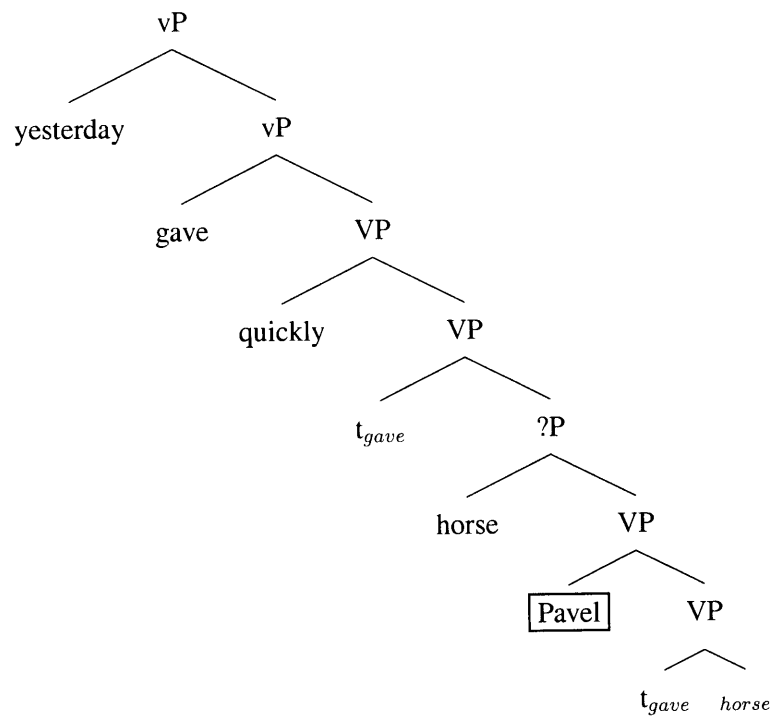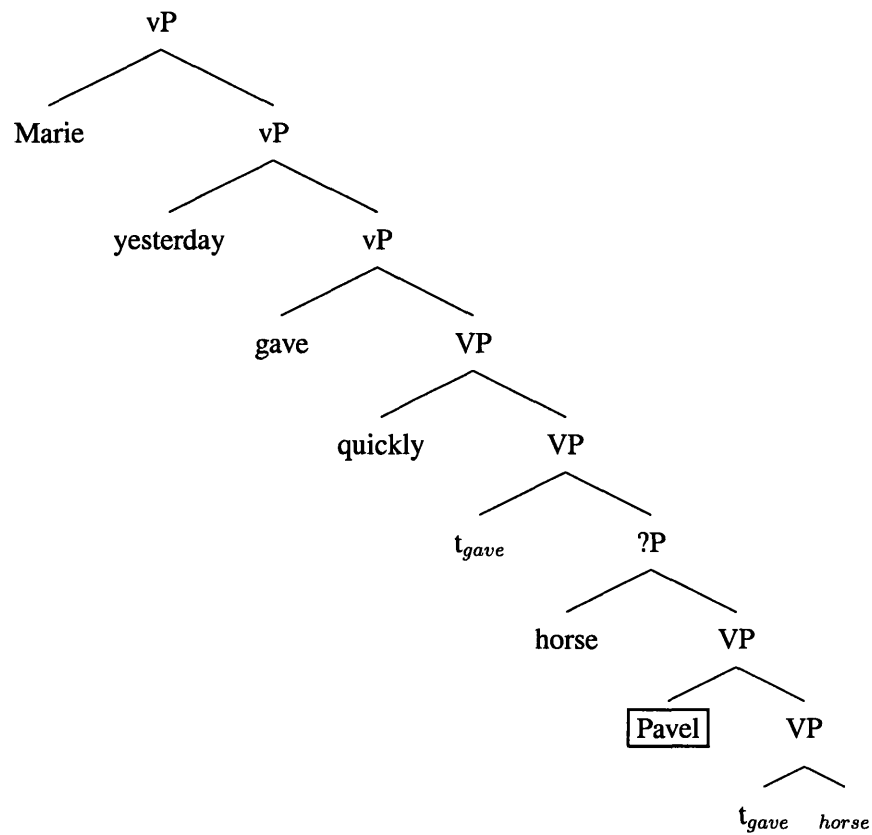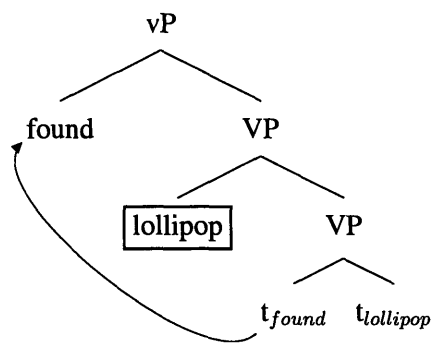
The argument as it stands now is not conclusive yet. First of all, if we assumed that a ditransitive verb does not have a VP shell but there are instead two independent heads involved (cf. for example, Pylkkänen (2002) and the literature cited there), the hypothesis that G-movement takes place in the end of a maximal projection would still be feasible. Similarly, if we assumed that adverbs form their own functional projections, we could not distinguish between the two hypotheses. A crucial piece of evidence that G-movement may take place after any merge comes from SOV orders. Consider the example in (22).

(22) a. How did the boy get the lollipop?

      b. **Chlapec lízátko**   ‖ našel.
          boy.Nom lollipop.Acc   found
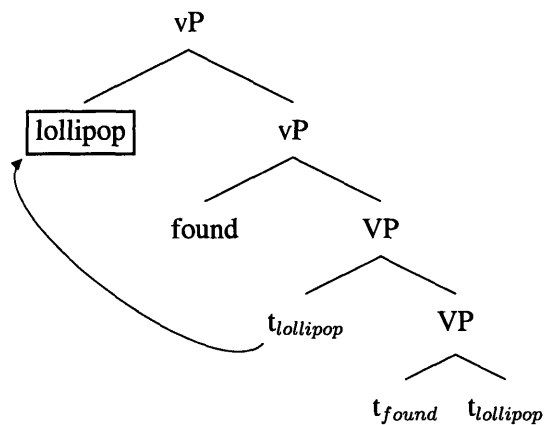   'The boy found the lollipop.'

In this case, the subject and the object are given and only the verb is new. Since the verb needs to move to v, there must be an option for the object to move over the verb *before* the

subject is merged. If the object moved in the end of the vP projection, it should linearly precede the subject, resulting into OSV order. As the example in (22) shows, this prediction is incorrect. The corresponding derivation is given in (23). The given elements are marked by boxes.

(23) a. *v is merged:*

```
                    vP
                   /  \
              found     VP
                       /  \
                 lollipop   VP
                            /  \
                      t_found  t_lollipop
```

b. *the object moves:*

```
                    vP
                   /  \
            lollipop    vP
                       /  \
                  found     VP
                            /  \
                    t_lollipop   VP
                                 /  \
                           t_found  t_lollipop
```

c. *the subject is merged:*

70

```
                          vP
                       /      \
                  ┌─────┐       vP
                  │ boy │     /     \
                  └─────┘ ┌──────────┐   vP
                          │ lollipop │  /    \
                          └──────────┘ found   VP
                                            /      \
                                      t_lollipop    VP
                                                   /  \
                                            t_found  t_lollipop
```
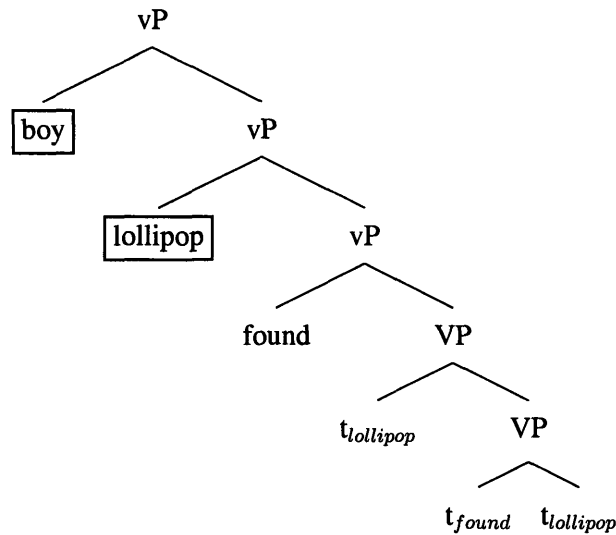
The conclusion that G-movement takes place after any merge, of course, follows only under the assumption that the object cannot *tuck in* under the subject (Richards, 1997). I do not adopt here this theoretical option for two reasons. First, as we will see in chapter 3, it is not always the case that if more than one given element moves, that the elements end up in the same order. If we allowed tucking in, we would have to further restrict its application only to limited amount of cases. Furthermore, tucking in in Czech always comes with a special semantic interpretation. For example, in Czech (as well as in Russian and Polish), if multiple wh-movement obeys superiority, the only possible answer is an answer with a pair list reading. No such requirement exists for cases in which wh-elements move on nested paths (see Meyer (2003, 2004) for more details). Consider the following examples.

(24)   (Meyer, 2003, ex. (5))

    a.   After the film 'Four weddings and a funeral', Petr once more enumerated...

    b.   **kdo**   si   **koho**   vzal na těch čtyřech svatbách.
        who.Nom REFL whom.Acc took on these four   weddings
        'married whom on the four weddings.'

(25)   (Meyer, 2003, ex. (6))

    a.   There is going to be a wedding at our church tomorrow.

    b.   #Prosím tě, a **kdo**   si   **koho**   bere?
        beg   you and who.Nom REFL who.Acc takes

'Tell me who is going to marry whom.'

While the subject-wh ≻ object-wh order is acceptable in the situation in (24), in which all the relevant brides and grooms have been introduced in the previous context (by watching the movie) and the speaker asks for pairs formed by these brides and grooms, the same order is not felicitous in the dialog in (25), in which the participants of the wedding are unknown to the speaker. On the other hand, the reversed order is felicitous, as in (26).

(26)   a.   There is going to be a wedding at our church tomorrow.

        b.   Prosím tě, a **koho**   si   **kdo**   bere v tuhle roční dobu?
        beg   you and who.Acc REFL who.Nom takes in this year time
        'Who is going to get married in this time of the year?'

I do not have any explanation for the relation between syntax and the semantic interpretation. I state the correlation here only as an empirical observation. But we can still use it as an argument against tucking in in other environments. In particular, I argue that tucking in is not a strategy available for G-movement.[9] My main argument is that the SOV order in (22) is not associated with any pair-list reading interpretation that we find elsewhere, for example with contrastive focus. The SOV order simply asserts that both the boy and the lollipop are given. The example could be used not only as an answer to the question in (22) but it would be felicitous in the following context as well: 'A boy was sad because he lost a lollipop that he got from his grandma. But then [the boy found the lollipop] and he was happy again.' Thus, since the object cannot tuck in under the subject, I argue that the SOV order provides additional evidence for the hypothesis that G-movement may take place after any merge.

I argue that we can generalize the lack of tucking in for G-movement. In particular, I argue for the following condition on G-movement.

(27)   **Extension condition on G-movement:**

---

[9]I do not argue that there is no tucking in in syntax. My point is that in Czech multiple movement that obeys tucking in obligatorily obtains a pair-list reading interpretation.

G-movement must extend the tree.

We can conclude that G-movement may take place after any merge. The reader might object though that so far we have seen only cases involving verbal projections. As we will see in the next section, this follows from that G-movement is parasitic on overt head movement. Since there is no overt head movement in other environments, the properties of G-movement in non-verbal environments cannot be directly tested.[10]

To conclude, I have argued in section 2.1 that in Czech there is no unique syntactic position that is interpreted as given. In this section I have made the argument even stronger, by showing that G-movement may take place after *any* merge, and can thus target various syntactic positions. The argument I presented here was based on the word order in ditransitive sentences – in particular, on differences in the position of the main verb with respect to the direct and the indirect object and then on the position of vP and VP adverbs with respect to the direct and the indirect object. The conclusion that G-movement may take place after any merge raises an immediate question: what exactly is the landing site of G-movement? I will address this question in the next section.

2.3 Head movement restriction on G-movement

In this section, I will offer an explanation of the apparent lack of a unique landing site of G-movement and of the fact that G-movement may take place after any merge. I will argue that these two properties are a result of G-movement being parasitic on head movement. I will motivate the head movement restriction on G-movement by a general condition on merge, namely, merge dependence on agree.[11]

---

[10]Veselovská (1998) argued that there is N-to-D movement in Czech. Her argument is based on fairly complex possessive constructions including numerals. In these constructions we can indeed find local reorderings. Unfortunately, I have not figured yet how to control for the involved information structure. I leave the nominal cases for future research.
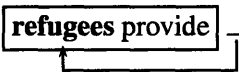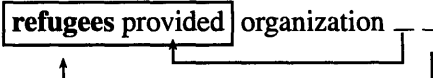
[11]For concreteness I am assuming the general framework of Chomsky (2000, 2001, 2005). As far as I can tell nothing much in the current proposal hinges on this choice, but I will not attempt here to explore the compatibility of the proposal with alternative frameworks.

In the previous section, we have seen that G-movement may take place after *any* merge. We have also seen, in section 1.4, that G-movement of G-element α forces head movement of the relevant head. In the following discussion I will refer to the relevant head as the *head of* α.

The picture that arises is the following: (i) If the G-element does not have a head that could move, then G-movement is extremely *local*, as in (28). (ii) If the G-element has a head that can move, G-movement can be *non-local*, as in (29). Notice that in both cases, after G-movement takes place, the G-element *is adjacent to the verb* it was originally merged with. The examples are schematized in (30).

(28)   a.   What will happen with the refugees?

          b.   Musíme doufat, že nějaká nezisková organizace bude **běžencům**
               must.1pl to-hope that some   non-profit organization will refugees.Dat
               poskytovat _ jídlo.
               provide   food.Acc
               'We must hope that some non-profit organization will provide the refugees with food.'

(29)   a.   What happened with the refugees?

          b.   Slyšel jsem,   že **běžencům** poskytla (nakonec) nějaká   nezisková
               heard Aux.1sg that refugees   provided in-the-end non-profit organization
               organizace jídlo _.
               food.Acc
               'I heard that the refugees were provided with food by some non-benefit organization.'

(30)   *Dependence of G-movement on head movement:*

          a.   organization will │**refugees** provide│ _ with food

          b.   │**refugees** provided│ organization _ _ with food

In order to account for the adjacency restriction observed in (28) and (29) (and in previ-

ous examples in section 1.4), I will tie the adjacency requirement to independent properties of agree and merge. In particular, I will follow Sigurðsson (2004) and Pesetsky and Torrego (2006) in the proposal that any merge is preconditioned by agree, i.e., for merge to take place, there must be feature matching involved.[12,13]

(31)   *Agree Condition On Merge* (Sigurðsson, 2004, ex. (11))

Two objects or elements, X and Y, may be merged only if the relation of Agree holds between them.

I propose that the Agree Condition on Merge corresponds to *two different feature configurations*. For an element α to move, there must be either (i) an externally merged element β that brings into the derivation *new features* to be match and/or valued; or (ii) α must be re-merged within a projection that contain the head in which projection α was base generated. It is the second case that interests us here. I argue that G-movement is this kind of merge and that the head movement restriction on G-movement reflects such a feature matching requirement. The head movement condition on G-movement is repeated below as (32).

(32)   **Head movement restriction on G-movement:**

α_G can G-move out of XP only if X^0 moves out of XP as well.

Thus, I argue that the head movement condition understood as a form of a parasitic relation (instead of new feature evaluation, use an already existing feature set) is a way to create a landing site in case there is *no externally merged probe* available. In other words, while in the case of feature-driven movement, there is probe P that creates a *new* sisterhood relation (P lands itself as the landing site), in case of G-movement, there is no Probe and re-merge is possible only if an *existing* feature-matching set is reused.

---

[12]The idea that external merge is feature-driven is not new. For example, Svenonius (1994); Collins (2002); Adger (2003); Heck and Müller (2006) formulated such an idea in connection with subcategorization features.
[13]The formulation of the conditon in Pesetsky and Torrego (2006) is the following:

(i)   **Vehicle requirement on Merge (VRM)** (Pesetsky and Torrego, 2006, ex, (1))
       If α and β merge, some feature F of α must probe F on β.

A consequence of this assumption is that given element α must be remerged within the same projection to which α's head moves. We can thus strengthen the condition on the head movement, as in (33).

(33)   **Head movement restriction on G-movement [final]:**

  a. α_G can G-move out of XP only if X^0 moves out of XP as well.

  b.   If α_G G-moved out of XP, α_G may G-move to YP only if X^0 moves to YP as well.

Another consequence of the feature matching requirement is that G-movement can take place *after any merge* because it is not dependent on introducing new features into the derivation. There is no need for G-movement to be feature driven.[14] Furthermore, since head movement is very local, G-movement must be local as well.
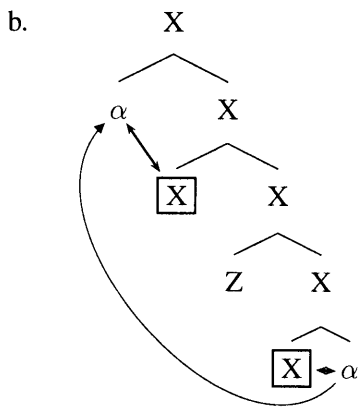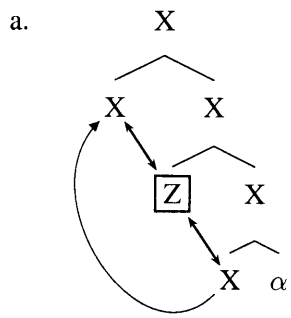
Notice that there are *three distinct configurations* when G-movement of α can arise: (i) the head of α is in its base generated position, as in (34); (ii) the head of α has undergone G-movement, as in (35); (iii) the head of α underwent an independently motivated movement, as in (36).

(34)   *Case (i): the sister of α is in its base generated position:*
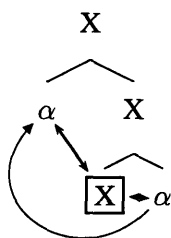
(35)   *Case (ii): the sister of α undergoes G-movement:*

---

[14]I will spell-out how exactly G-movement is driven in chapter 4. For the current discussion it is immaterial whether G-movement is feature driven or is not. Notice though that if G-movement is not feature driven, the proposal is still compatible with the phasal theory of Chomsky (2004b, 2005). Chomsky proposes that a feature-driven operation may take place only at phasal level because it is only the phasal head that introduces the relevant feature(s) into the derivation. If G-movement is not feature driven, there is no reason to wait for the phase to be completed. G-movement may take place at any point.

a.

b.

(36)   *Case (iii): the sister of α undergoes feature-driven movement:*

a.

b.

X

α   X

$\boxed{X}$ Y

Y   Z

Z   X

$\boxed{X}$ ← α

We have already seen examples of all three configurations. Case (i) is a case of an object moving locally around an infinitive, as in (37). Case (ii) corresponds to an OVS order if both the verb and the object are given, as in (38). Case (iii) demands, however, a more careful discussion.

(37)   *Example of Case (i):*

    a.   Pavel hasn't come back home yet, right? Do you know what they plan to do?

    b.   Někdo   snad   bude **Pavla**   hledat t_{Pavel}.
        someone.Nom hopefully will Pavel.Acc look-for

    c.   [$_{VP}$ Pavel look-for Pavel]

(38)   *Example of Case (ii):*

    a.   Who ate the lollipop?

    b.   **Lízátko**   **snědla** ‖ Maruška $t_{snědla}$ $t_{lízatko}$.
        lollipop.Acc ate   Maruška.Nom
        'Maruška ate the lollipop'

    c.   [$_{vP}$ lollipop ate Maruška t_{v-V} [$_{VP}$ t_V $t_{lollipop}$]]

Notice that already the example in (38) is a case of a combination of independent movement (V-to-v movement), i.e., an instance of Case (iii). Since both the verb and the object

are given, there is no need for G-movement within VP. It is only after V moves to v and the subject is merged, when the need for G-movement arises. At this point, both the verb and the object undergo G-movement but only the object moves from its base generated position.

There is one more instance of movement of the head of α that is relevant for our current discussion. This is a case of head movement that happens in order to *facilitate* G-movement (compare the discussion of (32) in section 1.3). A typical example is verb head movement in an OVS where only the object is given and the verb and the subject are new. See example (32) from section 1.3, repeated below as (39).

(39) a. And what about the lollipop?

b. **Lízátko**   ‖ našla malá holčička.
    lollipop.Acc   found little girl.Nom
    'A little girl found the lollipop.'

c. $[_{vP}$ lollipop found little girl t_{v-V} $[_{?P}$ t_V $t_{lollipop}$ $]$ $]$

Even though the derivation in (39-c) is reminiscent of the derivation in (38-c), the motivation of the final verb movement seems to be rather different. I want to suggest that the *difference* between head movement as an instance of G-movement and head movement as a way to facilitate G-movement does not have any reflex in the syntax.

I propose that in both cases, i.e., both in OV‖S and O‖VS, the observed verb movement is *an instance of v-to-T movement*. We have already seen that a finite verb in Czech does not need to move overtly higher than to v (in section 2.2). On the other hand, it is a plausible assumption that there is Agree between T and v. I suggest that a verbal head may use the existing Agree relation in case it allows an instance of G-movement. Furthermore, such a head must use an existing Agree relation instead of extending or creating a projection. Notice that this is a reversed side of the head movement restriction on G-movement. A given XP can take free ride on its head in the sense that it can use a set of existing matching features with the head. But a head itself does not have such an option. For a head to G-

move, the head must enter into a new feature checking relation. v-to-T movement is exactly such a case.

(40)   **v-to-T Movement in Czech**

v-to-T movement in Czech takes place *iff* it changes the semantic interpretation.

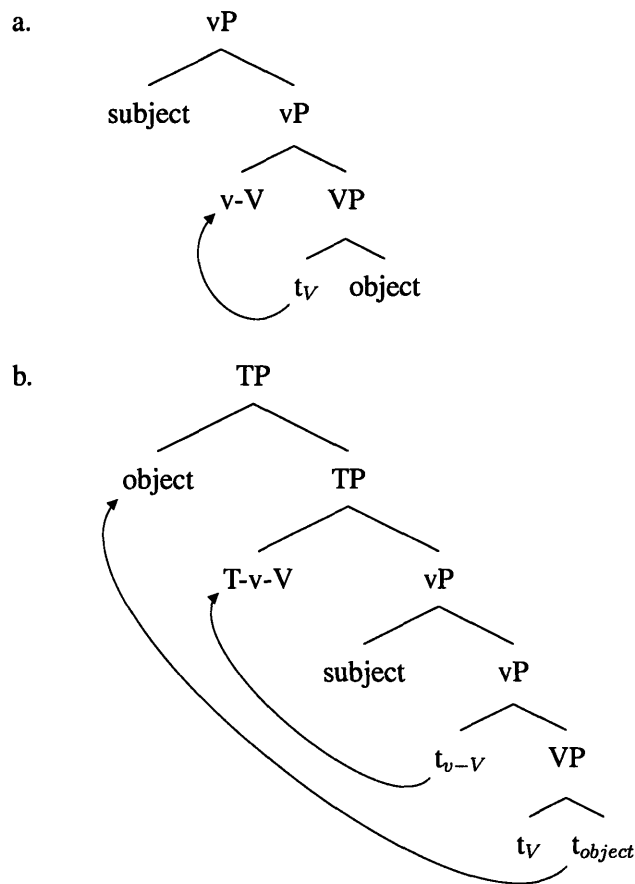(41)   **Restriction on overt head movement**

If a head moves as an instance of G-movement or in order to facilitate G-movement, the head must use an independently existing Agree relation.

Since there is no obligatory v-to-T movement in Czech, I argue that such movement is possible only if it gives rise to a new semantic interpretation. We will see in chapter 4 that we can unify the two types of head movement – head movement which is G-movement and head movement that facilitates G-movement – even further. The point will be that the purpose of any G-movement is to create a syntactic configuration that allows an element α to be interpreted as given in case α would not be otherwise interpreted as given. Whether the element that G-moves is given or new will turn out to be immaterial.

With the assumption that v moves to T both in case the verb undergoes G-movement and in case head movement of the verb facilitates G-movement, the derivation of O∥VS and OV∥S becomes identical.[15] It is *only up to the semantic interface to decide* on which side of the partition the verb is. The corresponding derivation is given in (42).

(42)   *Derivation of OVS order:*

---

[15]This is not entirely correct. If the object is presupposed and the verb is new, the object would move over the verb already in VP. I put this detail aside.

a.

vP
subject   vP
v-V   VP
t_V object

b.

TP
object   TP
T-v-V   vP
subject   vP
t_{v-V} VP
t_V t_{object}

The alert reader has already noticed that the derivation given above follows only if we assume that the object cannot G-move above the subject without the verb moving as well. There is nothing in the head movement restriction on G-movement that would block a derivation in which the object would move above the subject within vP. As we will see in chapter 3, there is also no problem with having more than one element preceding the verb (if all the elements are given). Why then must the verb move?

I want to suggest that it is an independent property of specifiers (subjects) that nothing can be merged within XP once the subject is merged in Spec,XP. At this point I do not have any explanation of this fact but it seems to be true for Czech. (Recall that, for example, adverbs are merged between the subject and the finite verb, unlike in English.) Thus, once a subject (Spec,XP) is merged no further element can be (re-)merged within XP. For

an element to be re-merged, a new head must be merged. It follows that if α needs to be G-moved within XP, it must be done before Spec,XP is merged. Once Spec,XP is merged, α can G-move only if X moves to a higher head.[16]

In this section, I have offered an explanation for the head movement restriction on G-movement. The basic idea of this condition was that two elements can be re-merged if the new merge relation preserves the feature matching set of the original merge relation. This condition has been introduced in order to account for the fact that G-movement is restricted by overt movement of its sister and that G-movement may take place after any merge. It follows that G-movement is not tied to a particular syntactic position. The only restriction is that a given element may be re-merged only in the same projection with its head. I have also addressed the question of when and where a head moves in order to facilitate G-movement.

2.4 Summary

In this chapter, I have addressed the question of what kind of movement G-movement is. In particular, I have closely looked at the following three questions: (i) what is the syntactic target of G-movement? (ii) at what point of the derivation does G-movement take place? and (iii) what kind of syntactic operation is G-movement?

In section 2.1, I have shown that Czech has no unique syntactic position that is always interpreted as given. In the next section, section 2.2, I have provided further evidence in favor of this claim by showing that G-movement may take place after any merge. I have explained these properties of G-movement by tying them to the observation that G-movement of α is restricted by the head movement possibilities of the head of α. In section 2.3, I have suggested that element α can move without a feature trigger if the new merge relation con-

---

[16]I crucially assume that head movement *cannot extend a phrase*. For a proposal suggesting that head movement leads to phase extension see den Dikken (To Appear).

tains the feature matching set of the original merge relation and if the new structure affects the semantic interpretation.

In the next chapter, I will refine the system in place by looking at more complex derivations that contain several instances of G-movement. In particular, I will look at utterances when more than one element can precede the verbal partition. I will show that these strings can be derived by several instances of movement or they can be derived by a phrasal movement of a whole subtree. The combination of these two strategies will allow us to capture various word order combinations found in Czech.

Chapter 3

Complex Word Order Patterns

So far we have considered only simple cases of G-movement, i.e., cases where only one given element undergoes G-movement. In this chapter I will closely examine more complex cases, i.e., cases where there is *more than one given element undergoing G-movement*. The question is whether the relatively simple tools we have developed so far can account for the complex word order data in Czech. I will argue that G-movement and independent restrictions on the Czech syntax are indeed all we need.

First, I will investigate the relative position of the relevant verbal head to given elements. We will see that the relevant verbal head always follows all the given elements. Thus, the verbal head marks the partition between given and new.[1] In section 3.1, I will address the verb partition generalization in the context of the head movement restriction on G-movement. We will see that the verbal partition follows from this restriction.

In section 3.2, I will look closely at cases where there is more than one given element that needs to undergo G-movement. I will argue that multiple given elements either (i) move in *separate instances of G-movement*, or (ii) there is a constituent *dominating several given elements* and the costituent moves. Then I will address the question of when several

---

[1]According to Zikánová (2006), in the Prague Dependency Corpus, version 2.0, 92,35 percent of finite verbs creates the partition between 'theme' and 'rheme'. The distinction between theme and rheme roughly corresponds to our distinction between given and new. Zikánová does not provide further characteristics of the Modern Czech data (her work concentrates on older stages of Czech).

given elements may move as one constituent dominating several given elements. I will argue that several given elements can move as one constituent only (i) if the smallest constituent dominating them can independently move, and (ii) if the constituent contains only given elements. If these two conditions are not satisfied, given elements must undergo individual G-movement. As we will see these two types of movement – one constituent versus several separate movements – result in different word orders. If given elements move as one constituent, their relative word order is *preserved*, if they move separately, their relative word order is *reversed*. I will argue that it is a combination of these two moving strategies (plus base generation) which derives the variety of word order patterns found in Czech. Thus, G-movement will turn out to be a sufficient tool for the Czech data.

3.1 Deriving the verb partition

In this section I will investigate the relation between the *position of the finite verb* and *the partition between given and new*. We will see that if more than one element precedes the verb, the pre-verbal elements must be given.[2] I will argue that this is a result of the head movement condition on G-movement, repeated in (1).

(1) **Head movement restriction on G-movement [final]:**

    a. α_G can G-move out of XP only if X^0 moves out of XP as well.

    b.   If α_G G-moved out of XP, α_G may G-move to YP only if X^0 moves to YP as well.

In other words, a given element may move only if it is remerged within a projection in which its head is remerged. This follows from our assumption about conditions on merge from section 2.3. Furthermore, if more than one given element moves and the elements belong to the same head, they all must be remerged *within the same projection*. The next section will investigate consequences of this assumption and will look closely at derivations containing more than one G-movement per time.

---

[2]This generalization in fact covers also contrastive elements because they are given as well.

Consider first ditransitive constructions where *only one of the objects is given* and the rest of the clause is new. So far we have only seen that such an object can undergo short movement (in section 1.4) but we have not seen *how far the object can move* and *where the verb is*. As we can see in (2)–(3), the object must be the leftmost element and the finite verb must immediately follow the fronted object. The examples in (4)–(5) exemplify the pattern.

(2) a. DO-G V S IO

    b. #DO-G S V IO

    c. #DO-G S IO DO-G S V IO

(3) a. IO-G V S DO

    b. #IO-G S V DO

    c. #IO-G S DO **V**

(4) What happened to the new chair you got from Mary? I haven't seen it around.

    a. Tu novou židli   ‖ **dala** naše uklízečka   sué   známé.
        that new   chair.Acc **gave** our cleaning-woman.Nom REFL friend.Dat

    b. #Tu novou židli   ‖ naše uklízečka   **dala** své   známé.
        that new   chair.Acc our cleaning-woman.Nom gave REFL friend.Dat

    c. #Tu novou židli   ‖ naše uklízečka   své   známé **dala**.
        that new   chair.Acc our cleaning-woman.Nom REFL friend.Dat gave
    ‘Our cleaning woman gave the chair to her friend.’

(5) Do you know what happened to Pavel?

    a. Pavlovi   ‖ **dala** jeho maminka   kytaru.
        Pavel.Dat gave his mother.Nom guitar.Acc

    b. #Pavlovi   ‖ jeho maminka   **dala** kytaru.
        Pavel.Dat his mother.Nom gave guitar.Acc

    c. #Pavlovi   ‖ jeho maminka   kytaru **dala**.
        Pavel.Dat his mother.Nom guitar.Acc gave
    ‘Pavel's mother gave him a guitar.’

The pattern observed in (2)–(3) is not a result of a V2 requirement. As we can see in (6) and (7),[3] for the direct object case, and in (8) and (9), for the indirect object case, there is nothing inherently wrong with the finite verb being in a different position. But the position is crucially dependent on the relevant context. In all the examples, the finite verb must immediately follow *all* of the given elements.

(6)   Do you know what our cleaning lady did with the new chair we got from Mary?

    a.   Tu novou židli   naše uklízečka   ‖ **dala** své   známé.
        that new   chair.Acc our cleaning-woman.Nom   gave REFL friend.Dat
        ‘Our cleaning woman gave the chair to her friend.’

(7)   I have heard that a friend of your cleaning lady stole from her the new chair? Is it true?

    a.   Naše uklízečka   své   známé   tu   novou židli   ‖ **dala**.
        our   cleaning-woman.Nom REFL friend.Dat that new   chair.Acc gave
        ‘(No, that’s not true.) Our cleaning woman GAVE the chair to her friend.’

(8)   Do you know what Pavel’s mam did to him that he is now so happy?

    a.   Maminka   Pavlovi   ‖ **dala** kytaru.
        mother.Nom Pavel.Dat   gave guitar.Acc
        ‘Pavel’s mother gave him a guitar.’

(9)   Is it true that Pavel was forced by his mam to buy a quitar from his pocket money?

    a.   Maminka Pavlovi   kytaru   ‖ **dala**.
        Pavel.Dat mother.Nom guitar.Acc gave
        ‘(No.) Pavel got a guitar from his mum. (He did not need to buy it from his pocket money.)’

The above examples exemplify that the finite verb behaves as a partition between given and new. The question is how exactly we can explain the relation between the position of the finite verb and the partition between given and new. There are two logical options: either (i) the given elements move to *separate projections* above the projection of the finite verb, or (ii) the given elements are *adjoined to the same head*. It follows from our new definition
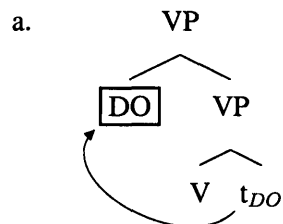
---

[3]The examples in (6) and (7) have a different word order of the arguments than the examples in (4). The word order difference is irrelevant for the argument: the same orders as in (4) are grammatical if contrastive focus was involved. I simplify the case here to stay only in the domain of G-movement.

of head movement constraint and the extension condition on G-movement that all given elements must be adjoined to the projection hosting the finite verb.
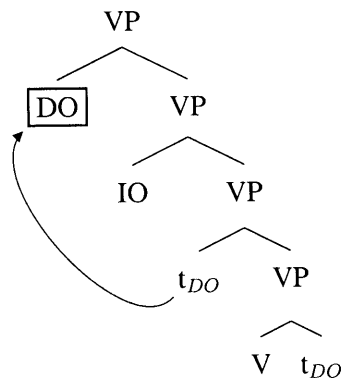
We will see in the next section how the system works. In the rest of this section, I will continue looking at simple examples that we have not considered so far. The examples will serve as a background for the coming discussion of the more complex cases. Consider again the example in (4), i.e., a structure in which only the direct object is given. The predicted derivation proceeds as follows. First, the direct object needs to move at the VP level because it is asymmetrically commanded by the new verb, (10-a). Then the new indirect object is merged and the direct object moves above it, (10-b). Now the verb moves and the direct object moves again, (10-c). In the next step, the verb undergoes V-to-v movement and the direct object is free to move before the subject is merged, (10-d).

In the next step, the subject is merged as the specifier, (10-e). At this point the direct object is again asymmetrically c-commanded by a new element (the subject). But the direct object cannot move at this point. This follows from our assumption discussed in section 2.3 that nothing can be merged within XP after a subject was merged as a specifier of XP. Thus, the only way the derivation can proceed is that the verb moves first to T and only then the direct object is free to G-move again, as in (10-f).
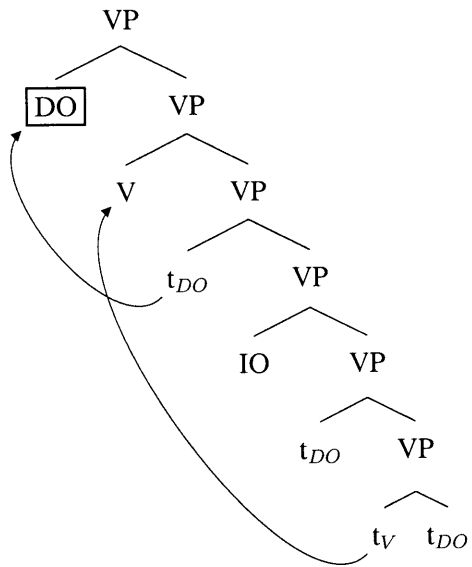
(10)   Derivation of DO-G V S IO

    a.   VP

          $\boxed{\text{DO}}$ VP

               V t_{DO}

b.

```
            VP
          /    \
       [DO]     VP
        ↑      /  \
        |    IO    VP
        |        /   \
        |     t_DO    VP
        |           /   \
        |          V   t_DO
```

c.

```
            VP
          /    \
       [DO]     VP
        ↑      /  \
        |     V    VP
        |    ↑    /   \
        |    |  t_DO    VP
        |    |        /   \
        |    |      IO     VP
        |    |           /   \
        |    |        t_DO    VP
        |    |              /   \
        |    |            t_V   t_DO
```

d.

```
                            vP
                       ┌─────┴─────┐
                    ┌─DO           vP
                    ↑          ┌────┴────┐
                    │          v         VP
                    │        ┌─┴─┐    ┌───┴───┐
                    │        v   V   DO       VP
                    └────────────────┘    ┌───┴───┐
                                          V       VP
                                              ┌───┴───┐
                                             IO       VP
                                                  ┌────┴────┐
                                                 t_DO      VP
                                                        ┌───┴───┐
                                                       t_V    t_DO
```

e.

```
                          vP
                    ____/    \____
                subject          vP
                            ____/    \____
                         [DO]            vP
                          ↑        ____/    \____
                          |       v              VP
                          |      / \        ___/    \___
                          |     v   V    [DO]          VP
                          |_____/          ____/      \____
                                             V                VP
                                        ____/    \____
                                      IO              VP
                                             ____/       \____
                                          t_DO                VP
                                                          ___/  \___
                                                        t_V       t_DO
```

f.

TP

DO   TP

T-v-V   vP

Subject   vP

v   VP

v   V   DO   VP

t_V VP

IO   VP

t_{DO} VP

t_V t_{DO}
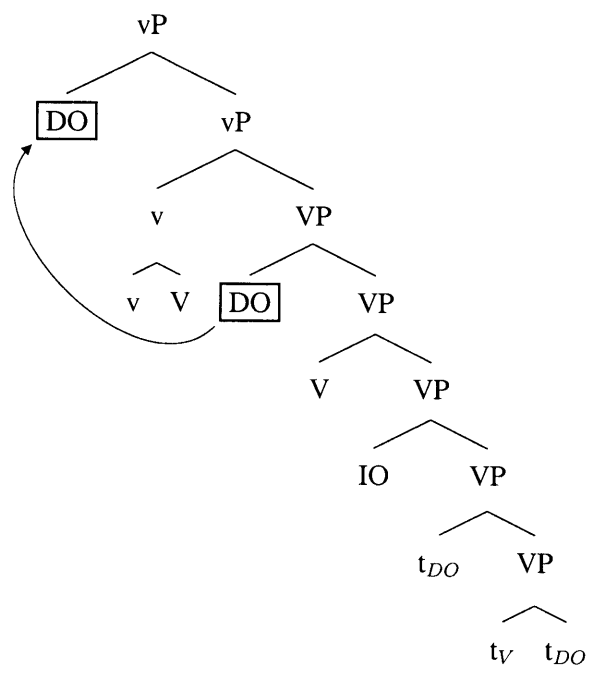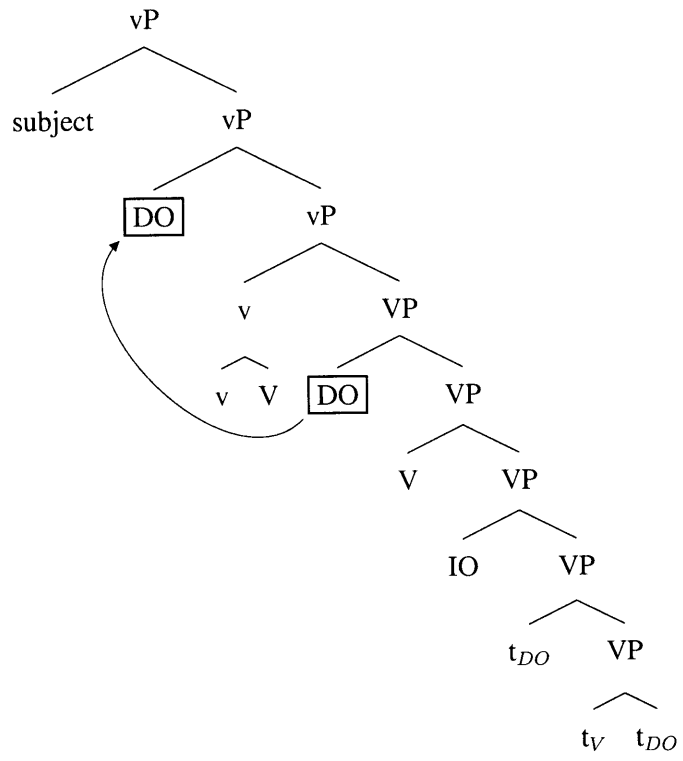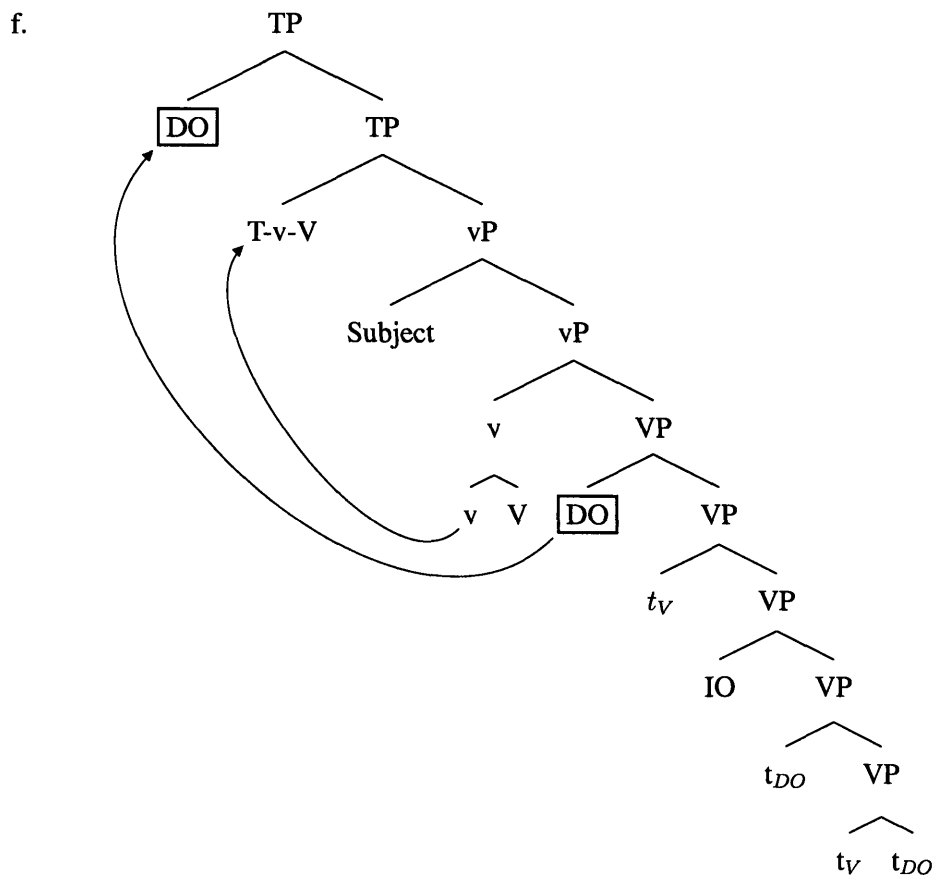
So far so good. Let's now look at a derivation of a clause where both the subject and the direct object are given, as in (6). The final word order is S-DO-V-IO. The first steps of the derivation are identical with (10-a)–(10-d). What happens after the subject is merged, (10-e)? At this point all needs of the given elements are satisfied, i.e., there is no given element that would be asymmetrically c-commanded by a non-presupposed element. Thus, from the point of view of G-movement, the derivation is complete.[4]

Even though the example in (4) contains two given elements, the derivation proceeds without any interesting interaction between them. The reason is that only one given element undergoes G-movement. In the next section, I will look closely at cases where more than

---

[4]The derivation continues by merging T and attracting the subject, i.e., the closest element, to Spec,TP.

one given element G-moves *at the same point* of the derivation. Two questions will be in the center of our discussion: (i) in what order G-movement of more than one element takes place, and (ii) if a constituent contains more than one given element, can the constituent move in one step, or do the elements need to undergo separate movement?

3.2 Multiple G-movement

This section looks at cases where more than one given element undergoes G-movement. We will see that if there is a constituent that dominates more than one given element, it is preferred to G-move the whole constituent to G-moving each element separately. Sometimes, however, there is no such constituent that could G-move. I will here investigate under what conditions more than one given element moves as one constituent. Then I will address the question of how given elements move if they must undergo separate G-movement.

Let's first look again at example (7), repeated below as (11). The example differs from the examples that we have seen so far in that it is *both* the direct object and the indirect object that *must G-move* over the verb (recall that the verb must independently move to v, thus both the objects end up being asymmetrically c-commanded by a new element). The crucial question is how exactly the two objects, marked by square brackets, move above the verb.

(11)   I have heard that a friend of your cleaning lady stole from her the new chair? Is it true?

     a.   Naše uklízečka   [své   známé]   [tu novou židli]   ‖ **dala.**
         our cleaning-woman.Nom REFL friend.Dat that new   chair.Acc gave
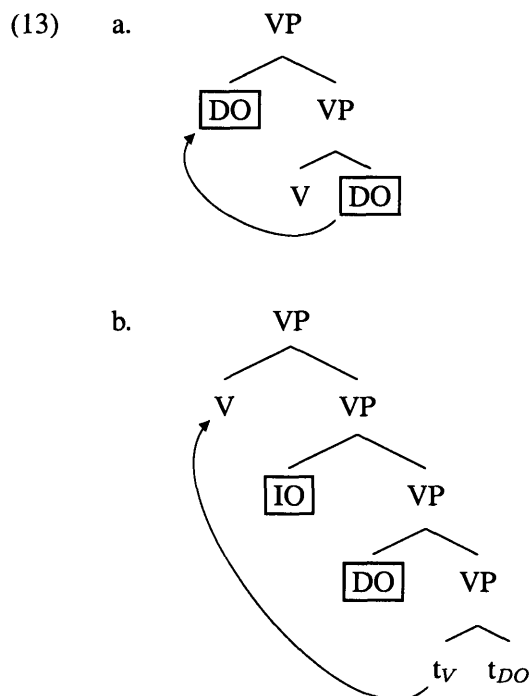   '(No, that's not true.) Our cleaning woman GAVE the chair to her friend.'

The question is whether (i) the two objects move as one constituent, or (ii) whether they move separately. I will adopt here the former option, arguing that G-movement is as economical as possible. What I mean by that is that if it is possible to move several given elements as one constituent, then such movement is preferred to moving them separately.
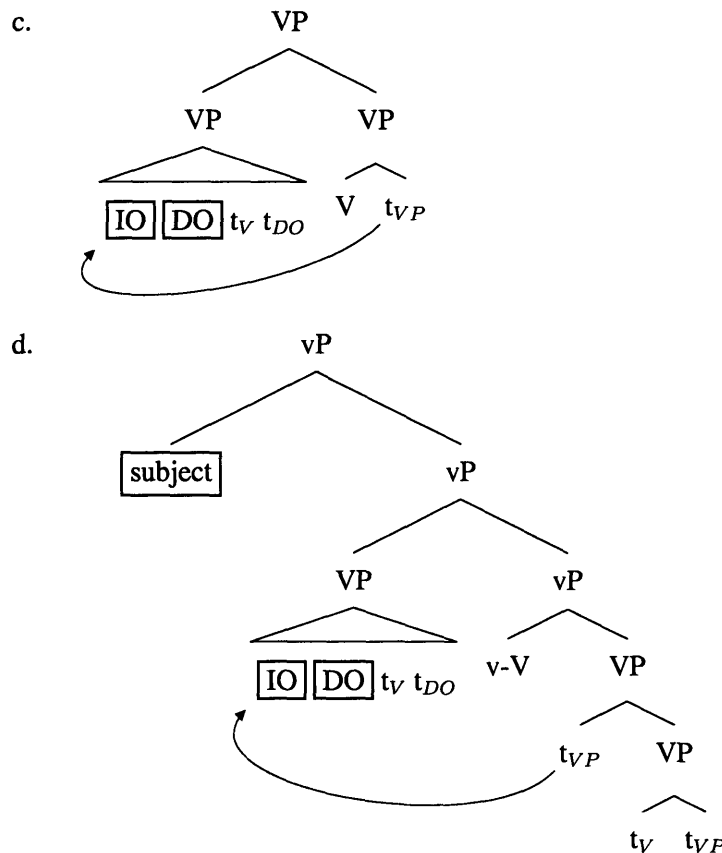
The condition is stated in (12). With such a condition in place, we need to ask under what conditions more than one given element may move as one constituent.

(12)   **Minimize instances of G-movement**

If more than one given element may move as one constituent, then such given elements must move as one constituent.

Let's go step by step through the derivation of (11). First, the direct object undergoes short G-movement over V, as in (13-a). Next, the indirect object is merged and V moves, (13-b). At this point, both the direct and indirect object needs to move. I argue that they move as *one constituent*. Thus, it is *the whole sister of V* – the complement – that undergoes G-movement at once, as in (13-c). In the next step, V moves to v and the phrase containing both the direct and indirect object G-moves again. Finally, the subject is merged, (13-d).

(13)   a.

        b.

95

c.

$$\text{VP}$$

VP VP

[IO] [DO] t_V t_{DO} V t_{VP}

d.

$$\text{vP}$$

subject vP

VP vP

[IO] [DO] t_V t_{DO} v-V   VP

t_{VP} VP

t_V t_{VP}

There is, however, a worry that arises about the proposed derivation: If a remnant phrase may undergo G-movement, why cannot remnant movement improve some derivations in which a given element ends up c-commanded by a new element because of the head movement constraint?[5] Consider example (16) from section 1.4, repeated below as (14). In this example, the object 'that book' is asymmetrically c-commanded by two given elements. Further G-movement of the object is, however, blocked by the head movement constraint. One could imagine a derivation in which the whole VP would move after the direct object undergoes short G-movement, as in (15). If such movement took place, the given object would not be asymmetrically c-commanded by any new element anymore. Thus, the partition between given and new would be perfect. Notice that the constituent that would undergo G-movement is a complement of the verbal head. Since complements may in gen-

---

[5] I thank Danny Fox for raising up this question.

eral undergo movement, the derivation would be compatible with our assumptions about the Czech syntax and about G-movement.

(14) a. What will happen to the book?

     b. Marie   bude **tu knihu**   dávat   Petrovi.
        Marie.Nom will the book.Acc give.Inf Petr.Dat
        'Marie will give the book to Peter.'

(15) a. What will happen to the book?

     b. #[**Tu knihu**   ‖ dávat   Petrovi] bude Marie.
        the book.Acc give.Inf Petr.Dat will Marie.Nom
        'Marie will give the book to Peter.'

     c.
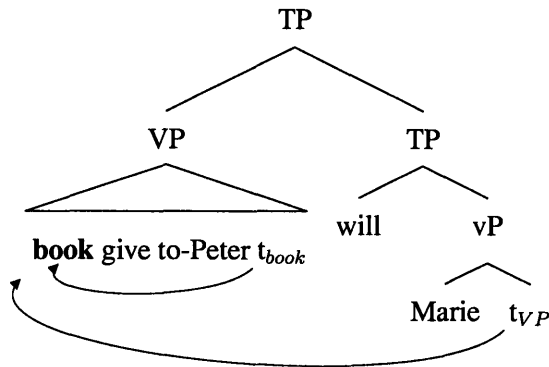
There is currently nothing in our system that would rule out the derivation in (15). In chapter 4, I will argue that such movement would not be licensed by the semantic component. As we will see, G-movement is licensed only if it brings in a semantic interpretation that would not otherwise be available. It will follow from our semantic system that movement of VP would not give rise to any semantic interpretation that could not be obtained from the structure without the VP movement.

Before I turn to structures where several given elements *cannot* G-move as one constituent, I want to present two more cases in which G-movement of one constituent dominating more than one given element is attested. As we have already seen, in Czech, inflected verbal forms undergo obligatory movement to v, while an infinitive stays in situ. This difference is reflected in the word order of ditransitive sentences in case only the subject is

new and everything else is given. Consider the examples in (16) and (17). While in the future tense, the main verb stays inside VP, in the past tense, the main verb evacuates VP. The result is that if the VP containing both objects undergoes G-movement in the future tense example, the objects move together with the infinitive. In contrast, in the case of the past tense, it is only the remnant VP that undergoes G-movement. The corresponding structures are given in (18) and (19).

(16)　*Future:*

    a.　Kdo　　bude **dávat　Fíkovi　dárky**?　　⟶ Inf ≻ IO ≻ DO
        who.Nom will　give.Inf Fík.Dat presents.Acc
        'Who will give Fík presents?'

    b.　**Dávat　Fíkovi　dárky**　　bude ‖ Ája. ⟶ Inf ≻ IO ≻ DO
        give.Inf Fík.Dat presents.Acc will　Ája
        'Ája will give Fík presents.'

(17)　*Past:*

    a.　Kdo　　dával **Fíkovi　dárky**?　　⟶ IO ≻ DO
        who.Nom gave　Fík.Dat presents.Acc
        'Who used to give Fík presents.'

    b.　**Fíkovi　dárky**　　dávala ‖ Ája.　　⟶ IO ≻ DO
        Fík.Dat presents.Acc gave　Ája.Nom
        'Ája used to give Fík presents.'

(18)　*Derivation of (16):*
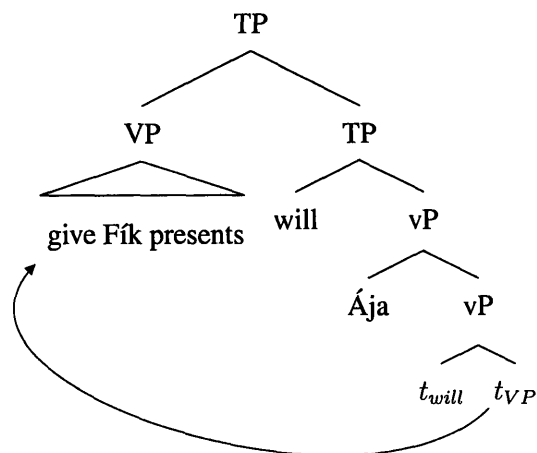
(19)   *Derivation of (17)*:
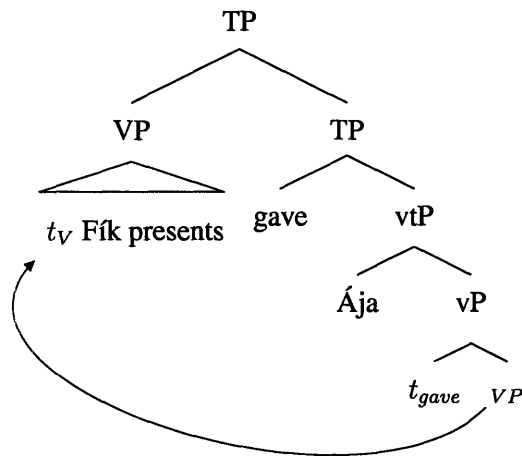
Notice that it is not trivial to characterize movement of a remnant phrase dominating two given constituents as movement of a *given* constituent. The VP that moves in (11) is not straightforwardly given because it is the source of a new verb. As we will see in the following examples, the only property that characterizes the possible remnant phrase that can undergo G-movement is that when G-movement takes place, the phrase does not dominate any new element. Again, we will see in chapter 4 that this will also follow from the way the semantic component interprets the syntactic output.

We can now turn to the question of under what conditions more than one given element cannot move as one constituent. I argue that there are two basic types of structures in which more than one given element *cannot* undergo G-movement as one constituent. Either (i) the constituent that dominates only given elements cannot move on independent syntactic grounds, or (ii) there is no constituent that would dominate only given elements and no new element.

Let's first look at the former case, i.e., a case where G-movement is restricted on independent syntactic grounds. A structure that we can use to test our assumptions is based on the distribution of VP and vP adverbs. In Czech, certain adverbs can be adjoined both to VP and vP. Such an adverb is predicational modifier *zase* 'again'. Consider the following

examples.

(20)   a.   Marie otevřela **zase** dveře. —→ VP adverb

              Marie opened again door

              'Marie opened the door again.'

    b.   Marie **zase** otevřela dveře. —→ vP adverb

              Marie again opened door

              'Again, Marie opened the door.'

There is a semantic difference between the two examples. If *again* adjoins to VP, as in (20-a), the utterance presupposes that there was a previous event of opening the door but it might have been done by someone else than Marie. In contrast, the utterance in (20-b) presupposes that the door was opened before and it was done by Marie.

The structure that interests us here is a structure in which only the subject is new and the rest of the clause (the verb, the subject and the adverb) is given. Thus, we want to know how the derivation proceeds once the new subject is merged and G-movement needs to take place. Consider the simplified structures in (21). The new subject is marked by a box.

(21)   a.   [$_{vP}$ ⊡Marie⊡ opened [$_{VP}$ **again** t$_V$ door]]

       b.   [$_{vP}$ ⊡Marie⊡ **again** opened [$_{VP}$ t$_V$ door]]

After the verb moves in order to facilitate G-movement, the relevant structures are as below.

(22)   a.   [$_{TP}$ opened [$_{vP}$ ⊡Marie⊡ t$_v$ [$_{VP}$ **again** t$_V$ door]]]

       b.   [$_{TP}$ opened [$_{vP}$ ⊡Marie⊡ **again** t$_v$ [$_{VP}$ t$_V$ door]]]

What do we expect next? The question is whether the adverb and the object can move as one constituent or whether they must move separately. We independently know that

there is no problem for VP to be fronted, thus we predict that the whole VP in (22-a) dominating both the adverb and the object should be able to move as one constituent. In contrast, movement of an X-bar projection is on independent grounds excluded. Since the only constituent in (22-b) which contains given elements but no new element is an X-bar projection, we predict that the given adverb and the given object must move separately. The expected derivations are schematized in (23).

(23)   a.   *One instance of G-movement:*

$$\boxed{\text{again object}} \; V \; \| \; \text{subj} \; t_V \; \boxed{t_{again} \; t_{Obj}} \longleftarrow \checkmark [_{VP} \textbf{ again } t_V \textbf{ object}]$$

     b.   *Two instances of G-movement:*

$$\boxed{\text{obj}} \boxed{\text{again}} \; V \; \| \; \text{subj} \; \boxed{t_{again}} \; t_V \; \boxed{t_{Obj}} \longleftarrow *[_{vP'} \textbf{ again } t_v \; [_{VP} t_V \textbf{ obj}]]$$

As we can see in the examples in (24) and (25), the predictions are borne out.

(24)   *VP modification:*

     a.   Kdo zavřel **znovu dveře?** $\longleftarrow$ Adv > Obj
         who closed again door
         'Who closed the door again?'

     b.   **Znovu dveře** zavřela ‖ Maruška. $\longleftarrow \boxed{\text{Adv} > \text{Obj}}$
         again door closed   Mary
         'Mary closed the door again.' [the door was closed before but it wasn't Mary

         who closed it]

(25)   *vP modification:*

     a.   Kdo **znovu** zavřel **dveře?** $\longleftarrow$ Adv > Obj
         who again closed door
         'Who closed the door again?'

     b.   **Dveře znovu** zavřela ‖ Maruška. $\longleftarrow \boxed{\text{Obj} > \text{Adv}}$
         door   again closed   Mary
         'Again, Mary closed the door.' [Mary closed the door before]

We can repeat the same exercise with other adverbs, for example with adverbs modifying

telic predicates. An example is given in (26). In English, the adverb *almost* is ambiguous between modifying the event of closing the door with the exclusion of the subject and between modifying the event in which the subject tries to close the door.

(26)   Mary almost closed the door.

In Czech, the difference between the two interpretations is overtly marked on the surface by the position of the adverb with respect to the finite verb, exactly as in the previous examples with *again*. The relevant Czech examples are given in (27).

(27)   a.   Maruška zavřela [$_{VP}$ **skoro** dveře].
                Mary   closed   almost door

         b.   Maruška [$_{vP}$ **skoro** zavřela dveře].
                Mary   almost closed door

The semantic difference is preserved in subject-wh question-answer pairs as well. As we can see in (28) and (29), the VP attachment results into an answer with a postverbal adverb, while the vP attachment results into an answer with a clause-initial adverb. Thus, we can account for the data in the same way as we accounted for the examples with *again*. While in (28) both the adverb and the object move *as one constituent*, in (29), they move *separately*.

(28)   a.   Kdo zavřel **skoro dveře?**
                who closed almost door
                'Who almost closed the door (but haven't finished the closing)?'

         b.   **Skoro dveře** zavřela ‖ Maruška.
                almost door   closed   Mary
                'Mary almost closed the door (but she hasn't finished the closing event be-

                cause she was interrupted by her mother.).'

         c. $\boxed{\text{almost door}}$ closed ‖ Marie t$_V$ $\boxed{\text{t}_{almost}\ \text{t}_{door}}$
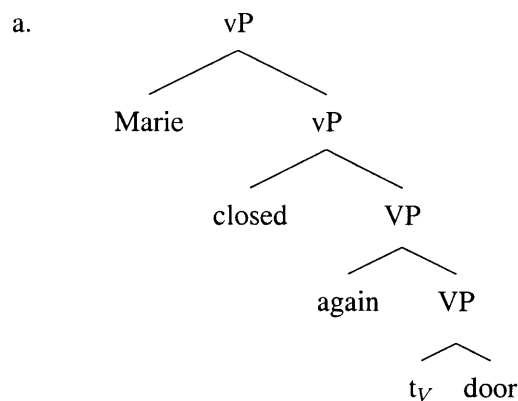
(29)   a.   Kdo **skoro** zavřel **dveře?**
                who almost closed door
                'Who almost closed the door (but then decided not to)?'

102

b. **Dveře skoro** zavřela ‖ Maruška.
   door almost closed   Mary
   'Mary almost closed the door (but then she decided not to).'

c.   [door] [almost] closed ‖ Marie [t_{almost}] t_V [t_{door}]
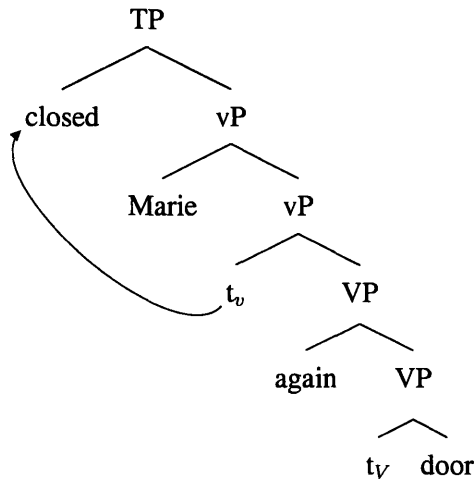
Let's now go step by step through the derivation of the examples in (24-b) and (25-b). The purpose of the exercise is to see how exactly the system derives the reversed order of the adverb and the object that we witness in cases with separate G-movements, in contrast to the preserved word order in case the given elements move as one constituent.

Consider the example in (24-b). First, the VP is merged and the adverb is adjoined to it. There is no need for G-movement because the structure contains so far only given elements. In the next step, V moves to v (to check its features) and the subject is merged, (30-a). At this point, all the verb, the adverb and the object need to move above the new subject. Only the verb, however, is able to do that because of the head movement constraint on G-movement, (30-b). After that, the adverb and the object are free to G-move as one constituent, as in (30-c). The reason why this step is possible is that both given elements are dominated by a constituent which is able to move. In this case it is VP.
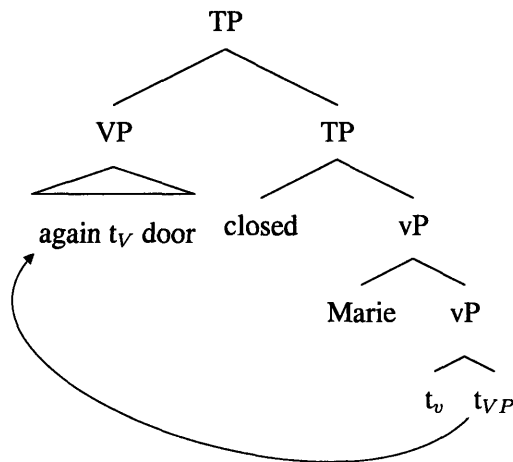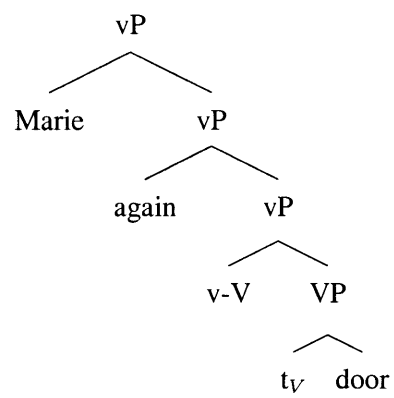
(30)   Derivation of (24-b)

a.

b.

```
                TP
              /    \
        closed      vP
                   /   \
               Marie    vP
                       /   \
                     t_v    VP
                           /   \
                        again   VP
                               /  \
                             t_V   door
```

c.

```
                    TP
                  /    \
              VP          TP
            /____\      /    \
      again t_V door  closed    vP
                             /   \
                         Marie    vP
                                 /   \
                               t_v   t_VP
```
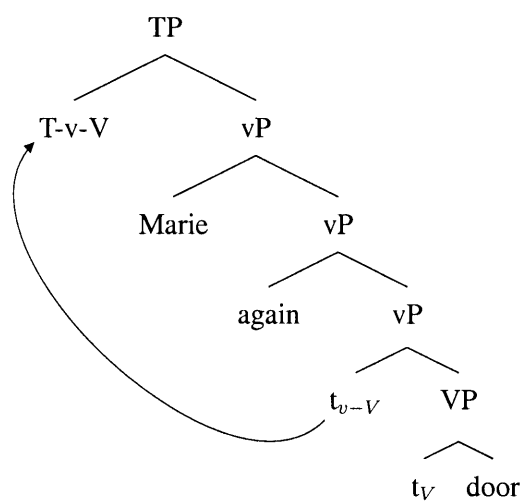
We can now proceed with the derivation of the example in (25-b). As we can see in (31), no G-movement takes place before vP is completed. At this point, the verb, the adverb and the object need to G-move because they all are asymmetrically c-commanded by the new subject *Mary*. Again, the verb must move first, (31-b). After this movement takes place, the object and the adverb need to move. I have already anticipated that they cannot move as one constituent. The reason is that the only constituent that dominates the given elements and no new element is an X-bar projection. Since X-bar projections in Czech cannot move, the given elements must move separately. The question is whether the given elements move on nesting or crossing paths. I argue, based on the actual word order we get, that the paths
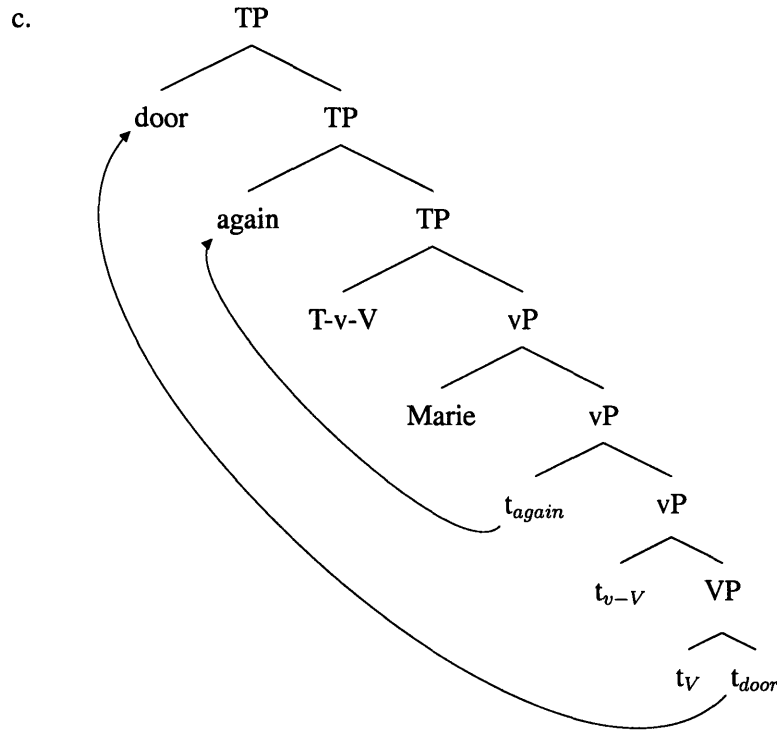
must be nesting, as in (31-c).

(31)   a.

```
                    vP
                   /  \
               Marie   vP
                      /  \
                  again   vP
                         /  \
                      v-V    VP
                            /  \
                          t_V   door
```

b.

```
                    TP
                   /  \
              T-v-V    vP
                      /  \
                  Marie   vP
                         /  \
                     again   vP
                            /  \
                        t_{v-V}  VP
                               /  \
                             t_V   door
```

105

c.

```
                    TP
                  /    \
              door      TP
                      /    \
                  again      TP
                           /    \
                       T-v-V      vP
                              /    \
                          Marie      vP
                                   /    \
                              t_again    vP
                                       /    \
                                   t_{v-V}    VP
                                             /  \
                                          t_V   t_door
```

Notice that so far there is nothing in our system that would guarantee the right order of movement of given elements. The extension condition on G-movement is not on its own sufficient. In order to account for the word order facts, I propose that if more than one given element moves in the same point of the derivation, they obey the Path Containment Condition, as defined in Pesetsky (1982). The definition of the Path Containment Condition (and the supplementary definitions) are given in (32)–(34).

(32)   *Path Containment Condition (PCC)* (Pesetsky, 1982, ex. (94), p. 309)

      If two paths overlap, one must contain the other.

(33)   *Definition of Paths* (Pesetsky, 1982, ex. (69), p. 289)

      Suppose t is an empty category locally A-bound by b. Then

      a.   for α the first maximal projection dominating t

      b.   for β the first maximal projection dominating b

c. the path between t and b is the set of nodes P such that $P = \{x|(x =\alpha)$ (x dom. α & $\neg xdom.\beta)\}$

(34) *Overlapping* (Pesetsky, 1982, ex. (93), p. 309)

Two paths overlap iff their intersection is non-null and non-singleton.

In a way, given elements behave as if they were attracted by a feature and obeyed the Attract Closest Condition. Since we do not have any feature trigger in the system, we must stay with the descriptive generalization requiring given elements to move on non-crossing paths. One may wonder whether this is a problem for our system, or whether it is possible that the source of the path containment behavior is somewhere else than in having a feature trigger. I do not attempt to answer this question here.

The fact that is crucial for our discussion is that that the Path Containment Condition results into the *reversed* word order of the given constituents. In contrast, if given elements may move as one constituent, their order is *preserved*. I argue that it is a *combination of these two strategies* that captures the variety of word order patterns in Czech.

We can now approach to the other case in which given elements cannot move as one constituent. We will be looking at structures where there is no constituent that would dominate only given elements. Such an example is given in (35).

(35) a. Co   dělal Petr   včera   s   autem?
          what did Petr.Nom yesterday with car
          'What did Petr do yesterday with his car?'

      b. **Petr   auto   včera**   ‖ řídil rychle.
          Petr.Nom car.Acc yesterday   drove quickly
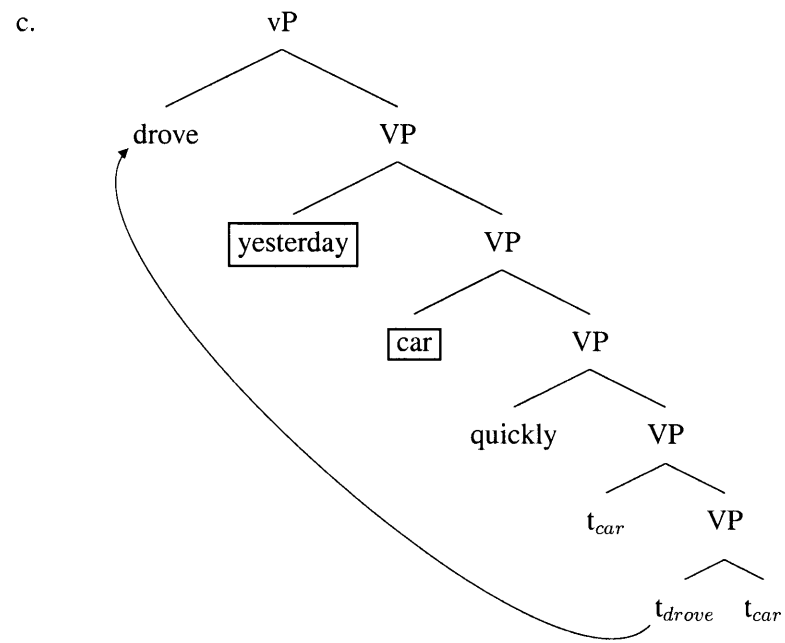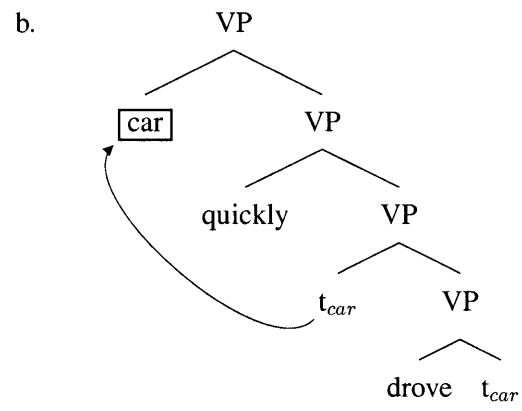   'Yesterday Petr drove fast his car.'

To see how the derivation proceeds, consider first the corresponding basic word order given in (36). As we can see schematized in (37), the word order of given elements is partially reversed (Peter>yesterday>car versus Peter>car>yesterday).
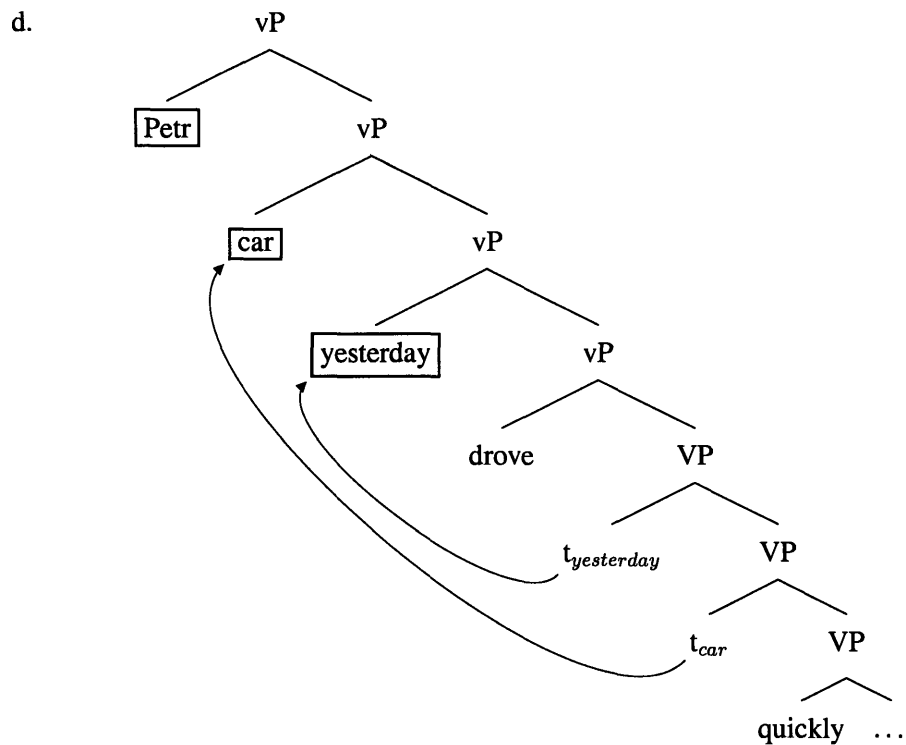
107

(36) Petr řídil včera rychle auto.
    Petr.Nom drove yesterday quickly car.Acc
    'Yesterday Petr drove fast his car.'

(37) Subj-G Obj-G Adv1-G ‖ verb t_{Adv1} Adv2 t_{Obj}

Let's now go through the derivation step by step. The derivation is given in (38). We know from the basic word order that both the adverbs are adjoined to VP (the finite verb, which is at v, precedes them). The given constituents are marked by boxes. First, the verb and the object are merged. At this point, the object undergoes G-movement above the verb, as in (38-a). Then, the new adverb 'quickly' is merged and the object needs to move again, (38-b). When the given adverb 'yesterday' is merged, no G-movement takes place. VP is completed and V moves to v, (38-c). At this point, the object and the adverb 'yesterday' need to G-move. They cannot move as one constituent, however, because there is no constituent that would contain only given elements. This is because of the new adverb *quickly*. Thus the object and the adverb must move separately. The derivation is finished by merging the subject, as in (38-d).
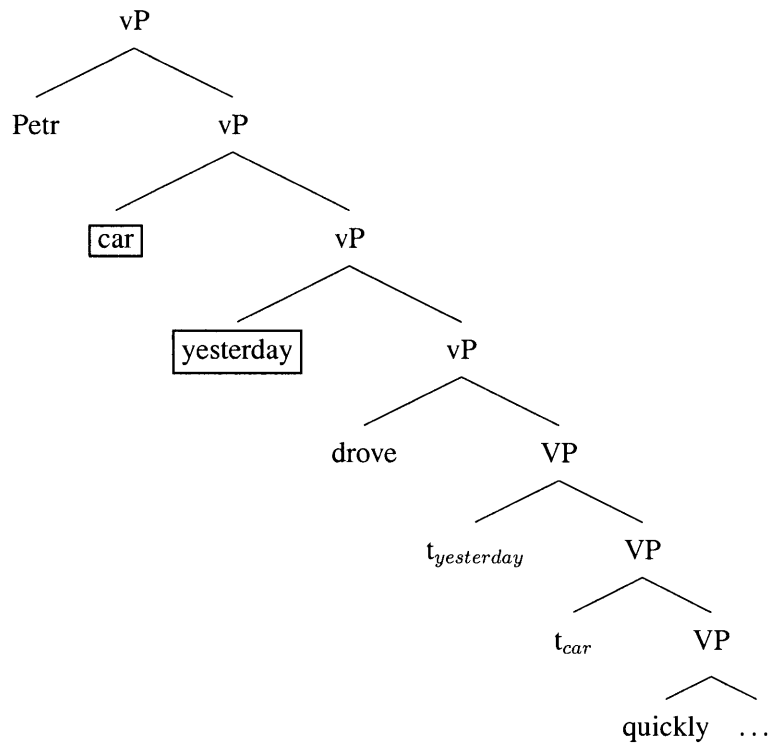
(38) a.   VP

     [car] VP

        drove t_{car}

b.

```
                VP
           ┌────┴────┐
        ┌[car]      VP
        │       ┌───┴───┐
        │    quickly    VP
        │           ┌───┴───┐
        └──────── t_car    VP
                         ┌──┴──┐
                      drove  t_car
```

c.

```
                vP
           ┌────┴────┐
       ┌─drove      VP
       │        ┌───┴───┐
       │    [yesterday] VP
       │            ┌───┴───┐
       │          [car]    VP
       │               ┌───┴───┐
       │           quickly    VP
       │                  ┌────┴────┐
       │               t_car       VP
       │                        ┌───┴───┐
       └────────────────────t_drove  t_car
```

d. vP

Petr　　vP

car　　vP

yesterday　　vP

drove　　VP

$t_{yesterday}$　　VP

t_{car}　　VP

quickly　...

We can test on this example a further G-movement property – its strictly cyclic character. Let's see what happens if we only minimally change the example in (35-b). Let this time the subject be new as well. First of all, what do we expect in our system? We are now in the point of the derivation that corresponds to (38-d), repeated below as (39).

(39)

```
                    vP
                 ___/\___
              Petr        vP
                       ___/\___
                   [car]        vP
                             ___/\___
                      [yesterday]     vP
                                   ___/\___
                               drove      VP
                                        __/\__
                                 t_yesterday   VP
                                             __/\__
                                         t_car    VP
                                                  /\
                                            quickly  ...
```

Since the subject is new, the derivation cannot stop here. Instead, the verb must move again, followed by the given object and the given adverb. The interesting question is how the given elements move. Since there is still no constituent that would dominate only the given elements, the given elements must move separately. Thus, we predict that their already reversed order would be reversed again, i.e., the final order would be *identical* to their basic word order. This prediction is born out as can be seen in (40). The corresponding derivation is given in (41).

(40)   a.   Who and what did yesterday with the car?

       b.   Včera   auto ‖ řídil   Petr rychle.
            yesterday car   drove Petr quickly
            'Petr drove yesterday car quickly.'

(41)   a.

```
                              TP
                         ┌─────┴─────┐
                       drove         vP
                              ┌───────┴───────┐
                            Petr              vP
                                        ┌──────┴──────┐
                                     ┌─car─┐          vP
                                     └─────┘    ┌──────┴──────┐
                                          ┌─yesterday─┐       vP
                                          └───────────┘  ┌────┴────┐
                                                       t_d.        VP
                                                            ┌───────┴───────┐
                                                           t_y.             VP
                                                                      ┌──────┴──────┐
                                                                    t_c.            VP
                                                                               ┌─────┴─────┐
                                                                            quickly      ...
```

b.

TP
├── yesterday
└── TP
    ├── car
    └── TP
        ├── drove
        └── vP
            ├── Petr
            └── vP
                ├── t_{car}
                └── vP
                    ├── $t_{yesterday}$
                    └── ...
                        |
                        VP
                        ├── quickly
                        └── ...
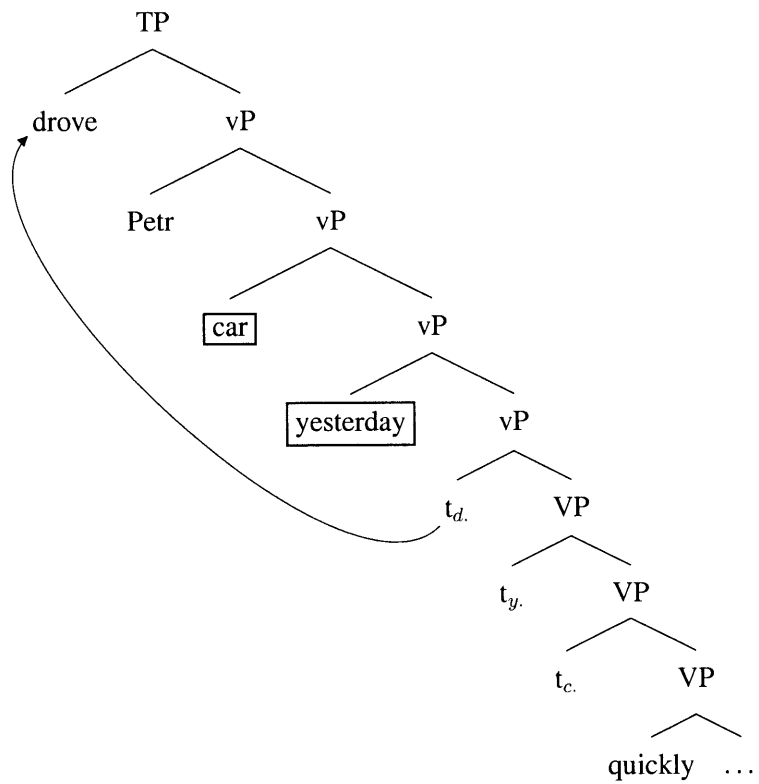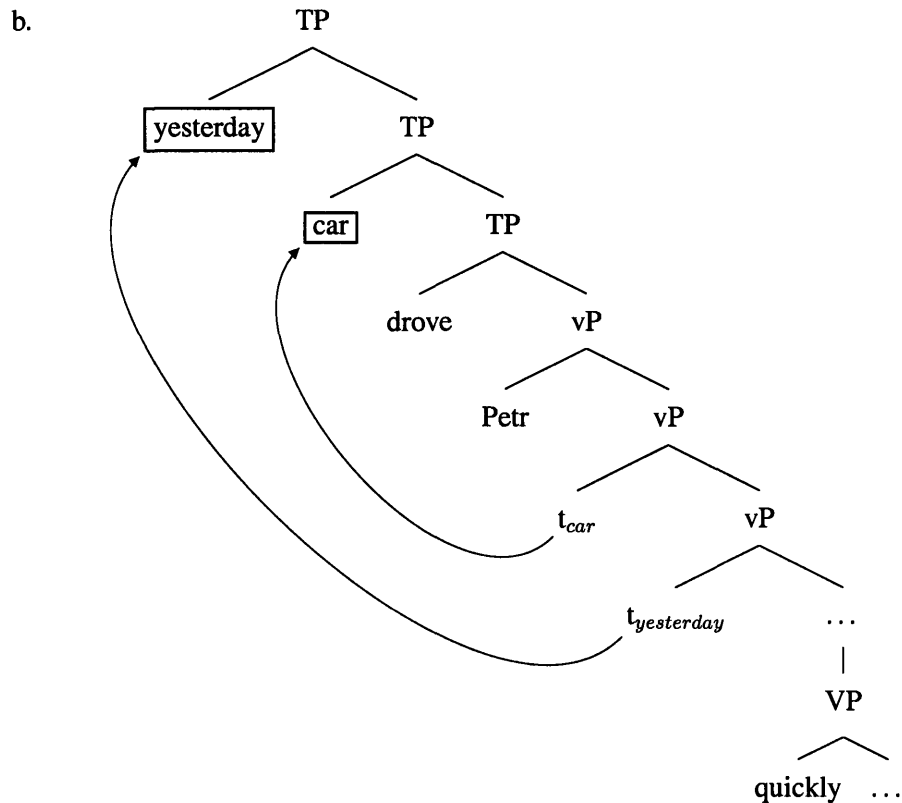
To sum up, we have seen in this section that G-movement can target a single given element as well as a constituent dominating more than one given element. I have argued that movement of a constituent containing more than one given element is preferred to moving the given elements separately. Whether such a constituent may G-move depends on two factors: (i) such a constituent must independently be able to move, and (ii) the constituent may dominate at the point of G-movement only given elements. I have argued that the variety of word order patterns found in Czech arises from a combination of the two moving strategies: (i) given elements moving separately, and (ii) given elements moving as one constituent. Thus, G-movement turned out to a sufficient tool for deriving the complex Czech data. But we have also seen that we do not have yet a sufficient metrics that would decide when exactly G-movement is licensed. In chapter 4 I will show how the syntax-semantics interface decides when G-movement is licensed and when it is not.

3.3　Summary

In this section, we have seen how G-movement introduces a sort of verb second pattern in which the given elements are moved around the verbal head, unless such a given element is the last element merged in the relevant part of the derivation. I have argued that if more than one given element can move as one constituent such a derivation is preferred to a derivation in which the given elements undergo independent movement. In contrast, if several given elements cannot move as one constituent, they must move independently. The independent instances of G-movement must obey the Path containment condition. I argued that a combination of these two strategies – *order preserving* movement of one constituent containing several given element versus *order reversing* movement of several given elements – derives the variety of word order patterns found in Czech.

In the next chapter I will address the question of what drives G-movement. I will built on results from this and the previous chapters, mainly on the conclusion that G-movement is an extremely local, last resort operation that seems to be insensitive to possible feature percolation. I will propose that G-movement is free movement that is restricted only by interface requirements, in particular, by the syntax-semantics interface.

Chapter 4

Semantic Interpretation

The proposal to be developed here is similar to recent proposals that attempt to tie information structure related movement to properties of the syntax-phonology interface (for example, Cinque 1993; Reinhart 1995; Zubizarreta 1998; Arregui-Urbina 2002; Szendrői 2003). Even though I assume that the phonological facts should be derivable from the proposed syntactic structure, the syntax-phonology interface is not understood here as the trigger of overt syntactic movement. I will argue instead that the burden should be put on the syntax-semantics interface.

The basic idea behind my proposal is that G-movement is free syntactic movement restricted by semantics in the sense that syntactic items move in order to create a partition between elements to be interpreted as given and elements to be interpreted as new (cf. Neeleman and van de Koot 2006 for a similar idea). The partition is interpreted by the semantic module as a partition between what is presupposed and what is not, while satisfying the Maximize Presupposition maxim (cf. Heim 1991).

As we will see, however, G-movement is only one part of a system of marking elements as given. I will concentrate here on coordinations and basic word order structures in which the same requirement on a partition between given and new applies even though there is no movement attested.

The chapter is structured as follows. First, I will recapitulate the syntactic results of the previous chapters and I will highlight the type of data that the current syntactic system cannot account for. In section 4.2, I will introduce a semantic operator the purpose of which is to recursively mark syntactic elements as presupposed. In sections 4.3, I will develop a system which uses the Maximize Presupposition maxim of Heim (1991) to distribute the semantic operator and to evaluate syntactic derivations with respect to givenness. Section 4.4 will present the system in more details. Sections 4.5 and 4.6 will formalize the notion of givenness in Czech and address the question of how givenness in Czech relates to deaccentation in English. Section 4.7 shortly addresses the role of phonology in the system and finally section 4.8 concludes the chapter.

4.1 Where we stand

In the previous chapters I have introduced G-movement as a tool to derive a hierarchical partition between given and new material. We have seen that in order to derive the word order within the given part the movement must be extremely local and cyclic. We have also seen that this type of movement is a last resort operation in the sense that it takes place only when it is needed to achieve a distinct semantic interpretation. Crucially, we have also seen that an element may be given *without* undergoing G-movement.

I have provided evidence suggesting that G-movement is not feature-driven: G-movement may take place at any point of the derivation. The only relevant criterion is the information structure status of a newly (re-)merged item. Interestingly, the movement of α is restricted by head movement of the head in the projection in which α was originally merged. I have suggested that we should understand the relation between head movement and G-movement as a kind of a parasitic relation: head movement creates a landing site for α. The idea is that in case there is no feature attractor, an element must exploit an independently existing structure.

Since elements can be given without undergoing G-movement, G-movement *per se*

does not mark an element as given. G-movement only creates a structure in which such an element may be interpreted as given. The syntactic module does whatever it can do within its own limitations and it is up to the interface(s) to figure the relevant interpretation and to license the structure. Notice that, except for the head movement restriction, we have not seen any constraints on G-movement that are not attested elsewhere in the syntax of Czech.
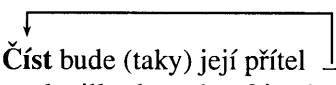
Is this right, though? Is the only purpose of G-movement really to create a particular configuration? As we will see, this is indeed so. A piece of direct evidence comes from coordination facts. Even though there is no movement attested within (and out of) a coordination, a given element must still linearly precede a new element. Consider the examples in (2) and (3). In the relevant context, (1), only the verb 'read' is given. As we can see, it must linearly precede the new verb 'translate'. The examples in (4) are here as a control to show that if the verb 'read' were not trapped within a coordination it would have to move. Boldface in the following examples stands for given.

(1)   Many of my friends have recently decided to change their lifestyle...

   a.   Tak jedna moje kamarádka bude víc   **číst**. ←— $\boxed{\texttt{context}}$
          so one my   friend   will more read
          'For example, a friend of mine will read more.'

(2)   A její přítel bude [**číst** a   překládat]. ←— √new > **VP** & VP
        and her friend will read and translate
        'And her boyfriend will read and translate.'

(3)   #A její přítel bude [překládat a   **číst**]. ←— # VP & **VP**
         and her friend will translate and read
         'And her boyfriend will translate and read.'

(4)   a.   **Čís**t bude (taky) její přítel __.
                read will also   her friend
                'Her boyfriend will read as well.'

        b.   #Její přítel bude **číst**.
                her friend will read

The same pattern emerges with coordinated DPs. As we can see on the contrast between (6-a) and (6-b), a given DP must precede a new DP. Thus, the emerging pattern can be summarized as in (7), where boldface stands for given.

(5)   Na programu byla diskuse   o   nové učitelce.   ⟵ ⎡context⎤
       on program was discussion about new teacher
       'The topic of the program was a discussion about a new teacher.'

(6)   a.   **Učitelku** a žáky   to překvapilo. ⟵ ✓**DP** & DP
             teacher   and students it surprised
             'The teacher and students were surprised by it.'

       b.   #Žáky   a   **učitelku** a to   překvapilo. ⟵ # DP & **DP**
             students and teacher   it surprised
             'Students and a teacher were surprised by it.'

(7)   **Generalization about coordination:**

       a.   **A & B**

       b.   **#B & A**

The facts are, however, more subtle. Recall the discussion about distribution of pronouns in section 1.5. We have seen that in general a given DP cannot be asymmetrically c-commanded by a new element. In such a configuration the DP must be realized as a pronoun or it must be modified by a demonstrative pronoun. The same holds here. Within a coordination, a given DP may follow a new element only if the DP is pronominalized, as in (8).

(8)   a.   #Žáky   a   **učitelku** to překvapilo. ⟵ # DP & **DP**
             students and teacher   it surprised
             'Students and a teacher were surprised by that.'

       b.   Žáky   a   **tu učitelku** to překvapilo. ⟵ ✓DP & **that** DP
             students and that teacher it surprised
             'Students and that teacher were surprised by that.'

       c.   Žáky   i   **ji**   to překvapilo. ⟵ ✓DP & **pronoun**
             students and her it surprised
             'She (=the teacher) and students were surprised by that.'

The pronominalization facts bring up another important issue. Recall that in section 1.5

118

we have seen that if a DP coordination is asymmetrically c-commanded by new material, a given DP is degraded even if it is the first conjunct. Interestingly, coordinated VPs behave differently. As we have seen in (2), there is no problem for a VP conjunct to be asymmetrically c-commanded by a new material, as long as the given conjunct precedes the new conjunct.

One might think that the difference between a VP and a DP coordination lies in that there is no pronominal/anaphoric element that could replace a VP trapped in a coordination. Before we try to develop a system that could capture the difference between nouns and verbs, let's first check whether the existence or non-existence of an anaphoric element is the relevant difference. If the difference is really between having and not-having an anaphoric counterpart, we expect that the difference should hold even within the same lexical category in case that differing lexical items have or do not have an anaphoric counterpart. Such a category is adverbs. As we can see in the examples in (11), non-pronominalized adverbials show the same restriction on ordering as DPs and VPs. Interestingly, the restriction on ordering disappears once we replace the adverbial 'in Boston' with pronominal adverb 'here', as in (12).[1] Thus, we see the same pattern as with DPs. There is, however, an interesting contrast. While in the case of a DP coordination, pronominalization is obligatory, in case of coordinated adverbs it seems to be optional. Thus adverbials seem to pattern partially with DPs and partially with VPs. One could argue that the difference might lie in the uncertainty of judgments related to temporal and spacial indexicals. Even if I utter the sentence in (11-a) in Boston, it is not clear that being in Boston is the common ground between the participants of the communication. It might be understood as being in Cambridge, being at MIT, being in my office etc. In section 4.3 I will argue, though, that it is possible to account for the difference on independent grammatical grounds. The difference between having or not having a pronominal counterpart will be only indirect for the proposal developed here.

(9)   My social life in Boston is bearable because... ←— context

---

[1] In contrast to English, Czech 'tady' is an anaphoric element, unlike 'here'. Non-anaphoric counterpart of 'here' is 'zde'.

(10)   v **Bostonu** žije taky moje kamarádka Petra.
       in Boston lives also my   friend   Petra
       '... my friend Petra lives in Boston as well.'

(11)   a.   moje kamarádka Petra žije napůl v **Bostonu** a   napůl v New Yorku.
            my   friend   Petr lives half   in Boston and half in New York
            '... my friend Petra lives half in Boston and half in New York.'

       b.   #moje kamarádka Petra žije napůl v New Yorku a   napůl v **Bostonu**.
            my   friend   Petr lives half   in New York and half in Boston
            '... my friend Petra lives half in New York and half in Boston.'

(12)   a.   moje kamarádka Petra žije napůl **tady** a   napůl v New Yorku.
            my   friend   Petr lives half   here and half in New York
            '... my friend Petra lives half here and half in New York.'

       b.   moje kamarádka Petra žije napůl v New Yorku a   napůl **tady**.
            my   friend   Petr lives half   in New York and half here
            '... my friend Petra lives half half in New York and half here.'

To summarize, we have seen that there are two different strategies to mark a syntactic element in Czech as given. (i) Either an element is in an appropriate configuration (given precedes new), or (ii) it is lexically marked as given. The appropriate configuration can be achieved either by base generation or by G-movement. The relevant environments we have discussed so far are summarized in (13). We have also seen that failing to be in an appropriate configuration is not necessarily a problem but the facts are more subtle as we have seen on coordination of adverbs.

(13)   **Summary of environments in which a given element must precede a new element:**

       a.   finite clause (may involve cyclic G-movement)

       b.   domain defined by verb movement (may involve local G-movement)

       c.   coordination (no movement)

The syntactic mechanisms introduced so far create the right partition when some G-movement takes place. It cannot, however, account for the word order constraint in coordination and it cannot account for the distributional pattern of pronominalized versus non-pronominalized elements because G-movement is the only mechanism that can improve a suboptimal struc-

ture. The question is whether we can do better.

Let's first see whether we can do better if we take into account current insights about the syntax of the information structure. There are two main approaches to consider: cartographic approaches (Rizzi, 1997, 2004; Cinque, 2002; Belletti, 2004; Aboh, 2004, among others) and interface-driven approaches (Vallduví, 1992; Cinque, 1993; Reinhart, 1995; Erteschik-Shir, 1997; Zubizarreta, 1998; Arregui-Urbina, 2002; Szendrői, 2003, among others).[2] The cartographic approaches cannot deal with the Czech word order data. Such an approach would have problems with ordering within the given part (when should the order be preserved, when should it be reversed?), with ordering within a coordination (if feature checking can be done by Agree, why this option is not available for any given element?), and with the fact that not only given but sometimes also new elements (a finite verb) undergo movement. The interface-driven approaches (more precisely approaches which rely on the syntax-phonology interface) deal with the Czech data much better. For example, if we consider a rather abstract version of the nuclear stress rule, we might be able to account for most of the ordering patters. But unfortunately, exactly the cases which cannot be captured by G-movement, such as ordering within a coordination and the difference between coordinated DPs and coordinated VPs, would be left aside as well. Furthermore, a phonology driven approach does not provide any insight for deriving the empirical generalization.

I argue that the missing part in our understanding of givenness is the syntax-semantics interface. Even though many of the above mentioned authors are concerned with the semantic interpretation of givenness (or focus), the syntax-semantics interface is not understood as the key component. Instead, the syntactic component or the phonology component works in parallel to the semantics. I argue that we indeed want to put the main burden on the semantic component, more precisely on the semantics and the pragmatic component. Once we do this, we do not need to refer at all to information structure in syntax and/or in

---

[2]I do not comment here on optimality theory approaches (Choi, 1999; Downing et al., 2006; Zerbian, 2006, among others) and functionalist approaches (Sgall et al., 1986; Firbas, 1992, among others).

phonology.

Notice that we have never defined what it means to be given in Czech. Following Schwarzschild (1999), I argue that a given element in Czech must have a salient antecedent. As we will see in section 4.5, however, this is not a sufficient condition for givenness in Czech. For an element to be given in Czech, the element must be *existentially presupposed.*

(14)   For α to be given,

      a. α must have *a salient antecedent* (cf. Schwarzschild 1999), and

      b. α must be presupposed.

Consider now the following English example. The relevant utterance is the utterance in (15-c). As we can see in (16) the Czech counterpart of (15-c) is infelicitous, unless the string is reordered as in (16). The crucial question is why (16) is not well-formed.

(15)   a.   Q: Any news about Mary or her sister?

      b.   A: Not much. But I've heard that...

      c.   *the new president fell in love with Mary.*

(16)   #Nový prezident   se   zamiloval do **Marie.**
      new   president.Nom REFL loved   into Marie.Gen
      'The new president fell in love with Marie.'

(17)   **Do Marii**   se   zamiloval nový prezident.
      into Marie.Gen REFL loved   new president.Nom
      'The new president fell in love with Mary.'

The answer to this question is in fact far from being trivial. We know that the utterance in (16) is syntactically well-formed. As the semantic interpretation is concerned, the utterance is well formed as well. There is no problem with interpreting the utterance irrespectively of whether or not *Marie* is presupposed. Furthermore, according to our informal definition of givenness in (14), if *Marie* is presupposed, *Marie* is given. To conclude, with our current system, there is no reason for *Marie* to G-move. We predict that the utterance in (16) should be well formed and felicitous which is incorrect. This is true in general: in the system in

place there is no reason for an element to G-move.

I argue that the problem lies in a peculiarity of Czech that is schematically captured in (18). Roughly, an element cannot be presupposed without structurally higher elements in the same domain being presupposed as well.

(18)   **A peculiarity of Czech:**

Within a domain $[_{Dom}$ Y ... X], if X is presupposed, so is Y.

With respect to the utterance in (16), there are two options that can arise. Either (i) *Marie* is presupposed, or (ii) *Marie* is not presupposed. Let's evaluate these two options. (i) If *Marie* is presupposed, it follows from (18) that 'new president' must be presupposed as well. But such an interpretation would lead to Presupposition failure. What about the other option? If we do not presuppose *Marie*, nothing goes wrong either in syntax or in semantics. I argue that in order to exclude option (ii) we need to refer to a pragmatic principle called Maximize Presupposition, given in (19). I argue that if *Marie* in (16) is not presupposed then (16) violates the Maximize Presupposition maxim.

(19)   **Maximize Presupposition** (after Heim (1991))

In context C use the most informative presupposition satisfied in C.

We can thus conclude that (16) is not well formed because *Marie* cannot be interpreted as presupposed in this particular syntactic configuration. The only way to interpret *Marie* as presupposed is to change the structure, i.e, to move *Marie* above the new elements.

To formalize the idea about marking givenness introduced in this chapter, we will first need to derive the descriptive generalization about Czech given in (18). Then I will introduce a formal evaluation component that allows to decide what structure satisfies the Maximize presupposition maxim in the relevant context. I will argue for a global comparison system which will evaluate syntactic structure at the level of a phase.

More concretely, in the next subsection I will derive (18) by introducing a semantic operator which recursively marks syntactic elements as presupposed. Then I will show how this operator interacts with Maximize Presupposition. I will also show how the modified system can account for the Czech cases discussed in chapters 1–3. In section 4.3 I will show how the modified system can account for the coordination facts that have been a problem for the original system. Section 4.5 formalizes the notion of givenness in Czech and in section 4.6 I will address the question of the relation of G-movement in Czech and deaccentation in English. Finally, in section 4.7 I will show why a syntax-phonology interface system is not a viable alternative.

It has already been suggested that Maximize Presupposition may license movement (see Wagner (2005, To appear a) and Wagner (To appear b)). I want to extend the idea to licensing other grammatical structures as well. Roughly, Maximize Presupposition may be used for global comparison of different derivations. It is up to the reference set to incorporate whatever are the relevant means of expressing givenness in a particular language. The intuition to capture is that there may be more than one grammatical tool to consider within the comparison set. Thus, while some languages use, for example, morphological marking (for definite articles) or prosodic tools (deaccenting) as means which can give rise to a presupposition (can pick up a unique referent from the discourse), other languages may have other tools. I argue that Czech uses movement (cf. Hlavsa (1975) for a similar idea) and a linear partition between given and new as such a tool.[3]

4.2 Marking givenness by an operator

Recall that the example in (16) is not well formed no matter whether or not *Marie* is presupposed. If *Marie* is not presupposed the pragmatic principle Maximize Presupposition is violated. In contrast, if Marie is presupposed, (16) is out because of the peculiarity of

---

[3]Notice I do not claim that in Czech givenness corresponds to definiteness. Even though there may be a partial overlap these are two different notions.

Czech characterized in (18). The question is whether we can derive (18), repeated below as (20).

(20)   **A peculiarity of Czech:**

Within a domain $[_{Dom}$ Y ... X], if X is presupposed, so is Y.

Roughly, we need something that adds to an element a presupposition without affecting the assertion. I will implement this idea by using a semantic operator that I will call *G-operator*.

In principle we could have a semantic operator that could apply anywhere in the structure and which would mark its sister as given (see Sauerland (2005) for such a proposal for English). Consider the structures in (21) and (22) demonstrating such a proposal.

(21) $\Longrightarrow$ (22)
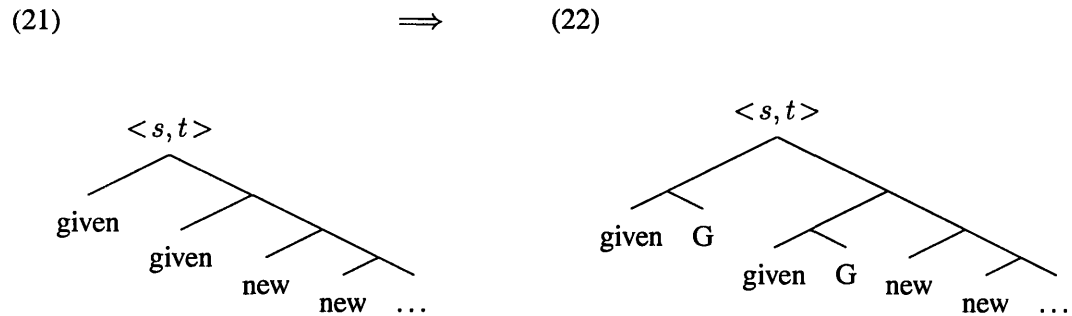
This structure does not seem to be right because such an operator would not capture (18) and as a result no movement would be needed. Recall that even though sometimes elements can be interpreted as given in situ, they usually relocate to the left edge of its domain.

Furthermore, as the following subsection intends to show the relevant domains for movement and for spreading presuppositions correspond to a proposition (type $< s, t >$). We thus need an operator that can take more than one element (a recursive operator) and that is sensitive to semantic types in that it terminates on type $< s, t >$.

125

(23) $<s,t>$

given

given

$\boxed{G}$

new

new ...
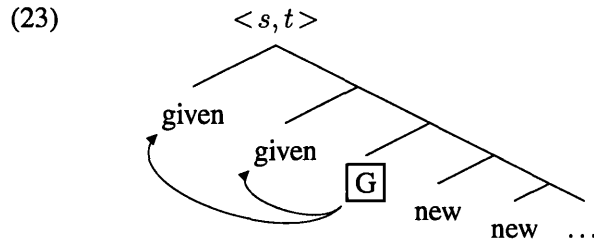
In this section I will propose such recursive operator. I will show how the operator motivates the location of given elements on the left edge of their domain and the fact that the domains correspond to propositions. In section 4.2.1, I will give arguments for the domains being propositional. Next, in section 4.2.2, I will define the operator and I will show how it interacts with the Maximize presupposition maxim.

4.2.1 G-movement domains are propositional domains

So far, we have seen several types of domains within which G-movement takes place. Either (i) the domain corresponds to a finite clause, which we can take to be a proposition without any further discussion, or (ii) the domain is whatever is selected by a tense auxiliary, or (iii) the domain is a small clause.[4]

If we assume that a tensed auxiliary selects for a proposition, following Ogihara (1996), among others, we can conclude that in all the cases discussed so far, the relevant domain of G-movement is a proposition. The relation is schematized in (24). The examples in (25)–(27) illustrate the relation between a tense auxiliary and the domain of G-movement.

(24)   a. **Future:**

Aux-v $<_{proposition}$ VP $>$

b. **Past:**

Aux-T $<_{proposition}$ vP + VP $>$

c. **Present:**

---

[4]I put aside DPs and coordinations where we have not detected G-movement. I will get back to the coordination facts in section 4.4.

$<_{proposition}$ (CP) + TP + vP + VP $>$

(25)   *Future:*

    a.   What will happen with all the money that were found in the building?

    b.   Nějaký úředník   [$_{vP}$ **bude** [$_{VP}$ 〔peníze〕 ‖ pravidelně posílat opuštěným
        some   clerk.Nom   will   money.Acc regularly send lonely
        dětem.]]
        children.Dat
        'A clerk will regularly send the money to lonely children.'

(26)   *Past:*

    a.   What happened with all the money that were found in the building?

    b.   Nějaký úředník   a   já [$_{TP}$ **jsme** [$_{vP}$ 〔peníze〕 ‖ pravidelně posílali
        some   clerk.Nom and I   were   money.Acc regularly sent
        opuštěným dětem.]]
        lonely   children.Dat
        'A clerk and regularly sent the money to lonely children.'

(27)   *Present:*

    a.   What happens with all the money that were found in the building?

    b.   〔Peníze〕 ‖ posílá pravidelně nějaký úředník   opuštěným dětem.
        money.Acc   sends regularly   some   clerk.Nom lonely   children.Dat
        'A clerk and regularly sends the money to lonely children.'

So far the correlation between auxiliary selection and the domain of G-movement being a proposition is only suggestive. Even though such a correlation is possible, the relation is not straightforward. Furthermore, the assumption that tense selects a proposition has been questioned in recent literature on tense (Kusumoto, 2005).

In the rest of this subsection I will build an additional argument for treating domains of G-movement as propositions. The argument is based on behavior of propositional modifiers such as 'again'. Modifiers such as 'again' are known to be able to attach at different levels of a syntactic structure and their different syntactic position corresponds to different scope properties. Bale (To appear) has noticed that while the attachment site of modifiers like 'again' may vary, the constituent 'again' attaches to is always a proposition. Since only

a proposition gives rise to a presupposition we can test whether a constituent is a proposition or not by looking at presuppositions the modifier gives rise to.

Thus if the hypothesis about the relation between G-movement and propositions is correct, we predict that different tenses in Czech should have different presuppositions. Let's consider the difference between perfect versus imperfect future tense formation in Czech. While the imperfect future tense is formed by a v-generated auxiliary and an infinitive, the perfective future tense is formed by a synthetic finite verbal form. See the examples in (28).

(28)   a.   Marie   nakoupí   (*dvě hodiny).
            Marie.Nom shops.Fut.Perf two   hours
            'Marie will shop.'

       b.   Marie bude   nakupovat   dvě hodiny.
            Marie will.3.sg. shop.Inf.Imp two hours
            'Marie will shop for two hours.'

If we assume that the imperfective auxiliary selects for a proposition and that the subject is base generated as the specifier of vP, we predict that the structure may give rise to a presupposition that excludes the subject. In contrast, since in the perfective future tense the domain of G-movement is bigger than VP no subject-less proposition is predicted to be possible. The predictions are schematized in (29). As we will see shortly, the predictions are borne out.

(29)   a.   **Imperfective Future:**

        [$_{vP}$ Subject Aux $\boxed{[_{VP} \text{ again } event]]}$

        → *again* gives rise to a presupposition in exclusion of the subject

       b.   **Perfective Future:**

        $\boxed{[_{vP} \text{ Subject verb } [_{VP} \text{ again } \dots]]}$

        → *again* cannot give rise to a presupposition in exclusion of the subject

Consider first English examples with the modifier 'again'. Certain verbs (according to Bale, non-stative verbs) allow *again* to combine with the VP *without* giving rise to a presupposition containing the subject. Thus, as in the example in (30), it is enough that

128

someone hugged Esme to license *again* in 'Jon hugged her again.' For this sentence to be felicitous there is no requirement on Jon to have hugged Esme before. Thus, the subject is not part of the relevant presupposition otherwise the sentence with Jon would not be felicitous (unless there was an event in past in which Jon hugged Esme).

(30) simplified after Bale's (28):

  a. Jon and his wife love their daughter Esme, and Esme is reassured by overt expression of their love. For example, yesterday Esme felt reassured when her mother gave her a hug. The effect was doubled when...

  b. Jon hugged her again.

In contrast, other verbs (according to Bale, stative verbs) can combine with *again* at the VP level only if the relevant presupposition contains also the subject. As we can see in the example in (31), for someone to love Frank again, the person must have loved Frank before. The (c) example is here as a control to show that if the subject is not present in the structure there is nothing wrong with the presupposition triggered by 'again'.

(31) simplified after Bale's (47):

  a. Seymour's mother loved Frank, although she was the only one who did. After a while she no longer cared for Frank. However, Seymour became attached to the man, and developed strong feelings for him after his mother's love subsided. So...

  b. #Seymour loved Frank again.

  c. Frank was loved again.

Czech exhibits the very same cut as we can see in the Czech equivalents of the English examples, given in (32) and (33).

(32) a. Petr and his wife love their daughter Lucie, and Lucie is reassured by overt expression of their love. For example, yesterday Lucie felt reassured when her mother gave her a hug. The effect was doubled when...

b. Petr   zase objal Lucii.
Petr.Nom again hugged Lucie.Acc
'Petr hugged Lucie again.'

(33) a. Petr's mother loved Martin, although she was the only one who did. After a

while she no longer cared for Martin. However, Petr became attached to the

man, and developed strong feelings for him after his mother's love subsided.

So. . .

b. #Petr   zase miloval Martina.
Petr.Nom again loved   Martin.Acc
'Petr loved Martin again.'

c. Martin   byl zase milován.
Martin.Nom was again loved
'Martin was loved again.'

The cut in Czech is identical to the morphologically marked difference between perfec-

tive and imperfective verbs.[5] Thus, while imperfective verbs do obligatory give rise to

a presupposition containing the subject, perfective verbs are compatible with subject-less

presuppositions. Since most of Czech verbs have both imperfective and perfective stems

we can test the difference on minimal pairs.

(34) Imperfective version of *kick*:

a. Marie was kicking Petr for half an hour and then she stopped. Petr got re-

lieved but then. . .

b. #Jana   zase kopala   Petra.
Jana.Nom again kicked.Impf Petr.Acc
'Jana kicked Petr again.'

c. Petr byl zase kopán.

Petr.Nom was again kicked

'Petr was kicked again.'[6]

---

[5]I believe that Bale's conclusion that the relevant partition of verbs with respect to their propositional
properties is not correct. I think that even in English, the relevant difference is between perfective and
imperfective verbs. The difference is, however, not so easily detectable because English does not have any
overt morphological marking that would give a clear cut for Bale's cases. Bale lists several counterexamples
to his proposal. They all fall under the perfective/imperfective distinction.

[6]In fact, the passive form is slightly awkward but this is for independent reason: there is a lexical ambigu-
ity involved ('kick' and 'dig') because of which a native speaker would prefer impersonal passive to regular

(35)   Perfective version of *kick*:

    a.   Marie kicked Petr once and then she left. Petr got relieved but then...

    b.   Jana   zase kopla   Petra.
        Jana.Nom again kicked.Perf Petr.Acc
        'Jana kicked Petr again.'

We can see the morphological difference more clearly in the future tense because imperfective verbs form analytical future in contrast to perfective verbs which form synthetic future.

(36)   Imperfective version of *kick* – future:

    a.   Marie was kicking Petr for half an hour and then she stopped. Petr got relieved because he didn't know that...

    b.   #Jana   **bude** zase **kopat**   Petra.
        Jana.Nom will   again kick.Impf Petr.Acc
        'Jana would kick Petr again.'

(37)   Perfective version of *kick* – future:

    a.   Marie kicked Petr once and then she left. Petr got relieved because he didn't know that...

    b.   Jana   zase **kopne**   Petra.
        Jana.Nom again will-kick.Perf Petr.Acc
        'Jana would kick Petr again.'

To conclude, we have seen that there is a correlation between auxiliary selection and the size of a propositional domain. I argue that the presuppositional behavior discussed above provides additional evidence for treating domains of G-movement as propositions.

The other cases where we observed very local G-movement were small clauses and infinitival complements. Also here, we can safely assume that both small clauses and infinitival complements are propositions. To sum up, in all the relevant cases, the domain of G-movement corresponds to a proposition. In other words, given elements are adjacent

---

passive.

to type $<s,t>$. This will turn out to be crucial for the way we define the G-operator.

4.2.2 G-operator

Let's recapitulate where we stand. We need a meta-language object that would add a pre-supposition to a syntactic element. Such an object (i) needs to be able to add a presupposition to more than one element (in order to capture the pecualiarity of Czech schematized in (20)), and (ii) it may operate only within a propositional domain (we know that elements outside of a propositional domain does not need to be presupposed). I propose to implement such an object as a syncategorematic operator defined in (38).[7]

(38)   **G-operator:**

$$G(\llbracket B \rrbracket) = \begin{cases} \lambda A_\alpha : Given(A).G(\llbracket B\ A \rrbracket) & B \text{ is of type } < \alpha, \beta > \text{ for some } \alpha,\ \beta \\ & \text{other than } <s,t> \\ \\ \llbracket B \rrbracket & \text{for B of type } <s,t> \end{cases}$$

The operator takes a constituent B and marks its sister A as Given which rougly means that it adds a presupposition to A.[8] The operator is defined with respect to a syntactic constituent. Thus, whatever can be syntactically (and semantically) combined together qualifies as good arguments for the operator. There is a checking condition involved: the operator marks A as given only if B is not of type s,t. If B is of type s,t, the meaning of the G-operator is an identity function which returns $\llbracket B \rrbracket$.[9] Notice that it is immaterial whether the operator is inserted in the narrow syntax or at LF. The only important thing is that it is syncategorematic in the sense that it is not interpreted compositionally.

Let's consider a simple derivation to see how the operator works. In the example in (39), there is only one given element: 'lollipop'. The corresponding LF structure is given in (40).

---

[7]I am grateful to Irene Heim and Roni Katzir for discussing the properties of the G-operator with me. The formulation of the operator in (38) is due Roni Katzir.

[8]I will introduce a formal definition of Given in section 4.5.

[9]To my knowledge, Schwarzschild (1999) was the first to observe that interpreting givenness instead of focus allows given elements to be interpreted in a recursive fashion.

I follow here Heim and Kratzer (1998) in treating movement as inducing λ-abstraction. But I modify their proposal in assuming that the operator is inserted above the λ-abstractor. Furthermore, I assume that if there is more than one given element the G-operator is above all the λ-abstracts (cf. Nissenbaum (1998), Nissenbaum (2000) and Beck and Sauerland (2000)). This is necessary for the G-operator not to terminate below the given elements.

(39) **Lízátko** našel chlapec.
      lollipop found boy
      'A boy found the lollipop.'

(40)
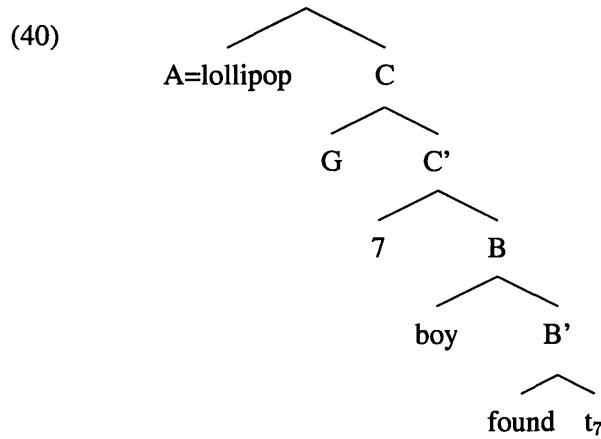
Simplifying significantly I assume that head movement is not relevant for the interpretation. I also assume that both *lollipop* and *boy* are individuals. The semantic interpretation is given in (41)–(44). For the sake of simplicity of the derivation I treat propositions in the following derivations as type t.

(41) $[\![found]\!] = \lambda x.\lambda y.$ y found x

  $[\![B']\!] = \lambda y.$ y found x_7

  $[\![B]\!]^g = 1$ iff boy found $g(x_7)$

  $[\![C']\!] \in D_{et} = \lambda x_7.$ boy found x_7

(42) $[\![C]\!] = G([\![C']\!])$ $= [\![G]\!](\lambda x_7.$ boy found $x_7) =$

  $= \lambda h_e$: Given(h). $[\![G]\!]([\lambda x_7.$ boy found $x_7](h)) =$

  $= \lambda h_e$: Given(h). $[\![G]\!]($boy found h$) =$

  $= \lambda h_e$: Given(h). boy found h

133

(43)   a. $[\![A]\!] = 1$ (for *lollipop*)

       b. $[\![boy]\!] = b$

      where b and l are individuals

(44) $[\![AB]\!] = 1$ iff

     $[\![C]\!] ([\![A]\!]) = 1$ iff

     $[\ G\ (\lambda x.\ b\ found\ x_7)]\ (l) = 1$ iff

     $[\lambda h_e\colon\ Given(h).\ G\ ([\lambda x_7.\ b\ found\ x_7](h))](l) = 1$ iff

     $[\lambda h_e\colon\ Given(h).\ b\ found\ h](l) = 1$ iff

     l is given: when defined $= 1$ iff and b found l

As we can see, the G-operator marks A (lollipop) as given but then it terminates because after the lollipop combines with the rest of the clause (boy found), the structure is of type t, thus the G-operator returns an identity function. Notice that if there was more than one given element, the operator would not terminate but instead it would mark the next element as presupposed.

The reader might be puzzled that the operator leaves intact its complement and instead it propagates upwards. A more conventional idea of a semantic operator is an operator that applies only to its complement. Notice, however, that such a binary operator is not uncommon. This is exactly how, for example, the generalized conjunction (Partee and Rooth, 1983) or *-operator of Beck and Sauerland (2000) work.

The G-operator as it is defined now does two things for us. First of all, it marks everything from a certain point up as given and it stops at the edge of a propositional domain. Furthermore, once given elements start moving they need to continue moving. The reason is that if there were a new element between two given elements it would be marked as presupposed as well because the operator would not terminate and the new element would be necessarily marked as presupposed which would lead to presupposition failure. Recall that for the operator to terminate, the relevant constituent must correspond to a proposition. We have thus derived the peculiarity of Czech from (20).

Notice, however, that the G-operator per se does not motivate movement. According to the definition an element can be marked as presupposed even in situ. Consider the following structure. For sake of simplicity let's assume that this particular VP is propositional.

(45)

$$VP_s t$$

$$B=V_{set} \quad G \quad A=object_e$$
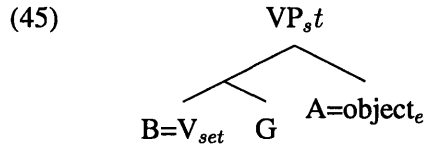
In this particular configuration, there is no problem for the G-operator to mark the object as presupposed while leaving everything else intact.

(46) $[\![B]\!] = \lambda x_e.$ shoot x

         $[\![A]\!] =$ movie (individual)

(47) $[\![B']\!] = G(B) =$

         $G(\lambda x_e.$ shoot x$) =$

         $\lambda h_e:$ Given(h). G $([\lambda x_e.$ shoot x$](h)) =$

         $\lambda h_e:$ Given(h). G (shoot h) $=$

         $\lambda h_e:$ Given(h). shoot h

(48) $[\![AB]\!] = 1$ iff

         $[\![B']\!] ([\![A]\!]) = 1$ iff

         $[\lambda h_e:$ Given(h). does h] (movie) $= 1$ iff

         movie is given: when defined $= 1$ iff shoot movie

At this point I do not know any principled way to block such a derivation. But the facts are clear: we want the G-operator to be able to adjoin to an extended projection, not to a lexical head. In a way, we want the operator to behave like a syntactic adjunct.[10]

---

[10]This seems to be a reasonable assumption. While some languages might be able to adjoin their semantic operators to any syntactic element, others might be more restrictive. See, for example, Büring and Hartmann (2001), for arguments that while in English focus sensitive particles may be adjoined to any syntactic element, in German they can be adjoined only to a maximal verbal projection.

(49)   A G-operator cannot adjoin between a lexical head and its complement.

The ban on adjoining the G-operator between a lexical head and its complement predicts that in case of a basic word order, anything except for the most embedded element can be given. This follows from the fact that there is no way to insert a G-operator so it could scope over the most embedded element. This is a welcome prediction because an utterance in which everything is given is perceived as infelicitous.[11]

The question that arises is how the grammar knows where to introduce the G-operator. I argue that the operator's distribution is determined by Maximize presupposition, repeated below.

(50)   **Maximize Presupposition** (after Heim (1991))

In context C use the most informative presupposition satisfied in C.

The consequence of the maxim is the presuppositions we consider are scalar presupposi-tions.[12] The reason is that the maxim requires the speaker to use the logical form which marks the strongest presupposition compatible with the common ground (Stalnaker, 1973, 1974). The question is how we restrict the set of presuppositions that are relevant for a particular utterance. The recent proposals based on Maximize Presupposition such as, for example, Sauerland (2003) and Percus (2006) build the relevant set by replacing a lexical item with its scalar mates (Horn, 1972) within a fixed structure.

Replacing scalar mates within a fixed syntactic structure would not, however, work in our case. I argue that if we want the maxim to regulate the distribution of the G-operator, the

---

[11]Notice that we have just derived the fact that given elements do not bear the main sentential stress which in Czech falls on the rightmost prosodic word, which in turn corresponds to the most embedded part of a tree. I will comment on prosody versus givenness more in section 4.7. Notice also that in proposals based on focus projection or in cartographic approaches, the fact that anything except for the most embedded part of the tree can be given cannot be derived.

[12]I treat the Maximize presupposition maxim as a primitive but see Schlenker (2006) for arguments that it might be possible to derive the maxim from neo-Gracean reasoning, if we take into an account the notion of common belief of Stalnaker (2002). But as even Schlenker admits, the results are inconclusive. See also Magri (2007) for further arguments that Maximize Presupposition cannot be reduced to neo-Gracean reasoning.

reference set must contain different syntactic (syntactic in the broad sense) derivations (see Reinhart (1995); Fox (1995); Reinhart (2006) for proposals using reference set computation over structures).[13] Thus, we need a definition of a reference set that would allow us to compare different structures with and without a G-operator. Such a definition is given in (51).

(51)   **Reference set for Maximize Presupposition evaluation**

For purposes of Maximize Presupposition, the reference set, toward which Maximize presupposition is evaluated, consists of all derivations

a.   that are based on the same numeration and free insertion of a G-operator, and

b.   that make the same assertion.

I assume that the G-operator is not part of the numeration but it is a syncategoramatic operator which the semantic module can introduce without violating inclusiveness (for example, Chomsky (2000)). A crucial part of the proposal is that the semantic module has the capacity to license an otherwise illicit structure but only if there is no other way to achieve the desired interpretation (see also Fox (2000)). In our case, the illicit operation under the discussion is G-movement. We have derived that G-movement is allowed only if it affects the semantic interpretation. Now we can define the relevant condition more precisely.

(52)   **Economy condition on G-movement:**

The only structure that is allowed is the structure that has the smallest number of G-movement which leads to the relevant interpretation (i.e., assertion and presupposition).

The new condition on G-movement has several welcome consequences. First of all, we no longer need to distinguish between movement of a head for givenness and movement of a head which facilitates G-movement. Under the current definition, the only thing that matters is whether the resulting structure allows to insert a G-operator in a position that would not be available otherwise. Whether the movement affects a new or a given element

---

[13] I assume that both Sauerland (2005) and Wagner (To appear) define their reference set as a set of derivations as well. Neither of them is explicit about it, though.
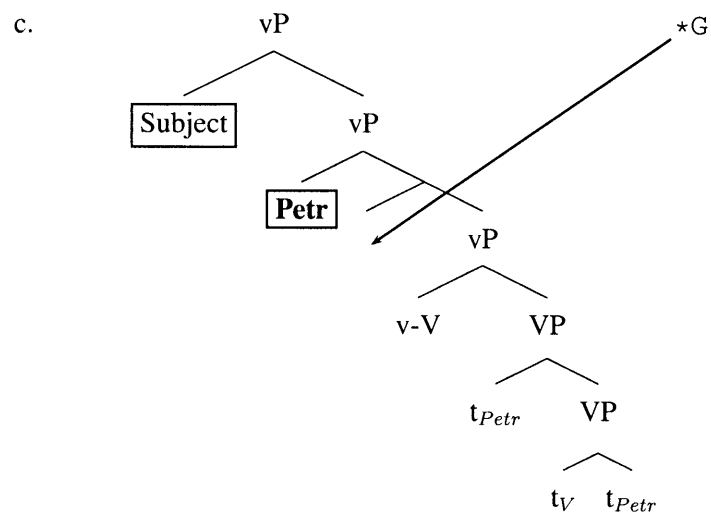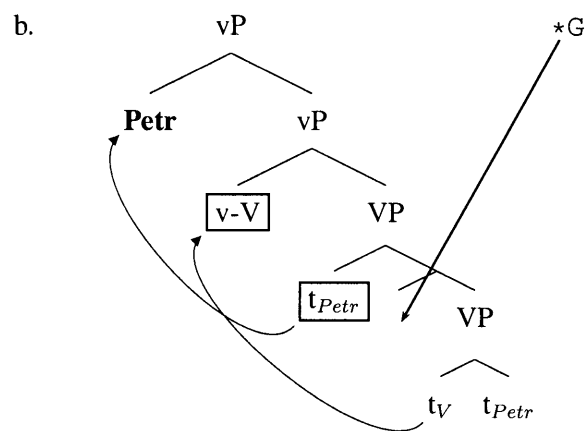
is irrelevant. To see this, consider the following example and its derivation.

(53)   a.   What about Petr?

        b.   **Petra** ‖ vítá   Marie.
             Petr.Acc   welcomes Marie.Nom
             'Marie welcomes Petr.'

Assuming that T projection does not need to be inserted in the present tense,[14] the derivation proceeds as in (54). First, the given object moves over the verb, as in (54-a). Then the verb moves to v. Now the object needs to move again, (54-b). Notice that it is not possible to mark the object by a G-operator within VP: since VP is not of an atomic type, the operator would necessarily affect structurally higher material (the verb and the subject; the elements in the scope of a G-operator are marked by a box). After the object moves to vP, the subject is merged, (54-c). In principle the derivation might be able to stop here. The problem is that in this configuration there is no position into which a G-operator could be inserted without marking also the subject as given (which would lead to Presupposition failure). Thus, there is no choice than to continue in the derivation: the verb moves to T, the object moves to Spec,TP and a G-operator can be finally inserted in a position which satisfies Maximize presupposition without leading to Presupposition failure, (54-d).

(54)   a.   VP

---
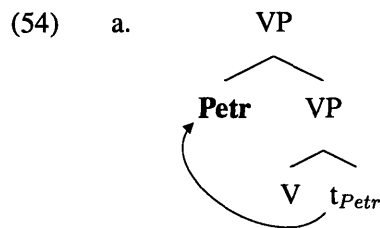
[14]I assume a grammar in which a functional projection is projected only if it is associated with overt material or if it is selected by a higher head. Cf. for example Wurmbrand (2006, To appear).

b.

```
            vP                              *G
          /    \                          /
      Petr       vP                     /
                /  \                   /
            [v-V]    VP              /
                    /  \           /
               [t_Petr]  VP      /
                        /  \
                      t_V   t_Petr
```

c.

```
            vP                              *G
          /    \                          /
    [Subject]    vP                     /
                /  \                   /
          [Petr]    \                /
                     \             /
                      vP
                    /    \
                 v-V      VP
                        /    \
                   t_Petr     VP
                            /    \
                          t_V    t_Petr
```

139

d.

```
                    TP                                          √G
              ┌─────┴──┐
        ┌───┐ │     ┌──┴──┐
        │Petr│ │     │     │
        └───┘ │     G     TP
              │           ┌──┴──┐
              │         v-V     vP
              │               ┌──┴──┐
              │            Subject   vP
              │                    ┌──┴──┐
              │                  t_Petr   vP
              │                         ┌──┴──┐
              │                       v-V      VP
              │                            ┌───┴──┐
              │                          t_Petr   VP
              │                                  ┌─┴─┐
              │                                 t_V  t_Petr
```

Thus, we can strengthen our previous discussion in that there is no direct relation between being given or new and undergoing G-movement. Syntactic G-movement is free movement. It is only up to the semantic module to decide whether such movement is licensed or not.

We are now in a position to understand why certain derivations cannot be improved by moving a phrase containing both given and new elements. Consider again example (14) from chapter 3, repeated below as (55).

(55) a. What will happen to the book?

      b. Marie   bude **tu knihu**   dávat   Petrovi.
          Marie.Nom will the book.Acc give.Inf Petr.Dat
          'Marie will give the book to Peter.'

The question is why the whole VP cannot move as in (56). In such a derivation, no new element would asymmetrically c-command 'book'. Thus, the partition between given and

140

new would be perfect.

(56) a. What will happen to the book?

b. #[**Tu knihu** ‖ dávat Petrovi] bude Marie.
the book.Acc give.Inf Petr.Dat will Marie.Nom
'Marie will give the book to Peter.'

c.

TP
├── VP
│   └── **book** give to-Peter t_{book}
└── TP
    ├── will
    └── vP
        └── Marie t_{VP}
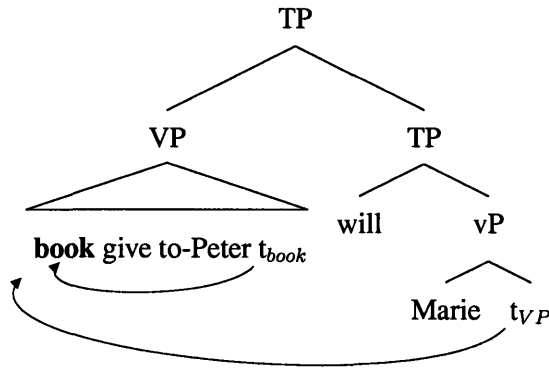
But we already know that the perfect partition is irrelevant here. The reason is that the only place where the G-operator may be inserted is between 'book' and 'give', as in (57). Any other position would lead to Presupposition failure. The position is, however, already available after the object G-moves within VP. Moving the whole DP does not bring in any interpretation that would not be already available after the first instance of G-movement. Therefore, G-movement of the whole VP is not licensed.

(57)

TP
├── VP
│   └── **book** [G] give to-Peter t_{book}
└── TP
    ├── will
    └── vP
        └── Marie t_{VP}
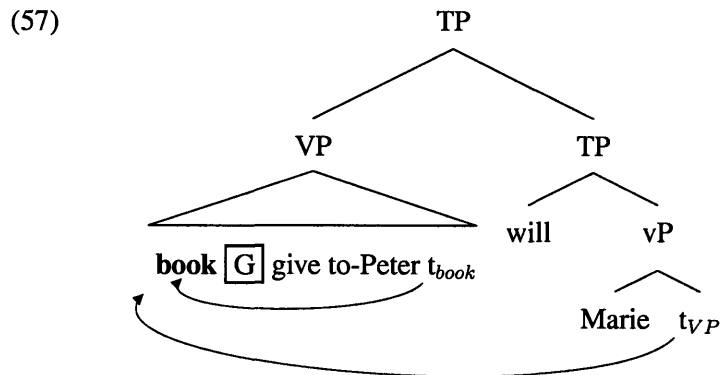
The same reasoning accounts also for the assumption that a constituent containing several given elements may G-move only if it contains *only* given elements. If there were any new

141

element, a G-operator would have to be inserted *within* the moving constituent, i.e., in the position in which it would have been inserted if the whole constituent did not undergo G-movement at all.

Let's summarize where we stand. We have an operator that can motivate given elements to be located in the left edge of its propositional domain and we know informally how the distribution of the operator can be regulated by the Maximize presupposition maxim. The open question is what happens if there is more than one propositional domain per finite clause. The prediction is clear. In principle, any propositional domain might have its own G-operator in the same way as it can have an independent linear partition between given and new. Consider the example in (58).

(58)   Marie bude **knihy** prodávat __.
        Marie will books sell
        'Marie will sell the books.'

The example in (58) is felicitous in the following two contexts:

(59)   Context I: only *books* given

        What will happen to the books?

(60)   Context II: everything given except for *sell*

        What will Marie do with the books?

Thus, there is one syntactic structure that can be interpreted in two different ways. The interpretations differ only in the number of G-operators in the structure. Either (i) there is only one operator, terminating at VP, or (ii) there are two different G-operators – one per each propositional domain.[15]

(61)   Context I: One G attached to the main spine:

---

[15]I assume that 'will' is not marked for givenness, otherwise the structure would have to contain three G-operators.

TP

Mary TP

T vP

will VP⟨⟩

books VP

G VP

sell t*books*

terminating point
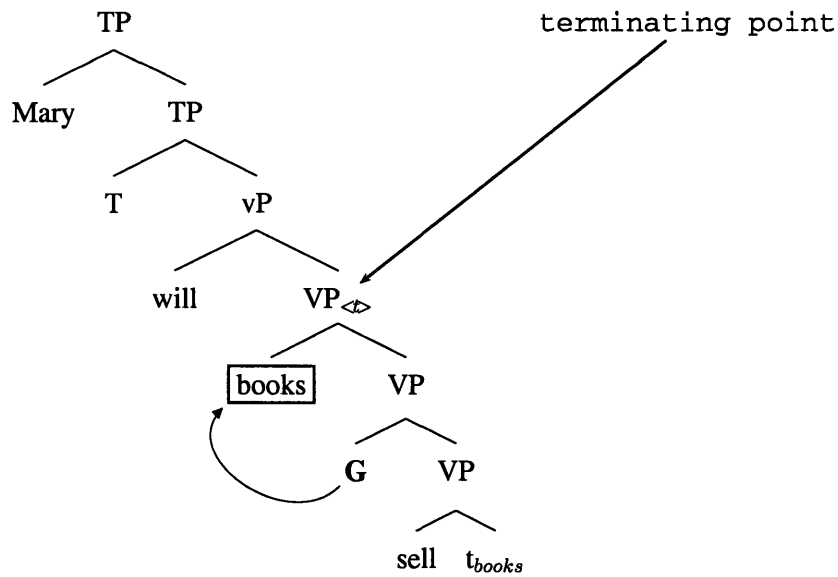
(62)   Context II: Two Gs attached to the main spine:

TP⟨⟩ ⟵──────────── terminating points

Mary TP

G TP

T vP

will VP⟨⟩

books VP

G VP

sell t*books*
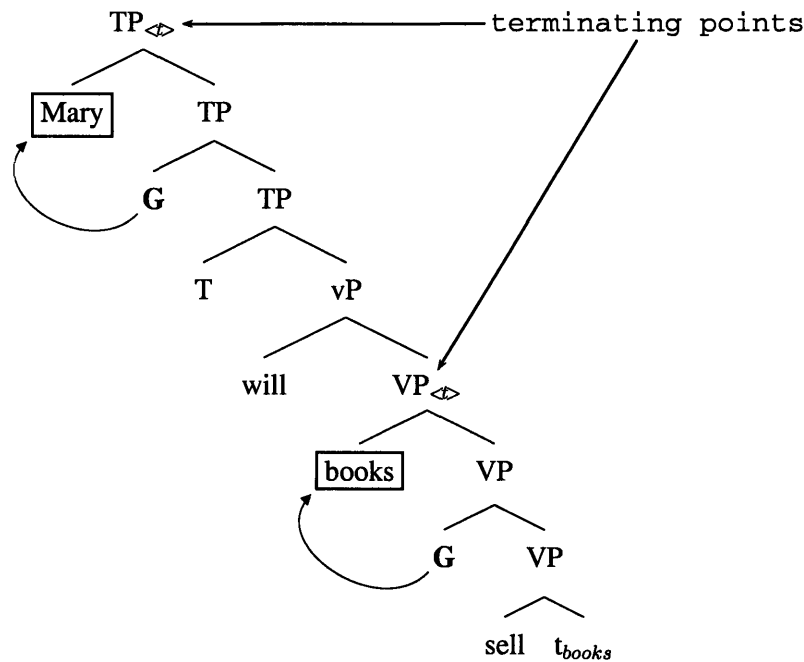
   In the same way as there can be two separate G-operators, there can be two domains of G-movement. Thus, for example, there is no problem with having separate G-operators and separate G-movement in a matrix and in an embedded clause, as can be seen in (63). In this sentence, the given elements *Petr* and *Marie* are objects in two different clauses and

143

they G-move within their clause, resulting in two independent partitions between given and new.

(63) a. Do you know anything about Petr and Marie?

b. Náhodou   jsem   slyšel, že **Petrovi** ‖ říkala nějaká paní, že
accidentally Aux.1sg heard that Petr.Dat told   some lady that
Marii   ‖ zaměstnali v ABB.
Marie.Acc employed.1pl in ABB
'I accidentally heard that some lady told Petr that Marie got employed in the

ABB.'

Similarly in infinitival structures, some of the structurally higher elements can be given as well, or they can undergo G-movement, as in (64).

(64) a. Do you know what Mary did with her famous boat?

b. **Marie** ‖ se   pokusila **loď** ‖ prodat.
Marie   REFL tried   boat   to-sell
'Marie tried to sell the boat (but no one wanted to buy it).'

c. **Marii**   ‖ nařídil soud   **loď**   ‖ prodat.
Marie.Dat ordered court.Nom boat.Acc   sell
'(You won't believe it but) a court ordered Marie to sell the boat.'

We can iterate the insertion of the G-operator even further, as in (65). In this case, one operator must be adjoined within the DP coordination (only one conjunct is given, not the whole coordination) and another operator is adjoined within the VP (below *boat*).

(65) a. Do you know what Mary is planning to do with her broken boat?

b. **Marie** ‖ a nějaký automechanik budou **loď** ‖ v létě opravovat.

Marie and some car mechanic will boat in summer repair

'Marie and some car mechanic will repair the boat in the summer.'

To summarize, we now have an informal way to characterize cases in which G-movement is licensed and we have a semantic operator which allows us to mark more than one G-element as presupposed. In the next section, I will develop a formal system which allows us to compare structures with respect to the Maximize presupposition in a more precise

144

way.

Before we get to the next section notice that we have derived the size of a domain of G-movement independently of head movement. The question is whether we still need the restriction on head movement or not. Also, it is not clear whether we can independently derive the fact that G-movement is very local.

It looks like the head movement restriction only doubles the locality restriction imposed by the G-operator. Is it really true? Recall that the domain of G-movement varies in the past tense depending on the presence or the absence of the auxiliary. The relevant examples are repeated below.

(66)   *3sg.:*

      a.   What happened to the boat that got demaged in the last storm?

      b.   **Loď** | opravil | jeden technik.
          boat.Acc repaired one technician.Nom
          'A technician repaired the boat.'

(67)   *1pl.:*

      a.   What happened to the boat that got demaged in the last storm?

      b.   Jeden technik   a   já | jsme | **loď** | opravili |.
          one technician.Nom and I Aux.1pl boat.Acc repaired
          'A technician and I repaired the boat.'

I assume that example (66) is a vP, while the example in (67) corresponds to a TP. Even though this is a non-standard assumption it follows from the hypothesis that functional projections are merged only when needed. Thus it looks like that we could reduce the restrictions on G-movement to properties of the G-operator. But I hesitate to do the step. The reason is that at this point I do not have a good understanding of free syntactic movement. It is well possible that for a language to have free syntactic movement, the language must have also flexible head movement. I will thus leave the answer for future research.

Another issue is whether we still need G-movement to be very local. I argue that this requirement is needed in order to derive word orders in which a given element is externally merged immediately above an internally merged given element. Such an example is repeated below.

(68)   a.   How did the boy get the lollipop?

       b.   **Chlapec lízátko**   ‖ našel.
           boy.Nom lollipop.Acc   found
           'The boy found the lollipop.'

(69)   a. $[_{vP}$ **object** verb $[_{VP}$ t$_V$ t$_{obj}$]]

       b. $[_{vP}$ **subject object** verb $[_{VP}$ t$_V$ t$_{obj}$]]

One might argue that with respect to the G-operator it is immaterial whether the object moves above the verb before or after the subject is merged. This is not true, however. The difference lies in the position of the λ-abstract. If the object moves over the subject, the λ-abstract would have to be inserted between the subject and the object. As a result, the G-operator would terminate before it would reach the object. Consider the structure in (70).

(70)
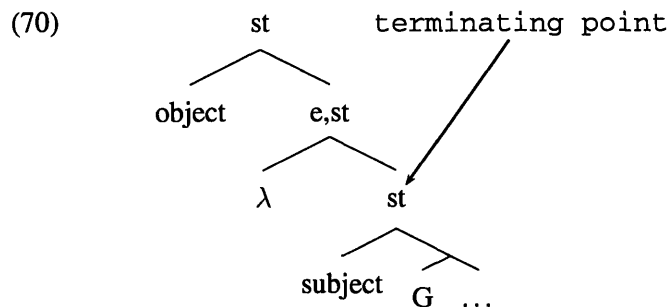
Thus if there is only one G-operator per a propositional domain (which seems to be correct considering the nature of the G-operator even though it is hard to test), unless the object moves before the subject is merged the object could not be interpreted as presupposed. I therefore conclude that we need an independent requirement which prefers derivations with very local movement to derivations with a non-local G-movement.

146

Another issue that stayed unanswered so far is when exactly the Maximize presupposition takes place. I assume that the evaluation may happen in the end of a phase. This allows to limit the global comparison only to structures which can be derived within a phase from the same numeration. I assume this is possible under the assumption that phases correspond to propositions. But nothing in our system depends on this choice. If it turns out that presuppositions are computed only at the level of the utterance, the system can be straightforwardly adjusted to that.

4.3   The evaluation component

In the previous section we have concentrated on defining a given operator and on introducing such an operator within the logical form. In this section, I will set up a a formal evaluation component for the purposes of Maximize presupposition. This step will complete the modification of the originally purely syntactic system. In the rest of this section I will examine whether the modified system can account for the data from chapters 2 and 3 that we originally covered by G-movement.

To see how exactly the evaluation component works we need to define not only the reference set but also we need to have a clear metrics that we can use to compare different derivations. We already have a definition of a reference set. The definition is repeated below.

(71)   **Reference set for Maximize Presupposition evaluation**

For purposes of Maximize Presupposition, the reference set, toward which Maximize presupposition is evaluated, consists of all derivations

a.   that are based on the same numeration and free insertion of a G-operator, and

b.   that make the same assertion.

In order to have a clear metrics I will define two constraints with respect to which each candidate within a reference set will be evaluated.[16] First, we need to guarantee that all

---

[16]The reader should not be misled by the terminology. The system developed here is not an optimality

derivations are syntactically well-formed. Such a condition is not strictly speaking a part of the evaluation component but it is a necessary precondition for a derivation to be considered for evaluation. The reason why the constraint belongs here, however, is that licensing of G-movement happens only at the interface.

(72)   SYNTAX:

the reference set may contain only grammatically well-formed structures

Then we need to guarantee that the relevant presupposition would be maximized. This requirement consists of interaction of two separate requirements: (i) to mark everything given as presupposed (to make sure that each given element would give rise to the desired presupposition), and (ii) to avoid marking new elements as presupposed (to avoid Presupposition failure). I will call this constraint INTERPRETATION.

(73)   INTERPRETATION:

   a.   a given element must be marked as presupposed (either lexically or by a G-operator) [≈ Maximize Presupposition]

   b.   a new element cannot be marked as presupposed [≈ Presupposition Failure]

We are now in a position to evaluate the system in place and see whether it can account for the facts we have considered so far. Let's start with a simple case of a ditransitive construction in which everything is given except for the indirect object. Since in Czech a direct object follows an indirect object, it is enough if the direct object moves above the indirect object. The desired interpretation is given in (74). The boxes correspond to elements that we want to be interpreted as given; the structure is presented in the Czech basic word order. The relevant reference set is given in (75). I list here and in the following examples only few candidates that are most relevant for the evaluation. The first candidate is a derivation in which no G-movement took place and no G-operator was inserted, (75-a). The second candidate is a derivation with a G-operator inserted above the indirect object but with no

---

theory system. I am using the notion of constraints as a technical tool for explicit evaluation of derivations. In the end of the day we will see that for a structure to be felicitous in the relevant context no constraint may be violated.

G-movement, (75-b). The third candidate is a derivation with a local G-movement of the indirect object and a G-operator adjoined immediately below the moved object, (75-c). The last candidate differs from the previous candidate in that G-movement is not local, but instead the movement is cyclic and crosses several given elements, (75-d).

(74) *Desired interpretation:*

$\boxed{\text{Peter}}\ \boxed{\text{gave}}\ \text{to-Mary}\ \boxed{\text{book}}$.

'Peter gave the book to Mary.'

(75) *Reference set of (74):*

    a.   No G-operator and no movement:
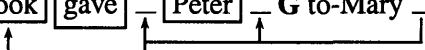
        Peter gave to-Mary book

    b.   G-operator and no movement:

        $\boxed{\text{Peter}}\ \boxed{\text{gave}}\ \text{G to-Mary book}$

    c.   G-operator and local G-movement:

        $\boxed{\text{Peter}}\ \boxed{\text{gave}}\ \boxed{\text{book}}\ \text{G to-Mary} \_$

    d.   G-operator and non-local G-movement:

        $\boxed{\text{book}}\ \boxed{\text{gave}}\ \_\ \boxed{\text{Peter}}\ \_\ \text{G to-Mary} \_$

The evaluation of the reference set is schematized in (76). As we can see, the derivation without movement and any G-operator is syntactically well formed but it fails with respect to the Maximize presupposition maxim (nothing is marked as presupposed). Similarly, the second candidate fails with respect to the maxim. Even though this time, two given elements are correctly marked by the operator, there is one given element – the direct object – which stays unmarked. The third candidate, on the other hand, satisfies both the syntax requirements as well as the pragmatic requirements. All given elements are marked and syntax is well formed. The last candidate does well with respect to the interpretation but the syntax is not well-formed. The reason is that the derivation contains two instances of G-movement that cannot be licensed. As we can see by comparison with the candidate

149

in (75-c), the desired interpretation is obtained without any additional movement. Since G-movement does not come for free, the candidate in (75-d) loses in comparison with the candidate in (75-c).

(76) Evaluation of the reference set of (74):

Reference set	SYNTAX	INTERPRETATION
a.	✓	fails
b.	✓	fails
c.	✓	✓
d.	fails	✓

Let's now consider a minimally differing structure in which it is only the direct object which is given. All other elements are new in the discourse. The relevant reference set is given in (78). The candidates are the same as in the previous case, (74). It means, there is a candidate without G-movement and without any G-operator, (78-a), a candidate without G-movement and with a G-operator, (78-b), a candidate with local G-movement and a G-operator, (78-c), and finally a candidate with cyclic G-movement and a G-operator, (78-d). Again, only few relevant candidates are considered.

(77)　*Desired interpretation:*

　　Peter gave to-Mary ⌐book⌐.

　　'Peter gave the book to Mary.'

(78)　*Reference set of (77):*

　　a.　No G-operator and no movement:

　　　　Peter gave to-Mary book

　　b.　G-operator and no movement:

　　　　⌐Peter⌐ ⌐gave⌐ G to-Mary book

　　c.　G-operator and local G-movement:

　　　　⌐Peter⌐ ⌐gave⌐ ⌐book⌐ G to-Mary __

150

d. G-operator and non-local G-movement:

$$\boxed{\text{book}}\ \text{G gave}\ \_\ \text{Peter}\ \_\ \text{to-Mary}\ \_$$
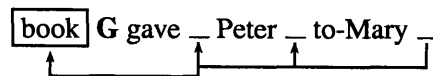
The evaluation of the reference set in (78) is schematized in (79).

(79) Evaluation of the reference set of (77):

Reference set	SYNTAX	INTERPRETATION
a.	✓	fails
b.	✓	fails
c.	✓	fails
d.	✓	✓

The candidates in (78-a) and (78-b) pattern with the candidates in (75-a) and (75-b). Thus they fail because the direct object is not marked as given. The candidate in (78-c) is different: it is syntactically well-formed and the direct object is marked as presupposed. The problem with this candidate is that the G-operator marks not only the direct object as presupposed but also the structurally higher new elements. The reason is that there is no early terminating point for the operator (the structure is in the past tense and there is no auxiliary). Thus, the object is forced to move above all the new elements. The cyclic G-movement is licensed in this case because the relevant interpretation is not available otherwise.

Notice that while in the previous discussion we needed to refer to the presence of a new element asymmetrically c-commanding the given element, no such constraint is needed anymore. The locality of the movement is determined by terminating properties of the G-operator. To appreciate this point, consider the following case where only an object is given but in the same time, the object is blocked within an infinitive. The relevant reference set is given in (81).

(80) *Desired interpretation:*

151

Mary managed to-burn [chair]

'Mary managed to burn the chair.'

(81)   *Reference set of (80):*

    a.   No G-operator and no movement:

        Mary managed to-burn chair

    b.   G-operator and no movement:

        Mary managed [to-burn] G chair

    c.   G-operator and local G-movement:

        Mary managed [chair] G to-burn __

    d.   G-operator and non-local G-movement:

        [chair] G managed __ Mary __ to-burn __

The reference set contains structures parallel to the reference sets for (74) and (77). Thus, there is again a candidate without G-movement and without any G-operator, (81-a), a candidate with G-operator and no G-movement, (81-b), a candidate with local G-movement and a G-operator, (81-c), and finally a candidate with cyclic G-movement and a G-operator, (81-d).

(82)   Evaluation of the reference set of (80):

Reference set	SYNTAX	INTERPRETATION
a.	✓	fails
b.	✓	fails
c.	✓	✓
d.	fails	✓

As in the previous cases, the derivations without G-movement are not felicitous. The crucial pair of candidates to compare is the structure in (81-c) and the structure in (81-d). Even though the object is the only given element – thus this example patterns with (77) – , for

the object to be interpreted as given it is enough to undergo only local G-movement. The difference between the derivation of (77) and the derivation of (80) is in differing propositional domains at which the G-operator can terminate. In the case of the object trapped within the infinitival VP, as in (80), the relevant propositional domain is the infinitival VP. Thus, local G-movement to the edge of the VP is enough for obtaining the correct interpretation.

So far so good. But there is an alternative I would like to rule out, namely having the G-operator as the trigger of syntactic movement. If this were the case, for α to be given, α would always have to move to G. We have already seen examples of structures in which G-movement is blocked, such as coordination, which argued against treating G-operator as a syntactic trigger in a Probe-goal sense. Other relevant structures to consider are structures in which no G-movement is required, i.e., basic word order structures.

We have already seen in section 1.2 that in a basic word order the partition between given and new can fall in principle at any position. Consider the example in (83) which lists the possible positions of the partition within a ditransitive clause with a temporal adverb.

(83)   a.   Maruška včera   dala dětem   knihu.
                  Maruška yesterday gave children book
                  'Yesterday Mary gave children a book.'

        b.   Maruška ‖ včera dala dětem knihu.

        c.   Maruška včera ‖ dala dětem knihu.

        d.   Maruška včera dala ‖ dětem knihu.

        e.   Maruška včera dala dětem ‖ knihu.

As we can see, there are four possible partitions available. I argue that the partition positions correspond to positions in which the G-operator may be inserted. Thus, we now have a formal tool to understand the basic word order pattern. I argue that the exact position of the G-operator (or of several G-operators in case there is a terminating point somewhere in the structure) depends on what is presupposed. In other words, the insertion of a G-operator

is regulated by the Maximize Presupposition maxim. If a wrong position is selected, either some given element would not be marked as presupposed or a new element would be incorrectly marked as presupposed.

To see this in more detail, let's consider a scenario in which the subject and the adverb are given, the rest is new (*Tell me what Mary did yesterday.*), (83-c). The relevant reference set is included into the evaluation table in (84).

(84)   Evaluation of the reference set of (83):

Reference set	SYNTAX	INTERPRETATION
Mary G yesterday gave children book	✓	fails
Mary yesterday G gave children book	✓	✓
Mary yesterday gave G children book	✓	fails
Mary yesterday gave children G book	✓	fails

Since there is no G-movement, all candidates are syntactically well-formed. There is, however, only one candidate which does well with respect to the Maximize presupposition maxim. The felicitous candidate is the candidate with a G-operator adjoined immediately below the adverb. Only this position guarantees that both the subject and the adverb will be presupposed and the rest of the clause will be understood as new. Notice that setting up the evaluation with respect to the Maximize Presupposition maxim is crucial here. For the structure to be correctly interpreted it is crucial to know what presupposition is to be matched. There is nothing in the syntactic module that would have a direct relevance for the position of the G-operator.

To conclude, we have seen in detail evaluation of several cases involving G-movement which were set up to test the hypothesis that for choosing the right derivation it is enough to refer to the G-operator and to the Maximize presupposition maxim. As far as syntax is concerned, any well-formed derivation is possible as far as it is licensed by semantics (and pragmatics). Thus by modifying the syntactic system we did not loose anything. The

154

question is whether we gained something in the empirical coverage.

4.4 The G-operator and coordination

In the previous section we have seen that the modified system copes well with the G-movement data.The question is whether the system can account for coordination facts as well. Recall that there are two relevant restrictions to consider. (i) A given XP must precede a new XP in a coordination. (ii) A given VP can be trapped in a coordination even if it is asymmetrically c-commanded by new material. In contrast, a given DP is degraded in such a configuration and must be pronominalized. The crucial examples are repeated in (85)–(88). Given elements are in bold font. The structure of the data is schematized in (89).

(85)   Mary had some unpleasant experience with the new teacher and she did not want
        to go to the meeting only with her. In order to avoid any conflict,...

        a. #Pozvala   **učitelku**   a   ředitelku.   ←— # new > **DP** & DP
            invited.3sg.F teacher.Acc and director.Acc
            'She invited the teacher and a director.'

        b. Pozvala   **ji**   a   ředitelku.
            invited.3sg.F her.Acc and director.Acc
            'She invited her and a director.'

        c. Pozvala   **tu učitelku**   a   ředitelku.
            invited.3sg.F that teacher.Acc and director.Acc
            'She invited that teacher and a director.'

(86)   A friend of mine has decided to change her lifestyle. She will read... ←— [Context]

(87)   A její přítel bude **číst** a   překládat.←— new > **VP** & VP
        and her friend will read and translate
        'And her boyfriend will read and translate.'

(88)   #A její přítel bude překládat a   **číst.**←— # VP & **VP**
        and her friend will translate and read
        'And her boyfriend will translate and read.'

155

(89) a. #
α_{New} &P
         DP   &P
                &   DP

b.
α_{New} &P
         VP   &P
                &   VP

c. #   &P
      XP   &P
             &   XP
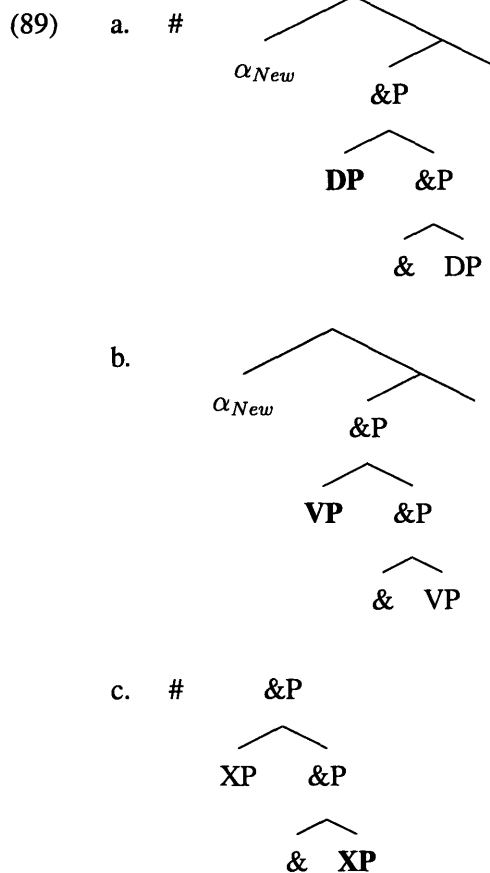
Let's start with the case in (89-c), i.e., the restriction that a given conjunct must precede a new conjunct. The crucial point is that for an XP to be marked as presupposed, it must be an argument of a G-operator. The operator can be attached either (i) immediately above the given XP, or (ii) it can be attached to the whole coordination, or (iii) it can be attached below the first conjunct. The corresponding structures are given in (90). The elements in the scope of the operator are marked by boxes.

(90)   G-attachment within a coordination:

        a.   immediately above the given XP:

&P
```
        &P
       /  \
  [Conj1]   &P
            / \
          [&]  / \
              G  Conj2
```
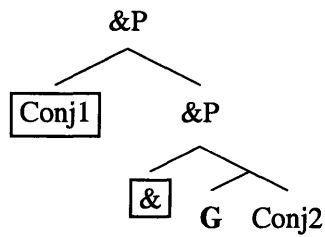
b. to the main clausal spine (to the whole coordination):

```
         /    \
      [&P]      G
      /  \
  [Conj1]  &P
           / \
          &  [Conj2]
```
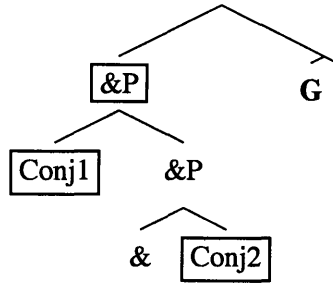
c. immediately below the first conjunct:

```
    &P
    /  \
[Conj1]  / \
        G   &P
            / \
           &  Conj2
```
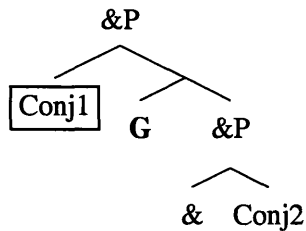
Let's consider each case in turn. If the G-operator attaches above the second conjunct, as in (90-a), the SYNTAX constraint is satisfied but the INTERPRETATION constraint is violated because the given conjunct is not marked as presupposed while the new part of the coordination is marked as presupposed. Similarly, in (90-b), too many elements are marked as presupposed resulting in Presupposition failure. Attaching the G-operator immediately below the first conjunct does not help either, (90-c).

There is simply no way the G-operator could be inserted and the correct interpretation be obtained without violating either SYNTAX or INTERPRETATION. The only structure that satisfies both SYNTAX and INTERPREATION is the structure in which the given conjunct precedes the new conjunct and the G-operator is inserted immediately below the first

conjunct, as in (91).

(91)
&P
Conj1 G &P
& Conj2
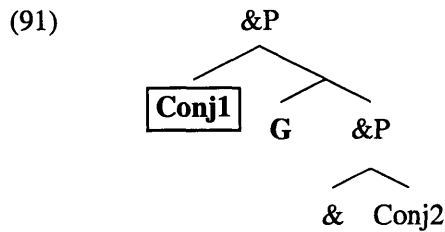
The evaluation of these possible structures is schematized in the table in (92).

(92)   Evaluation of [**XP** and XP]

Reference set	Syntax	Interpretation
(90-a)	✓	fails
(90-b)	✓	fails
(90-c)	✓	fails
(91)	✓	✓

As we can see, the G-operator and the Maximize presupposition maxim can take care of the fact that a given conjunct must precede a new conjunct.

So far so good. Now we have an account of a subset of the coordination generalization, namely, the word order restriction within a coordination. The remaining question is why there is a difference between a DP and a VP coordination and why adverbs pattern partially with DPs and partially with VPs. We know that there is a way to mark a DP conjunct as presupposed in case there is no new material asymmetrically c-commanding the coordination. Thus, the problem does not lie in the marking itself but it must be related to the presence of new material. We know that the presence of the structurally higher new material does not matter in case a DP undergoes local G-movement. But in such a case, the DP is on the edge of a propositional domain. Based on this fact, I suggest that the difference between a DP coordination and a VP coordination is a difference in their semantic types. Since a DP coordination is not a propositional domain, the G-operator may escape from the coor-

dination and mark the structurally higher new material as given as well. Thus, in case a DP coordination is not on the left edge of a propositional domain, marking the first conjunct by a G-operator is impossible because the scope of the operator would always affect a bigger structure, resulting in an infelicitous interpretation. The only option to avoid the problem with marking new material by the G-operator is to replace the given DP with a pronoun. Recall that pronouns do not need to be marked by the operator in order to be given. It is their lexical entry which gives rise to the required presupposition.

There is, however, one problem with the system in place. It is not clear how we can guarantee tht the operator within a DP coordination would not mark the predicate the co-ordination combines with as presupposed. Everything depends on the semantic type we assume for a DP coordination. If we assume that a DP coordination is a generalized quanti-fier, then the G-operator would necessarily over-generate. On the other hand, if we assume that such a coordination is of type e, the operator cannot apply to the first conjunct because it is not defined for atomic semantic types. I suggest that the problem is avoided if we treat a DP coordination as a boolean coordination, i.e., a sum of individuals. I leave, however, the actual implementation for future research.

In contrast to a DP coordination, a verbal coordination may be propositional. If this is the case, then there is no problem with adjoining the G-operator below the first conjunct. But can we safely assume that all relevant VP coordinations correspond to a proposition? Let's consider again the example (1), repeated below as (94).

(93)   Many of my friends have recently decided to change their lifestyle. . .

    a.   Tak jedna moje kamarádka bude víc   číst. ←— context
        so one my friend   will more read
        'For example, a friend of mine will read more.'

(94)   A jejĂ pŘĂtel bude číst a   překlĂĄdat.
    and her friend will read and translate
    'And her boyfriend will read and translate.'

159

This case is straightforward because we know independently that the future tense auxiliary *bude* 'will' selects for a proposition.[17] The question is whether the same is true for other types of verbal coordinations. The most suspicious case is a coordination which is not selected by a tense auxiliary.

(95)   Many of my friends changed their lifestyle several years ago...

   a.   Tak jedna moje kamarádka víc   **četla.** ←— `context`
        so one my friend   more read
        'For example, a friend of mine read more.'

(96)   A její přítel **četl** a   překládal.
        and her friend read and translated
        'And her boyfriend read and translated.'

Even though the examples in (94) and (96) look parallel, they are not. There is a difference in their interpretation. The coordination of the future infinitives does not impose any requirement on the implicit object of reading and translating. In contrast, the past tense coordination requires the implicit objects to be identical. We can see the contrast on a possible continuation of the discourse in (94), given in (97), and the continuation of the discourse in (96), given in (98). While it is felicitous to say that he will read something different than he will translate, it is odd to say that he read something different than he translated.

(97)   a.   And what will he read and translate?

        b.   Bude   číst detektivky   a   překládat romány.
             will-he read detective mysteries and translate novels
             'He will read detective mysteries and translate novels.'

(98)   a.   And what did he read and translate?

        b.   #Četl detektivky   a   překládal romány.
             read detective mysteries and translated novels
             'He read detective mysteries and translated novels.'

I do not know at this point how to account for the difference between past and future. Intuitively, the past form of 'read' is not given in the same sense as the future form of 'read'.

---

[17] I put aside the option that the coordination is a coordination of something bigger than VP, i.e., a structure which originally contained the auxiliary.

There is something about the shared object that seems to make a difference for givenness. My hope is that these cases contain coordination reduction and the contrast between implicit objects in past and in future is related to a structural difference. I leave the question of differences among VP coordinations as a puzzle for future research as well.

For now, let's assume that verbal coordinations are of different types and that it is possible to reduce all relevant verbal coordinations to propositional domains. We can conclude that the G-operator can be always adjoined below the first verbal conjunct without leading to Presupposition failure.

Notice that we have shifted our reasoning about the difference between nominal and verbal coordination as being related to existence or non-existence of a pronominal counterpart. The existence of a pronominal counterpart is relevant only in an indirect way. The reason why a verbal coordination asymmetrically c-commanded by a new material is felicitous is not that there is no better tool to mark givenness. The reason is that such a coordination is a propositional domain. Thus, the G-operator can be safely inserted. The situation of coordinated DPs is rather different. There is no way to insert the G-operator without Presupposition failure. Thus, invoking givenness lexically is the only grammatically suitable option the language has.

What about adverbs? Recall that adverbs are sensitive to ordering within a coordination but they do not need to be pronominalized even if there is a pronominal counterpart available. I argue that adverbs can be always adjoined at a propositional level. Thus, an adverbial coordination is always located on the left edge of a propositional domain. Therefore, inserting a G-operator below the first conjunct is always felicitous. There is one problem remaining: we have defined the reference set as a set containing derivations based on the same numeration and the same assertion. Presumably, DPs and their pronominal counterparts are not part of the same numeration. Even though there might be a more principal solution of the problem, for now I will stipulate that pronouns may be part of the reference

set as well.[18]

To sum up, we have seen that the G-operator that we need anyhow in order to mark presupposition does a lot of useful work for us. Now we have a system that can capture all the Czech data we have encountered so far. The only tools we need are G-movement, G-operator and the assumption that the semantic component is able to compute global comparison of derivations.

4.5 Interpretation of Givenness

In this chapter I have introduced a recursive G-operator whose purpose is to mark a part of a structure as presupposed. I have not, however, defined yet what it means to be given in a technical sense. The leading intuition is that given is something that is salient in the discourse and which gives rise to a presupposition that must be satisfied for the utterance to be felicitous in the relevant context.

In principle we could adopt various definitions of givenness. I will adopt here Sauerland (2005)'s definition of givenness. The relevant lexical entries for type e and type et follow.

(99)   Lexical entry for Given of type e:

$$Given^g = \lambda x^e \frac{\exists x \ \& \ \exists i.g(i) = x}{x}$$

(100)   Lexical entry for Given of type et:

$$Given = \lambda f^{et} \frac{\exists x \in D^e.f(x) = 1}{f}$$

where f has a salient antecedent in C

---

[18]One option would be to treat pronouns as a DP ellipsis, as has been suggested in Postal (1966) and further developed in Elbourne (2005).

If Given applies to an element of type $< \alpha, t >$, Given presupposes the existential closure of the complement of Given. If Given applies to an element of type e, the lexical entry requires the element to be evaluated with respect to an assignment previously established in the discourse. As we will see in section 4.6 these lexical entries are too weak but I will stay with them for lack of a better alternative. To see how these lexical entries combine with our current system, consider the following example, after Sauerland (2005).

(101)   English version:

    a.   Q: Who ate a cookie?

    b.   A: LINA [ate a cookie]-Given

(102)   Czech version:

    a.   Q: Kdo snědl koláček?
              who ate   cookie?
          'Who ate a/the cookie?'

    b.   A: **Koláček snědla** ‖ Lina.
              cookie   ate   Lina
          'Lina ate a/the cookie.'

In this case, the given part is 'ate a/the cookie'. Let's go step by step through the derivation and its interpretation. A simplified LF of the Czech sentence in (102-b) is given in (103). Basic lexical entries are given in (104).

(103)

```
                    E
                  /   \
             cookie    D
                     /   \
                   ate    C
                        /   \
                      G      B
                            /  \
                          8     A
                               /  \
                             7     vP
                                  /   \
                               Lina    VP
                                      /   \
                                  t7_ate  t8_cookie
```
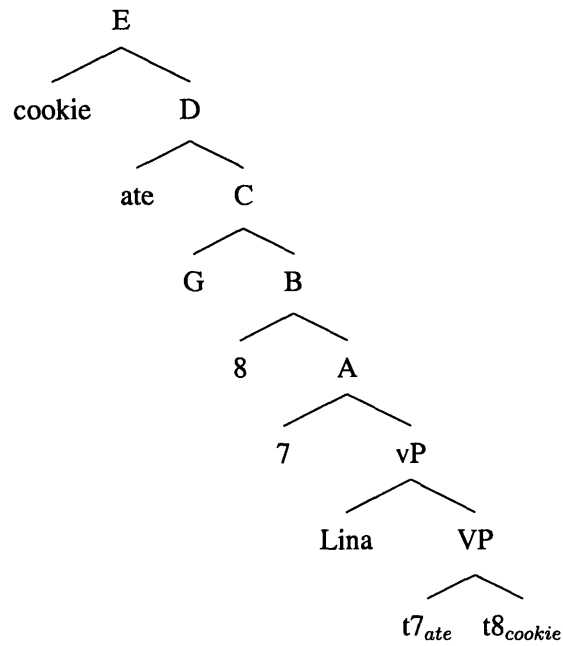
(104) a. $[\![ate]\!] = \lambda x.\lambda y.$ y ate x

      b. $[\![Lina]\!] = $ lina

      c. $[\![cookie]\!] = $ cookie

where *lina* and *cookie* are individuals

Let's compute the semantics of the LF in (103) step by step, starting with the denotation of VP and vP.

(105) $[\![VP]\!] = \lambda y.\ f_7(x_8)(y)$

(106) $[\![vP]\!]^g = 1$ iff

        $[\lambda y.\ f_7(x_8)(y)]\ ([\![Lina]\!]) = 1$ iff

        $[\lambda y.\ f_7(x_8)(y)]\ (lina) = 1$ iff

        $f_7(x_8)(lina)$

After taking into account lambda abstraction induced by G-movement of the object and the verb we get the following denotation.

(107) $[\![B]\!] = \lambda f_7.\lambda x_8.\ f_7(x_8)(lina)$

164

Now the G-operator can take the constituent B as its argument because B is not of type t. The resulting denotation is given in (108). Notice that the G-operator applies in two steps. First, it induces that there is going to be a given function of type e,et. In the following step, the operator induces a given individual.

(108) $[\![C]\!] = G([\![B]\!]) =$

$G(\lambda f_7.\lambda x_8.\ f_7(x_8)(\text{lina})) =$

$\lambda h_{e,et}$: Given(h). G $([\lambda f_7.\lambda x_8.\ f_7(x_8)(\text{lina})](h)) =$

$\lambda h_{e,et}$: Given(h).$[\![G]\!]$ $([\lambda x_8.\ h(x_8)(\text{lina})]) =$

$\lambda g_e.\lambda h_{e,et}$: Given (g) & Given(h). G $([\lambda x_8.\ h(x_8)(\text{lina})](g)) =$

$\lambda g_e.\lambda h_{e,et}$: Given (g) & Given(h). G $(h(g)(\text{lina})) =$

$\lambda g_e.\lambda h_{e,et}$: Given (g) & Given(h). h(g)(lina)

This constituent first combines with the verb *ate*, marking *ate* as given.

(109) $[\![D]\!] = [\![C]\!]\ ([\![ate]\!]) =$

$[\lambda g_e.\lambda h_{e,et}$: Given (g) & Given(h). h(g)(lina)] $([\![ate]\!]) =$

$[\lambda g_e.\lambda h_{e,et}$: Given (g) & Given(h). h(g)(lina)] $(\lambda w.\lambda z.\ z\ ate\ w) =$

λg_e: Given (g) & Given(ate). lina ate g

In the next step, the structure combines with the object *cookie*, marking *cookie* as given.

(110) $[\![E]\!] = [\![D]\!]\ ([\![cookie]\!]) = [\![D]\!](cookie) =$

$[\lambda g_e$: Given (g) & Given(ate). lina ate g](cookie) =$

Given(cookie) Given(ate): when defined = 1 iff lina ate cookie

Let's now explicate what Given(c) and Given(ate) mean, using the lexical entry from (99) and a slightly modified entry from (100). The reason we need to modify the entry is that the original entry is of type et but *ate* is of type e,et.

(111) $\text{Given}^g(\text{cookie}) =$

$[\lambda h_e : \exists h\ \&\ \exists i.g(i) = h\ .\ h](\text{cookie}) =$

$\exists cookie$ & $\exists i.g(i) = $ cookie . cookie

(112)   Given(ate) =

$[\lambda f_{e,et} : \exists x \in D_e.\exists y \in D_e.$ f(y)(x) = 1 & f has a salient antecedent . f(y)(x)=1]

($\llbracket$ate$\rrbracket$) =

$[\lambda f_{e,et}.\exists x \in D_e.\exists y \in D_e$: f(y)(x) = 1 & f has a salient antecedent . f(y)(x)=1 :

f] ($\lambda z.\lambda w.$ w ate z) =

$\exists w \in D_e.\exists z \in D_e$: w ate z = 1 & f has a salient antecedent . $\lambda z.\lambda w.$ w ate z

We can now insert these two denotations into the original derivation. The reader may wonder whether we get the right meaning if we treat givenness of *ate* and *cookie* separately. The intuition is that it is the whole constituent *ate cookie* that is given. The final meaning is that the sentence in (102-b) is true only if Lina ate a cookie and if the following presupposition is satisfied: there is someone who ate a cookie and the cookie has been previously introduced in the discourse. While the denotations combine by functional application, the presuppositions just conjoin.

(113)   Given(cookie) & Given(ate) when defined = 1 iff lina ate cookie =

($\exists cookie$ & $\exists i.g(i) = $ cookie)&($\exists w \in D_e.\exists z \in D_e$: w ate z = 1 & f has a salient antecedent) when defined = 1 iff lina ate cookie

I leave open for now whether this is the right meaning or whether the presupposition needs to be strengthened. We know that the weak meaning (conjunction of presuppositions) is sometimes needed but the open question is whether it is always sufficient.

To sum up, we now have in place a formal system which can account both for syntax and semantics of givenness in Czech. In the following sections, I will address two remaining questions. First, what is the relation between givenness and deaccenting in English. Second, what is the role of phonology in the overall system.

4.6 Givenness versus deaccentation

In literature on givenness there is a disagreement on how to define the exact semantic properties of givenness.[19] I have not addressed so far the question how G-movement stands with respect to the conditions on givenness assumed for other languages. Since the literature on givenness is vast I will concentrate here on literature which explicitly argues for a direct relation between deaccentation in English and givenness. This is a reasonable move because the literature arguing for givenness as the default information structure value (Schwarzschild, 1999; Krifka, 2001; Sauerland, 2005, among others) is based on the claim that an empirically more accurate theory of English prosody can be built if focus accenting is eliminated in favor of deaccenting given constituents.[20]

I will show in this section that the conditions on deaccenting are weaker than the conditions on G-movement. In other words, not everything that gets deaccented in English, G-moves in Czech. I will argue that for a Czech constituent α to be given and be able to G-move two conditions must be satisfied: (i) α must have a salient (contextually entailed) antecedent, and (ii) there must be an existential presupposition which α satisfies. On the other hand, in English, for an element to be deaccented it is enough if the element has a salient antecedent. The main argument will be based on behavior of indefinites in Czech.

Let's start with Schwarzschild's informal definition of givenness, in (114).

(114) *Definition of* GIVEN (Schwarzschild 1999, p. 151, (25))

An utterance U counts as GIVEN iff it has a salient antecedent A and

a. if U is type e, then A and U corefer;

b. otherwise: modulo ∃–type shifting, A entails the Existential F-closure of U.

The question that arises is what it exactly means to have a salient antecedent. Consider the following English examples and the parallel Czech examples.

---

[19]I thank Irene Heim for discussing the facts in this section with me and for helping me to sort them out.

[20]But see Krifka (2006a) and Krifka (2006b) for arguments that not everything can be captured by a givenness-only theory.

(115)   (Schwarzschild, 1999, p. 154, ex. (30))

If a MAN owns a DONKEY, his WIFE owns a donkey.

(116)   a.   Když muž vlastní OSLA, jeho žena vlastní OSLA.
              when man owns   donkey his   wife owns   donkey
              'If a man owns a donkey, his wife owns a donkey.'

         b.   #Když muž vlastní osla,   osla   vlastní jeho žena.
              when man owns   donkey donkey owns   his   wife

(117)   In general, CHILDREN misbehave. But teachers only SOMETIMES punish

         children.

(118)   a.   Jezevčíci   jsou obvykle nevychovaní, ale jenom někdy
              dachshunds.Nom are   usually   misbehaved   but only   sometimes
              důchodci   trestají JEZEVČÍKY.
              pensioners.Nom punish dachshunds.Acc
              'Dachshunds usually misbehave but pensioners only sometimes punish dachshunds.'

         b.   #Jezevčíci   jsou obvykle nevychovaní, ale jezevčíky jenom
              dachshunds.Nom are   usually   misbehaved   but only   sometimes
              někdy   trestají důchodci.
              dachshunds.Acc punish pensioners.Nom

The examples in (115)–(118) contain existential indefinites. As we can see, in English, rep-

etition of an existential indefinite is a sufficient condition for the indefinite to be deaccented.

In fact, the indefinites must be deaccented. In contrast, in Czech, such an indefinite does

not undergo G-movement. Furthermore, the indefinite carries the main sentential stress.

Deaccentating is not possible.

As the example in (119) demonstrates, in a non-generic context a plural DP like *dachshunds*

may undergo G-movement. But if it undergoes G-movement then it is necessarily inter-

preted as a definite description. If there is no G-movement, as in (120), the second occur-

rence of *dachshunds* must be interpreted as a different group of dachshunds than those who

were misbehaving.

(119)   Jezevčíci   jsou někdy   nevychovaní, a   pak **jezevčíky**
         dachshunds.Nom are   sometimes misbehaved   and then dachshunds.Acc
         trestají důchodci.
         punish pensioners.Nom

a. 'Dachshunds sometimes misbehave and then pensioners punish the dachshunds.'

b. #'Dachshunds sometimes misbehave and then pensioners punish dachshunds.'

(120) Jezevčíci   jsou někdy   nevychovaní, a   pak důchodci
dachshunds.Nom are sometimes misbehaved and then pensioners.Nom
trestají **jezevčíky**.
punish dachshunds.Acc

a. 'Dachshunds sometimes misbehave and then pensioners punish dachshunds.'

b. #'Dachshunds sometimes misbehave and then pensioners punish the dachshunds.'

To summarize so far, existential indefinites do not G-move in Czech and they have no problem with being accented in a position where an English existential indefinite must be deaccented. On the other hand, if a plural (recall that Czech does not have overt articles) undergoes G-movement, it must be interpreted as a definite description.

Generic indefinites behave slightly differently than existential indefinites. They do not undergo G-movement either but they may be deaccented if something else needs to bear the main sentential stress. Consider the following examples containing hyponyms.

(121) (Ladd, 1980)

Q: Has John read Slaughterhouse-Five?

A: He doesn't READ books.

(122) a. On **knihy** NEČTE.
he books not-reads

b. On NEČTE **knihy**.
he not-reads books
'He doesn't READ books.'

(123) (Chafe, 1976)

I bought a painting last week.

I really LIKE paintings.

(124) a. Já mám **obrazy** RÁD.
I have paintings liked

b. Já mám RÁD **obrazy**.
I have liked paintings
'I really LIKE paintings.'

In Czech as in English, the hyperonym primed by the previous context is deaccented. If we look more closely at the examples, we see, however, that they are rather different. Let's first consider the example in (121). The answer in (121) is a correction to a proposition entailed by the question. The question about reading Slaughterhouse-Five entails an answer about reading books.[21] Corrections in general assert that an entailed (or asserted) proposition is not true. As a result, in this particular example, the negation carries focus accent as a means of excluding the entailed proposition from the set of propositions compatible with the common ground.

On the other hand, the example in (123) does not contain any correction. The relevant utterance is an answer to an implicit question 'Why do you buy paintings?'.[22] The implicit question primes the focus accent on the evaluative predicate *like*. Even though these two cases are not identical, they both contain a focused element that needs to be stressed. I argue that the fact that the generic indefinites are deaccented is not a property of the indefinites per se but it is a consequence of their prosodic neighbor being stressed.

If this conclusion is correct, we predict that if there is no focus, hyponyms cannot be deaccented. As we can see in (125), this is indeed correct. Thus, the fact that the generic indefinites in the previous examples are deaccented has nothing to do with them having a salient antecedent. Instead, the lack of sentential stress is a side-product of focusing the immediately preceding prosodic word.

(125)   My son likes gorillas.

a.   In general, he likes ANIMALS.

b.   #In general, he LIKES animals.

---

[21]This follows only if an answer has the same implicature as the question.

[22]I thank to Danny Fox, p.c., for suggesting to me to treat these cases as containing an implicit question.

In section 4.7, I will argue that the short movement we observe in Czech is also a result of a prosodic requirement and it has nothing to do with givenness. For now let's consider the following example which shows that whatever triggers the displacement of the object in (122-a) and (124-a) it is not G-movement. As we have seen in the previous chapters, a given element cannot be asymmetrically c-commanded by a new element within a propositional domain. If it is the case, the given element must move. As we can see in the example in (126), in case of generic indefinites accompanied by a focused element, the indefinites move only locally. Whether there is any new element or is not is irrelevant for the movement. Thus, we can conclude that this kind of movement is not G-movement.

(126)   a.   I bought a painting last week.

          b.   Moje nová přítelkyně **obrazy**   SBÍRÁ.
                my   new girlfriend paintings collects
                'My new girlfriend COLLECTS paintings.'

The question is whether indefinites ever G-move. We have already seen several examples suggesting the opposite but there seems to be some counterexamples. See, for instance, the example in (127) and (128).

(127)   Q: I've heard you finally sold all used cars from your store. You also had several Porsches, right? Do you remember who bought a Porsche?

        A: Yes. For example, a FRIEND OF MY WIFE bought a Porsche.

(128)   a.   **Porsche** si   například   koupil kamarád mojí ženy.
               Porsche REFL for example bought friend   of-my wife
               'For example, a friend of my wife bought a Porsche.'

          b.   #Kamarád mojí ženy si   například   koupil **Porsche**.
               friend   of-my wife REFL for example bought Porsche

The example in (128) contrasts with the example in (130). In both utterances there is a salient antecedent but only in (128) does the indefinite move. What is the relevant difference? I want to suggest that the indefinite in (128) is semantically a partitive (*a Porsche from the Porsches in the store*). As such it triggers an existential presupposition, in contrast to the indefinite in (130) which cannot be interpreted as a partitive and therefore cannot

give rise to an existential presupposition.

(129)   Q: Do you happen to know someone who owns a Porsche?

         A: Yes, a FRIEND OF MY WIFE owns a Porsche.

(130)   a.   Kamarád mojí ženy má **Porsche**.
               friend   of-my wife has Porsche
               'A friend of my wife has a Porsche.'

         b.   #**Porsche** má kamarád mojí ženy.
               Porsche has friend   of-my wife

Notice that the partitive interpretation brings about a definite interpretation. There is nothing in our semantics of givenness that would give us the partitive interpretation. The partitive semantics seems to be independent of givenness even though it is a precondition for an indefinite to be treated as given. I leave for future research how exactly givenness and partitivity interacts.

Another problem that I leave unanswered is how we can restrict the existential presupposition only to the relevant quantificational domain. Presumably, it is part of our common background that Porsches exist but this is not enough for a Porsche to be given.

An additional example showing the relation between an existential presupposition and the inability of an indefinite to undergo G-movement is given in (132).

(131)   I have entered Irene's office and I see a Porsche key on her desk. I ask:

         a.   Q: Who bought a Porsche?

         b.   A: KAI bought a Porsche.

(132)   a.   Kai si   koupil **Porsche**.
               Kai REFL bought Porsche
               'Kai bought a Porsche.'

         b.   #**Porsche** si   koupil Kai.
               Porsche REFL koupil Kai
               'Kai bought a Porsche.'

172

Why is there no movement in this example? Notice that there is a crucial difference between the example in (128) and the example in (132). In the example (132) the existence of a Porsche is only entailed from the context. It has not been asserted that there is a Porsche that someone bought. Irene could have felicitously answered, for instance, 'There is no Porsche. I found the key.'

Based on the examples with indefinites, I argue that having a salient antecedent is not a sufficient condition for treating an element in Czech as given. The condition must be strengthen by a requirement that a given element must give rise to an existential presupposition which is already part of the common ground. The new definition is given in (133).

(133)   *Definition of* GIVEN *for Czech*

An utterance U counts as GIVEN iff

a.   it is presupposed that U exists, and

b.   it has a salient antecedent A

(i)   if U is type e, then A and U corefer;

(ii)   otherwise: modulo $\exists$–type shifting, A entails the Existential F-closure of U.

Adding this condition explains why so many of the examples we have seen so far were translated by using a definite description. At the same time keeping the original requirement on a salient antecedent insures that not every definite description would be treated as given. Consider the example in (134).

(134)   Král včera   hrál   šachy s   **královnou.**
         king yesterday played chess with queen.
         'The king and the queen played chess yesterday.'

The example in (134) is a felicitous answer to the question 'What happened?' in a context where there is only one king and one queen in a palace. Even though 'the queen' is interpreted as definite, there is no G-movement. For 'the queen' to be able to G-move, there would have to be a salient antecedent like in the example in (135).

(135)   a.   The queen was bored all day but then...

        b.   s   **královnou** hrál   král šachy.
             with queen   played king chess
             '...the king played chess with the queen.'

To summarize this section, I have provided an argument that in Czech for an element to be given (at least for purposes of G-movement) it is not enough to have a salient antecedent. A stronger semantic condition is required. Specifically, I have argued that for an element to be interpreted as given the element must give rise to an existential presupposition. Thus, the semantic condition on being given in Czech is stronger than the condition on being deaccented in English.

4.7   A note on phonology and its relation to givenness

Superficially, Czech behaves like languages that require a new element to occupy the most embedded part of the tree in order to be assigned nuclear stress (Cinque, 1993; Zubizarreta, 1998; Arregui-Urbina, 2002; Szendrői, 2003). One may wonder whether we are losing something if we do not refer to phonology at all in the treatment of givenness in Czech. In this section, I will briefly address this question. I will first review the basics of Czech sentential prosody. Then, I will show a couple of cases where elements move in order to satisfy their prosodic requirement. I will argue that this kind of movement is different from G-movement. Finally, I will briefly address a question of abstract phonology as a trigger of syntactic movement.

Main sentential prominence in Czech is realized on the first syllable of the last prosodic word (cf. Gebauer 1900; Skaličková 1956; Daneš 1957; Romportl 1973; Palková 1994, among others).[23] Czech, in contrast to English, does not realize sentential prominence by high tone. Instead, prominence is realized by increased intensity and longer duration.[24]

---

[23]For further discussion on the Czech sentential prosody and its relation to information structure see Mathesius 1931, 1937; Trávníček 1937, 1939; Petřík 1938; Petr et al. 1986, among others.

[24]It is, however, possible that what is perceived as prosodic prominence is a high tone on the stressed syllable of the last prosodic word followed by a low tone (Edward Flemming, p.c.).

174

The position of the sentential stress falls on the main word stress. Main word stress falls on the initial syllable of a prosodic word. In general, odd-numbered syllables are stressed, giving rise to trochaic rhythm. For an overview of word stress in Czech see van der Hulst 1999, p. 818ff.

Ladd 1996 argues that Czech is a language that does not use pitch accent at all and that has very rigid phonology. This is significant in the light of the hypothesis that syntax must adjust to phonology because phonology is not a 'plastic' component of the grammar (cf. Vallduví 1990).[25] This picture is, however, too simplistic. Czech has other prosodic means than assigning nuclear stress to the last prosodic word. For example, contrastively focused words may be prosodically prominent in situ. Also certain lexical items, for instance wh-words, are independently prosodicaly prominent. But it is true that Czech prosody is more rigid that the prosody of, for example, English. Thus, we cannot exclude in advance the possibility that syntax accommodates to prosodic requirements.

The important question with respect to givenness is whether there is a direct relation between being given and deaccenting. We have already seen in the previous section that the semantic licensing conditions on givenness are stronger than the licensing conditions on deaccenting in English, but there is still a possibility that for an element to be given in Czech, the element must be deaccented. Thus, the question is whether or not G-movement may be characterized as prosody driven movement.

To be able to answer this question, let's first identify another type of prosody driven movement in Czech. Such movement is found with inherently stress-less items, for instance *něco* 'something'. As we can see in (136), 'something' cannot be the last prosodic word. The reason is that in this position it would bear the main sentential stress. Crucially, destressing 'something' in situ is not possible.

(136)   a.   *Chtěla bych jíst   **něco.**
              wanted would eat.Inf something

---

[25]Czech is supposed to pattern in this respect with languages like Italian and Hungarian.

b. Chtěla bych **něco** jíst __.
wanted would something eat
'I would like to eat something.'

As we can see in the example in (137), the movement observed in (136) is not independent syntactic movement. If we modify the sentence in (136) with a VP adverbial which surfaces as the last prosodic word, 'something' does not need to move anymore. In fact, it cannot move. The reason is that now it is the adverbial that bears the main sentential stress. 'Something' is not affected by the sentential prominence.

(137)   a.   Chtěla bych jíst **něco** u Nováků.
                wanted would eat.Inf something at Novak's

        b.   *Chtěla bych **něco** jíst __ u Nováků.
                wanted would something eat   at Novak's
                'I would like to eat something at Novak's.'

Furthermore, other lexical items that are semantically similar but at the same time that can be stressed, such as 'some food', do not move, as can be seen in (138).

(138)   a.   Chtěl bych jíst **nějaké jídlo.**
                wanted would.1sg eat.Inf some   food
                'I would like to eat some food.'

        b.   Chtěl bych jíst **polévku.**
                wanted would.1sg eat.Inf soup
                'I would like to eat some soup.'

To summarize the observations so far, in Czech sentential prominence is realized *only* on the last prosodic word. For an element to be deaccented it is enough to move very locally. No cyclic movement is required (and licensed).

I have already mentioned that in certain cases it is possible to realize prominence in a different part of the structure as well. For instance, if something is contrastively stressed, the immediately preceding prosodic word is deaccented. Thus, we predict that a stress-less word like 'something' does not need to evacuate the last position if the preceding word is contrastively stressed. This is indeed correct, as we can see in (139).

176

(139) Chci JÍST něco.   Ne, PÍT   něco.
       want-I to-eat something no to-drink something
       'I want to EAT something, not to DRINK something.'

In general, there is an optionality in whether the contrastive element is stressed in situ or whether the contrastive element is realized as the last prosodic word, as in (140).

(140) Chci něco   JÍST, ne PÍT.
       want-I something to-eat no to-drink
       'I want to EAT something not to DRINK something.'

The examples in (139) and (140) are similar to the deaccented examples with hyponyms from the previous section. Consider again the example from (124) repeated below as (141). If the contrasted predicate 'like' stays in situ, as in (141-b), it gets stressed and the following prosodic word 'paintings' get deaccented. On the other hand, if the object 'paintings' undergo short movement, the predicate is assigned the main sentential stress.

(141) a. Já mám **obrazy** RÁD.
         I have paintings liked

     b. Já mám RÁD **obrazy**.
         I have liked paintings
     'I really LIKE paintings.'

Notice that Czech does not seem to have at all the option of deaccenting an element by shifting the main sentential stress. The only way something can become deaccented is if its immediately preceding prosodic neighbor is independently stressed. The question that arises is whether English givenness is really so different from Czech. As far as I can tell, it is well possible that deaccenting by shifting the stress is licensed under the same conditions as G-movement in Czech. Other deaccenting cases might be a result of destressing caused by stressing of the immediately preceding prosodic neighbor. But whether this is a plausible theory or not must be left for future research.

To conclude, we have identified a type of movement which is purely driven by prosodic requirements. We can now ask the question whether G-movement is the same type of

177

movement or not. If G-movement is motivated by prosody in the same way as the movement observed above, then there are two logical options to be considered: either (i) given elements cannot be stressed, i.e., they move in order not to bear nuclear stress, or (ii) new elements move to the position in which they would be marked by nuclear stress.

Neither of these two options seems to be correct. We know from the behavior of 'something' that for a word not to be stressed it is enough to move very locally. G-movement, on the other hand, may be cyclic and non-local, thus, option (i) cannot be correct. Similarly, if a new element needs to bear a nuclear stress, there is only one position that is good enough. Again, we would expect different behavior than the behavior we find. We would expect that any structure in which one new element would be the last prosodic word should be well formed, which is not correct. To conclude, option (ii) cannot be maintained either.

The more interesting question is whether a prosodic account of givenness in Czech could be maintained if we considered a more sophisticated abstract version of the nuclear stress rule. My worry is whether it is possible to establish such a rule without referring to the semantic properties of the relevant elements. Recall from our previous discussion that the partition between given and new may appear in different parts of the tree. Furthermore, it is sensitive to the propositional complexity of an utterance. Once we need to refer to the semantic values then it is not clear what the advantage of having a prosodically driven system would be. The system would necessarily double the work of the semantic and pragmatic components.

Recent accounts of information structure in terms of the syntax-phonology interface, such as Selkirk (1995), Reinhart (1995, 2006) or Szendrői (2003), do indeed use some form of semantic diacritics that they introduce into the derivation. Even though my account is very close to the syntax-prosody accounts it is simpler in that it minimizes the inter-modular interaction. The only things we need is syntax generating free movement and semantics choosing from syntactically available structures. The only task left for the phonology interface is to read off the syntactic interpretation by using independently needed prosodic

rules.[26]

4.8 Summary

This chapter completed the previous discussion of the syntax of G-movement by creating a system of semantic interpretation which both improves the coverage of the syntactic system and provides an explanation for the empirical generalizations made in the previous chapters.

In particular, I argued that G-movement is movement with semantic consequences in the sense that syntactic items move in order to create a linear partition between elements to be interpreted as given and elements to be interpreted as new. We saw that the same partition can be established not only by G-movement but also by base generation as in the case of coordinations and basic word orders. I argued that the purpose of the partition is to create a configuration in which it is possible to insert a given operator.

I argued that in order to account for the Czech data we need a recursive operator which applies to a non-propositional constituent and turns its sister into a presuposed element.

I proposed that the distribution of the operator should be governed within a comparative system which compares derivations with respect to the Maximize Presupposition maxim of Heim (1991). I proposed that the evaluation is done over a set which contains derivations based on the same numeration and assertion. We saw that the combination of the given operator and the evaluation component captures all the relevant data.

In the final two sections I addressed the question of how G-movement relates to deaccenting for givenness in English. I showed that the licensing conditions on G-movement are stronger in that they require that for an element to be given it must not only have a salient antecedent but also be existentially presupposed. In the last section I shortly commented on a worry that we might be losing an important generalization if we do not give any role

---

[26]Such a prosodic system is for example that of Wagner (2005).

to phonology in our system. I argued that this move is indeed harmless: with respect to givenness, the phonology component behaves only as an interpretative component.

Appendix A

G-movement is A-movement

To complete the overall picture of properties of G-movement I will address in this appendix the question of whether G-movement is A-movement or A-bar movement. In particular, I will argue that G-movement is A-movement in the sense that it creates a new binding configuration. But first I will define what I mean by the A- versus A-bar distinction.

There has been disagreement in the literature about classifying scrambling as A-movement or A-bar movement. The disagreement lies in how we define the distinction between A- and A-bar movement in the first place. For approaches that base the distinction on Case assignment, there are two basic options: Either (i) only a DP that is assigned Nominative can move to Spec, TP since T assigns Nominative Case; thus, scrambling of a non-Nominative DP is by definition movement to a position higher than Spec,TP and must be an instance of A-bar movement (cf. for example Baker (2003)). Or, (ii) a position like Spec,TP may be ambiguous between A-movement and A-bar movement depending on whether the DP that moves there is or is not nominative (see, for example, Bonet (1990); Diesing (1990); Mahajan (1990)).

On the other hand, it has been argued that A movement and A-bar movement behave differently with respect to binding (Lebeaux (1988, 1998); Saito (1989); Mahajan (1990); Chomsky (1993, 1995); Fox (1999); Lasnik (1999)). I will adopt here the binding distinction over the Case distinction. I will classify as A-movement only movement where

181

the pronounced copy is relevant for binding, and as A-bar movement movement where the pronounced copy is not relevant for binding.[1] It is outside of the scope of this work to explain why there should be such a difference between A- and A-bar movement.[2]

In particular, I will follow recent proposals for Russian (see Lavine and Freidin (2002); Bailyn (2003, 2004), among others) that movement to Spec,TP in Russian even if it is movement of an object is always A-movement, i.e., it creates a new binding configuration. As we will see below, the same holds for G-movement. The examples in the following sections will partially be modeled after Lavine and Freidin (2002); Bailyn (2004).

Notice that once we tie the A- versus A-bar distinction only to binding, it becomes non-trivial to distinguish between movement and base generation. If G-elements were base generated on the left periphery, i.e., they would be something like clitic left dislocation in Romance (for example, Cinque 1990; Iatridou 1995; Barbosa 1995), we would not be able to tell from the binding interactions. I will comment on base generation in section A.4.

The argument for A-movement properties of G-movement to Spec,TP is based on binding interactions, in particular on Condition A, Condition C, and Weak Cross-Over effects. I am not using other tests for absence of A-bar movement used in Cinque 1990; Iatridou 1995; Barbosa 1995. The reason is that most of the tests are based on the absence or the presence of a clitic. There is no clitic in G-movement constructions in Czech. However, as we will see in section A.4 there are constructions that are more similar to clitic left dislocation in Romance. For closer discussion of these and their relation to contrastive left dislocation see Sturgeon 2006. Thus, in the following sections I will argue for (1).

(1)   G-movement is A-movement.

---

[1] I simplify the discussion here. It has been argued that A-movement can reconstruct as well (see, for example, an overview in Iatridou 2002). The question of reconstruction is immaterial for the current discussion. The only relevant difference is whether the pronounced copy counts for binding or not.

[2] One option is that being A- or A-bar follows from a feature composition of a particular projection, not from the type of a projection per se. See Nevins and Anand 2003 for an idea in this direction.

A.1 Condition A

Let's start by looking at Condition A. The condition is given in (2).

(2) **Condition A:**

A reflexive (or reciprocal) pronoun must be bound within its local domain.

If G-movement is A-movement, G-movement of a DP containing a reflexive pronoun over its binder, should lead to a Condition A violation. On the other hand, we predict that if G-movement is A-bar movement, it should not affect the ability of the reflexive pronoun to be bound.

Even though the predictions are clear, testing for Condition A in Czech is not a straight-forward task. The reason is that Czech has anaphoric reflexive pronouns that are always bound by a Nominative argument. As the following examples show, binding of the reflexive pronouns is independent of the actual structural relation between the anaphor and its binder.[3]

(3) Nom-Acc verbs:

    a. Marie   má ráda svoji kočku.
       Marie.Nom-i has liked her-i cat

    b. Svoji kočku má ráda Marie.
       her-i cat.Acc has liked Marie.Nom
       'Marie likes her cat.'

(4) Nom-Locative:

    a. Petr   bydlel ve svém domě.
       Petr.Nom-i lived in his-i house.Loc

    b. Ve svém domě bydlel jenom Petr.
       in his-i house lived only Petr-i
    '(Only) Petr lived in his own house.'

---

[3]Examples with *sebe* 'oneself' are not presented as minimal pairs. The reason is that the given counterpart of *sebe* is lexicalized as a reflexive second position clitic that never occupies Spec,TP. Focusing the object by the association with *jenom* 'only' gives us the desired interpretation in a way that avoids the problem with using the clitic.

(5) Nom-Acc:

    a.   Petr   viděl sebe.
          Petr.Nom saw himself

    b.   Sebe   viděl jenom Petr.
          himself saw only   Petr
    '(Only) Petr saw himself.'

(6) Ditransitive verbs:

    a.   Petr   dal svému bratrovi   knihu.
          Petr.Nom-i gave his-i   brother.Dat book.Acc

    b.   Svému bratrovi   dal Petr   knihu.
          his-i   brother.Dat gave Petr.Nom book.Acc
    'Petr gave his brother a book.'

(7) Ditransitive verbs:

    a.   Petr   dal bratrovi   svou knihu.
          Petr.Nom-i gave brother.Dat his-i book.Acc

    b.   Svou knihu   dal Petr   bratrovi.
          his-i book.Acc gave Petr.Nom brother.Dat
    'Petr gave his book to (his) brother.'

Fortunately, the facts are different if the binder is a quirky subject, i.e., a Dative argument. In such a case, binding is possible only if the Dative is in the subject position (Spec, TP); otherwise, violation of Condition A arises.[4]

(8) Dative subject:

    a.   ?Máše   bylo líto svého psa.
          Máša.Dat-i was sorry her-i dog.Gen

    b.   *Svého psa   bylo líto Máše.
          her-i   dog.Gen was sorry Máša.Dat-i
    'Máša felt sorry for her dog.'

(9) Dative subject:

---

[4]To my knowledge, the asymmetry between Nominative and Dative subject has not been reported in literature yet. I have no explanation for the binding difference.

a. Máši   bylo líto sebe.
Máša.Dat was sorry herself.Gen

b. *Sebe   bylo líto Máši.
herfself.Gen was sorry Máša.Dat
'Máša felt sorry for herself.'

We see that G-movement causes a Condition A violation which suggests that G-movement
is A-movement.

Further evidence comes from possessive pronouns that are anaphorically bound by a
non-subject element but that are not morphologically marked as reflexive. Consider the
examples in (10) and (11).[5]

(10)   a. *Její kočka   má ráda Marii.
her-i cat.Nom has liked Marie.Acc-i

b. Marii   má ráda její kočka.
Marie.Acc-i has liked her-i cat.Nom
'Mary is loved by her cat.'

(11)   a. ??Jeho přátelé   obdivují Petra.
his-i frinds.Nom admire   Petr.Acc-i

b. Petra   obdivují jeho přátelé.
Petr.Acc-i admire   his-i friends.Nom
'His friends admire Petr.'

As we can see such a possessive pronoun is felicitous only if the R-expression coindexed
with the pronoun undergoes G-movement over the pronoun. Thus, the R-expression is in
a position from which it can bind. It follows that the position must be an A-position and
G-movement is A-movement.[6]

---

[5]There is a difference in level of unacceptability between the examples in (10) and (11). David Pesetsky,
p.c., suggested that the difference in acceptability might come from inaliable versus non-inaliable possession
relations. At this point I do not have an explanation for the gradual differences in judgments. For now,
however, the crucial point is that there is a consistent difference depending on c-command relations between
relevant pairs of arguments.

[6]As David Pesetsky, p.c., pointed out the argument is not conclusive because the same result in grammati-
cality would be captured by a theory relying only on linear precedence. Even though this objection is relevant
with respect to Condition A, it does not apply to other binding facts presented at this section.

A.2 Condition C

This section will comment on Condition C. The Condition C is defined in (12).

(12) **Condition C:**

An R-expression (= proper name or definite description) must be free.

What kind of interactions do we expect with respect to G-movement and Condition C? First of all we need to establish that Czech is sensitive to Condition C. I will show this on movement of a pronoun over a coindexed R-expression. If such a pronoun moves over a coindexed R-expression, it should cause a Condition C violation. The reason is that A-movement creates a new binding position. If the pronoun undergoes A-movement, it binds from its surface position. On the other hand, if the pronoun undergoes A-bar movement, Condition C would not be violated because the pronoun would be able to reconstruct.

I will demonstrate the interaction on OVS examples. Before we approach to the actual test, a note on an OVS order is required. In an OVS order, there are two available parses for the position of the object. (i) the object can either occupy an A-position, or (ii) it can occupy an A-bar position. I argue that these two positions differ in two aspects: (i) they have different intonational contour (an element in an A-bar position is contrastively stressed and the following material gets deaccented; no such change in the intonational contour is observed with A-position); (ii) in the cases without contrastive stress and deaccenting the verb must linearly precede the subject; as for the other type, the verb can either precede or follow the subject (capitalized letters mark contrastive stress). Thus, if there is an optionality between OVS and OSV order then the object could have not undergone A-movement.

(13) *Non-contrastive intonation:*

    a.   Petra   viděla Marie.
          Petr.Acc saw   Marie.Nom

    b. *Petra   Marie   viděla.
          Petr.Acc Marie.Nom saw
    'Marie saw Peter.'

(14) *Contrastive intonation:*

    a. PETra   viděla Marie.
       Petr.Acc saw   Marie.Nom

    b. PETra   Marie   viděla.
       Petr.Acc Marie.Nom saw
   'It was Peter whom Marie saw.'

I suggest that the non-contrastive type corresponds to A-position, i.e., Spec,TP. The obligatory OVS order is a result of moving the object to Spec, TP and leaving the subject lower in the structure (presumably within vP; for a similar argument see, for example, Bonet 1990; Diesing 1990; Miyagawa 1997; Bailyn 2003, 2004). On the other hand, the contrastive pattern corresponds to A-bar movement, i.e., to movement to a position higher than Spec, TP.[7] Spec, TP is then still available for the subject to move there, resulting into OSV order that is not available otherwise. Notice that the subject movement is optional because the EPP-like requirement may be satisfied by the A-bar moved argument but the subject might still have an independent reason to move (for example, for scope).

With this contrast in place, we can test Condition C. The following examples correspond to the left-most element being in an A-position, i.e., the intonation is not contrastive and the OSV order is excluded. All degraded sentences get improved if the linearly first element gets contrastively stressed, i.e., if it occupies, as I argue, an A-bar movement position:

(15)   a. Noví Petrovi známí   ho   představili řediteli.
        new Petr's-i friends.Nom him.Acc-i introduced director.Dat

      b. *Jeho   představili noví Petrovi známí   řediteli.
         him.Acc-i introduced new Petr's-i friends.Nom director.Dat
    'Petr's new friends introduced him to the director.'

---

[7] I have not been able to pinpoint the exact position of the contrastive element: it is plausible that a contrastive element is adjoined to TP or that there is a syntactic position between TP and CP that can be used as a landing site for contrastive elements.

The relevance of the example in (15) is supported by examples with long distance movement. Long distance movement in Czech is always contrastively stressed, i.e., it always targets an A-bar position. Unsurprisingly, in such a configuration, Condition C is not violated because the moved element may reconstruct.

(16) JEHO,   chceme, aby noví Petrovi známí   představili řediteli.
      him.Acc.TOP-i want-we that new Petr's-i freinds.Nom introduced director.Dat
      'We want Petr's new friends to introduce HIM to the director.'

To make the argument sound I need to show that reconstruction from an A-bar position is in fact obligatory. An optional reconstruction would be compatible with the view that A-movement can under certain circumstances reconstruct as well. As we can see in the next example, this is correct. If 'Petr's book' had the option not to reconstruct, it could be a strategy to avoid Condition C violation. Such a strategy is not available, though.

(17) *PETROvu knihu   ho   Marie   prosila spálit.
      Petr's-i   book,Acc him.Acc-i Marie.Nom to-burn
      'Marie begged Peter to burn his book.'

We have seen that Czech is sensitive to a Condition C violation and we can now approach to testing G-movement. Since pronouns do not undergo G-movement, we must look at an opposite relation, i.e., cases where an R-epxression crosses a coindexed pronoun. If in the original structure, coindexation of the pronoun and the R-expression causes a Condition C violation, we predict that G-movement of the R-expression might save the Condition C violation in case it is A-movement. In contrast, if G-movement is A-bar movement we do not expect to find any improvement with respect to Condition C.

As we can see on the examples in (18), G-movement can indeed save a Condition C violation. Thus, we can conclude that with respect to Conditon C, G-movement behaves as A-movement.

(18) a. *Marie   a   on$_i$ viděli Petrovi$_i$ přátele.
          Marie.Nom and he saw   Petr's   friends.Acc
          '*Marie and he$_i$ saw Petr's$_i$ friends.'

188

b. Petrovi přátele viděla Marie a on$_i$.

Petr's friends.Acc saw Marie.Nom and he

'*Marie and he$_i$ saw Petr's$_i$ friends.'

A.3 Weak Cross-Over Effect

Finally, let's look at Weak Cross-Over effect (WCO), defined in (19).

(19) **Weak Cross-Over:**

A pronoun can only be bound from an argument position.

As can be seen in (20), no WCO violation arises in case of G-movement of 'every girl'. The example in (21) is here as a control. Long-distance movement leads to a WCO violation. The contrast shown in (20) and (21) supports the argument that G-movement is A-movement because it creates new binding relations.

(20) a. *Její pes miluje každou holčičku.
           her-i dog.Nom loves every girl.Acc-i

      b. Každou holčičku miluje její pes.
          every girl.Acc-i loves her-i dog
          'Every girl is loved by her dog.'

(21) *KAŽdou holčičku, chci, aby miloval její pes.
       every   girl.Acc.TOP-i want-I that loved her-i dog
       'I want every girl to be loved by her dog.'

A.4 A note on base generation

So far I have been assuming that the linear partition between given and new elements is achieved via movement. However, it has been suggested in literature that elements on the left periphery that do not have A-bar properties are base generated in their surface position. This argument has been in detail made for Romance left clitic dislocation structures (Cinque 1990; Iatridou 1995; Barbosa 1995). Even though these structures show sensitivity

189

to syntactic islands, i.e., they appear to undergo movement, the above cited authors argue that the island sensitivity is a result of a presence of a binding chain that is either entirely independent of movement, or it arises from a short movement within the left periphery. One could argue that Czech G-movement is just another instance of base generation (notice that the left dislocated elements in clitic left dislocation constructions are given as well) and that the various word orders are base generated as they are. Another line of such an argument has been made in connection with scrambling by Haider (1988); Bayer and Kornfilt (1994); Kiss (1994); Neeleman (1994); Neeleman and Reinhart (1998), among others.

In this section, I present two objections to a base-generation approach. The first objection is that the base generation hypothesis does not make clear predictions about the final word order and it would have to be combined with another system that would determine the final word order. We have seen in chapter 2 and 3 quite a few examples that suggest a derivational nature of the reorderings found in Czech. Furthermore, it is not clear how to model the relation between head movement and the locality restriction on G-movement in a base generation system. I take the previous discussion as sufficient for making this point.

Another point is that Czech has, aside from G-movement, structures that are at least superficially similar to clitic left dislocation structures in Romance and Greek.

(22)   a.   Whom did Mary see drunk?

        b.   Petra   (*ho)   viděla Marie   opilého.
            Petr.Acc him.Acc saw   Marie.Nom drunk.Acc
            'Marie saw Petr$_i$ drunk$_i$.'

(23)   Ten Petr,   Marie *(ho)   viděla opilého.
    the Petr.Nom Marie him.Acc saw   drunk.Acc
    'As to the Petr$_i$, Marie saw him$_i$ drunk$_i$.'

As we can see in (22), in the case of G-movement, the given DP *Petra* is accusative and there is no occurrence of a clitic. In contrast, the same argument appears in (23) in Nominative case (default case). Accusative case is assigned to a clitic. The clitic is obligatory

in this structure.[8,9] Another difference between G-movement and clitic left dislocation in Czech can be found in embedded contexts. While structures with G-movement can be freely embedded, as seen in (24), clitic left dislocation is possible only in a matrix environment, (25).

(24) Maminka   říkala, že Petra   (*ho)   viděla Marie   opilého.
      mother.Nom said   that Petr.Acc him.Acc saw   Marie.Nom drunk.Acc
      'My mother said that Marie saw Petr$_i$ drunk$_i$.

(25) a. *Maminka   říkala, že ten Petr,   Marie *(ho)   viděla opilého.
          mother.Nom said   that the Petr.Nom Marie him.Acc saw   drunk.Acc

      b. *Maminka   říkala, ten Petr,   že Marie *(ho)   viděla opilého.
          mother.Nom said   the Petr.Nom that Marie him.Acc saw   drunk.Acc

      c. *Ten Petr,   maminka   říkala, že Marie *(ho)   viděla opilého.
          the Petr.Nom mother.Nom said   that Marie him.Acc saw   drunk.Acc
          'As to the Petr$_i$, my mother said that Marie saw him$_i$ drunk$_i$.'

I suggest that the Case differences and the status of a clitic, combined with the restrictions on embedding of clitic left dislocation structures, support the hypothesis that G-movement is indeed movement. As we have seen, Czech has other syntactic strategies that are more similar to Romance or Greek clitic left dislocation but G-movement is not one of those.

A.5 Summary

To conclude, we have seen that G-movement can be characterized as A-movement in the sense that the position to which element α G-moves functions as a new binding position. To support the argument, I have provided examples showing interactions between G-movement and Condition A, Condition C and Weak Cross-Over effect. In the final section, I have briefly addressed the question whether the reordering I have attributed to G-movement might be in fact base generated.

---

[8]More details on this structure and other left dislocation strategies in Czech can be found in Sturgeon 2006.

[9]It has been argued that clitic left dislocation does not always require a clitic (if the left-dislocated element is the subject or an adjunct) (Cinque, 1990). I control for this possibility by dislocating only objects.

Bibliography

Aboh, Enoch Oladé. 2004. *The morphosyntax of complement-head sequences: clause structure and word order patterns in Kwa*. New York: Oxford University Press.

Adamec, Přemysl. 1962. K úloze sémantiky ve slovosledu [On the role of semantics in word order]. *AUC Philologica, Slavica Pragensia* IV:297–300.

Adger, David. 2003. *Core Syntax: A Minimalist Approach*. Oxford University Press.

Arregui-Urbina, Karlos. 2002. Focus on Basque movements. Doctoral Dissertation, MIT.

Bailyn, John Frederick. 2001. On scrambling: A reply to Bošković and Takahashi. *Linguistic Inquiry* 32:635–658.

Bailyn, John Frederick. 2003. Does Russian scrambling exist? In *Word order and scrambling*, ed. Simin Kirimi. Malden, MA: Blackwell Publishers.

Bailyn, John Frederick. 2004. Generalized inversion. *Natural Language and Linguistic Theory* 22:1–49.

Baker, Mark C. 2003. Agreement, dislocation and partial configurationality. In *Formal approaches to function*, ed. A. Carnie, H. Harley, and M. Willie, 107–134. Amsterdam: John Benjamins.

Bale, Alan C. To appear. Quantifiers and verb phrases: An exploration of propositional complexity. *Natural language and linguistic theory* .

Barbosa, Maria do Pilar Pereira. 1995. Null subjects. Doctoral Dissertation, MIT.

Bayer, Josef, and Jaklin Kornfilt. 1994. Against scrambling as an instance of Move-alpha. In *Studies on scrambling*, ed. Norbert Corver and Henk van Riemsdjijk, 17–60. Berlin, New York: Mouton de Gruyter.

Beck, Sigrid, and Uli Sauerland. 2000. Cumulation is needed: A reply to Winter (2000). *Natural language semantics* 8:349–371.

Belletti, Adriana, ed. 2004. *Structures and beyond. The cartography of syntactic structures*, volume 3. Oxford: Oxford University Press.

Benešová, Eva. 1968. O sémantickém charakteru českého slovosledu [On the semantic character of Czech word order]. *Slovo a slovesnost* 29:34–41.

Biskup, Petr. In preparation. The phase model and adverbials. Doctoral Dissertation, Universität Leipzig.

Bonet, Eulàlia. 1990. Subjects in Catalan. In *Papers on wh-movement. MIT Working Papers in Linguistics*, ed. Lisa L.S. Cheng and Hamida Demirdash, 1–26. Cambridge, MA: MITWPL.

Bošković, Željko. 2001. *On the Nature of the Syntax-Phonology Interface. Cliticization and Related Phenomena*. Amsterdam: Elsevier.

Bošković, Željko. 2005. Left branching extraction, structure of NP, and scrambling. In *The free word order phenomenon: Its syntactic sources and diversity*, ed. J. Sabel and M. Saito. Berlin: Mouton de Gruyter.

Bošković, Željko, and Daiko Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29:347–366.

Bresnan, Joan. 1972. On sentence stress and syntactic transformations. In *Contributions to Generative Phonology*, ed. Michael Brame, 73–107. Oxford of Texas Press.

Büring, Daniel. 2006. Focus projection and default prominence. In *The architecture of focus*, ed. Valéria Molnár and Susanne Winkler, 321–346. Berlin–New York: Mouton De Gruyter.

Büring, Daniel, and Katharina Hartmann. 2001. The syntax and semantics of focus-sensitive particles in German. *Natural language and linguistic theory* 19:229–281.

Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: A case study of the three classes of pronouns. In *Clitics in languages of Europe*, ed. Henk C. van Riemsdijk, George Bosong, and Bernard Comrie, 145–234. Berlin; New York: Mouton de Gruyter.

Chafe, Wallace R. 1976. Givenness, contrastiveness, definiteness, subjects and topics. In *Subjects and topics*, 25–56. New York: Academic Press.

Choi, Hye-Won. 1999. *Optimizing structure in context*. Stanford, California: CSLI Publications.

Chomsky, Noam. 1986. *Barriers*. Cambridge, MA: MIT Press.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel Jay Kayser. Cambridge, MA: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by Step*, ed. R. Martin, D. Michaels, and J. Urigereka. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2004a. Beyond explanatory adequacy. In *Structures and Beyond*, ed. A. Belletti. New York: Oxford University Press.

Chomsky, Noam. 2004b. Class lectures; fall 2004.

Chomsky, Noam. 2005. On phases. MIT ms.

Cinque, Guglielmo. 1990. *Type of A'-dependencies*. Cambridge, Mass.: MIT Press.

Cinque, Guglielmo. 1993. A null theory of phrasal and compound stress. *Linguistic inquiry* 24:239–267.

Cinque, Guglielmo, ed. 2002. *Functional structure in DP and IP. The cartography of syntactic structures*, volume 1. Oxford: Oxford University Press.

Citko, Barbara. 2006. Interaction between Across-the-Board wh-movement and left-branching extraction. *Syntax* 9:225–247.

Collins, Chris. 2002. Eliminating labels. In *Derivation and explanation in the Minimalist Program*, ed. S.D. Epstein and T.D. Seely. Blackwell.

Corver, Norbert, and Henk van Riemsdijk, ed. 1994. *Studies on scrambling. Movement and non-movement approaches to free word-order phenomena*. Berlin, New York: Mouton de Gruyter.

Daneš, František. 1954. Příspěvek k rozboru významové výstavby výpovědi [a contribution to the analysis of the semantic structure of the utterance]. *Studie a práce lingvistické* I:263–274.

Daneš, František. 1957. *Intonace a věta ve spisovné češtině [Intonation and sentence in Standard Czech]*. Praha: Nakladatelství Československé akademie věd.

Daneš, František. 1974. Functional sentence perspective and the organisation of the text. In *Papers on functional sentence perspective*, ed. František Daneš, 106–128. Prague: Academia.

Diesing, Molly. 1990. Verb movement and the subject position in Yiddish. *Natural Language and Linguistic Theory* 8:41–79.

Diesing, Molly. 1992. *Indefinites*. Cambridge, Mass.: MIT Press.

den Dikken, Marcel. To Appear. Phase extension. *Theoretical Linguistics* .

Dokulil, Miloš, and František Daneš. 1958. K tzv. významové a mluvnické stavbě věty [On the so called semantics and grammatical structure of the sentence]. In *O*

vědeckém poznání soudobých jazyků, ed. Antonín Dostál, 231–246. Praha: Nakladatelství Československé akademie věd.

Dotlačil, Jakub. 2004. The syntax of infinitives in Czech. Master Thesis, Universitetet i Tromsø.

Downing, Laura J., Luzt Marten, and Sabine Zerbian, ed. 2006. *Papers in Bantu grammar and description. ZAS papers in linguistics 43.*

Elbourne, Paul D. 2005. *Situations and Individuals*. MIT Press.

Enç, Mürvet. 1991. The semantics of specificity. *Linguistic inquiry* 22:1–25.

Erteschik-Shir, Nomi. 1997. *The dynamics of focus structure*. CMambridge: Cambridge University Press.

Farkas, Donka F. 2002. Specificity distinctions. *Journal of Semantics* 19:213–243.

Firbas, Jan. 1964. On defining the theme in functional sentence perspective. *Travaux linguistiques de Prague* 1:267–280.

Firbas, Jan. 1992. *Functional sentence perspective in written and spoken communication*. Cambridge, New York: Cambridge University Press.

Fox, Danny. 1995. Economy and scope. *Natural language semantics* 3:283–341.

Fox, Danny. 1999. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry* 30:157–196.

Fox, Danny. 2000. *Economy and semantic interpretation*. Cambridge, Mass.: MIT Press.

Fox, Danny, and David Pesetsky. 2005. Cyclic linearization of syntactic structure. *Theoretical Linguistics* 31:1–45.

Franks, Steven, and Tracy Holloway King. 2000. *A handbook of Slavic clitics*. New York, Oxford: Oxford University Press.

Gebauer, Jan. 1900. *Příruční mluvnice jazyka českého pro učitele a studium soukromé [Practical grammmar of Czech for teachers and private study]*. Praha: Nákladem F. Tempského.

van Geenhoven, Veerle. 1998. *Semantic incorporation and indefinite descriptions: Semantic and syntactic aspects of noun incorporation in West Greenlandic*. Stanford: CSLI Publications.

Grewendorf, Günther, and Wolfgang Sternfeld, ed. 1990. *Scrambling and barriers*. Amsterdam, Philadelphia: John Benjamins Publisher.

Haider, Hubert. 1988. θ-tracking system – Evidence from German. In *Configurationality*, ed. L. Maracz and P. Muysken, 185–206. Dordrecht: Foris.

Hajičová, Eva. 1973. Negation and topic vs. comment. *Philologica Pragensia* 16:81–93.

Hajičová, Eva. 1974. *Negace a presupozice ve významové stavbě věty [Negation and presupposition in the meaning structure of a sentence]*. Prague: Academia.

Hajičová, Eva, Barbara H. Partee, and Petr Sgall. 1998. *Topic-focus articulation, tripartite structures, and semantic content*. Dordrecht–Boston–London: Kluwer Academic Publishers.

Hale, Ken, and Samuel Jay Keyser. 2002. *Prelogomenon to a theory of argument structure*. Cambridge, Mass.: MIT Press.

Halliday, Michael A. K. 1967. Notes on transitivity and theme in English,Part II. *Journal of Linguistics* 3:199–244.

Hausenblas, Karel. 1964. On characterization and classification of discourse. *Travaux Linguistiques de Prague* 1:67–84.

Heck, Fabian, and Gereon Müller. 2006. Extremely local optimization. [Ms., Universität Leipzig].

Heim, Irene. 1991. Artikel und Definitheit. In *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, 487–535. Berlin: Mouton de Gruyter.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar.* Oxford: Blackwell.

Heycock, Caroline, and Anthony Kroch. 1993. Verb movement and coordination in a dynamic theory of licensing. *Groninger Arbeiten zur Germanistischen Linguistik* 36:75–102.

Hlavsa, Zdeněk. 1975. *Denotace objektu a její prostředky v současné češtině [Denotation of an object and its means in current Czech].* Prague: Academia.

Holmberg, Anders. 1986. Word order and syntactic features. Doctoral Dissertation, University of Stockholm.

Horn, Laurence. 1972. On the semantic propertis of the logical operators in English. Doctoral Dissertation, UCLA.

van der Hulst, Harry, ed. 1999. *Word prosodic systems in the languages of Europe.* Berlin, New York: Mouton de Gruyter.

Iatridou, Sabine. 1995. Clitics and island effects. In *Penn working papers in linguistics,* ed. Roumyana Izvorski and Victoria Tredinnick, volume 2, 11–30. University of Pennsylvania.

Iatridou, Sabine. 2002. What I've learned about reconstruction in A-chains [MIT ms.].

Johnson, Kyle. 2002. Restoring exotic coordinations to normalcy. *Linguistic inquiry* 33:97–156.

Junghanns, Uwe. 1999. Generative Beschreibung periphrasticher Konstruktionen des Tschechischen. In *Linguistische Beiträge zur Slavistik aus Deutschland and Österreich. VII. JungslavistInnen-Treffen, Tübingen / Blaubeuren 1998.,* ed. T. Anstatt, R. Meyer, and E. Seitz. München: Saguer.

Junghanns, Uwe, and Gerhild Zybatow. 1997. Syntax and information structure of Russian clauses. In *Annual workshop on formal approaches to Slavic linguistics. The Cornell*

meeting 1995 (= Michigan Slavic Materials; 39), ed. E. W. Browne et al. Ann Arbor: Browne, E.W. et al.

Karimi, Simin, ed. 2003. *Word order and scrambling*. Blackwell Publishing.

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

Kiss, Katalin É. 1994. Scrambling as the base-generation of random complement order. In *Studies on scrambling*, ed. Norbert Corver and Henk van Riemsdijk, 61–100. Berlin, New York: Mouton de Gruyter.

Ko, Heejeong. 2007. Asymmetries in scrambling and cyclic linearization. *Linguistic Inquiry* 38:49–83.

Krifka, Manfred. 2001. Non-novel indefinites in adverbial quantification. In *Logical perspectives on language and information*, ed. Cleo Condoravdi and Gerard Renardel der Lavalette, 1–40. Stanford: CSLI Press.

Krifka, Manfred. 2006a. Association with focus phrases. In *The architecture of focus*, ed. Valéria Molnár and Susanne Winkler, 105–136. Berlin–New York: Mouton de Gruyter.

Krifka, Manfred. 2006b. Can focus accenting be eliminated in favor of deaccenting Given constituents. In *Proceedings of the Ninth Symposium on logic and language, Hungary, August 23–26*.

Kruijff-Korbayová, Ivana, and Mark Steedman. 2003. Discourse and information structure. *Journal of Logic, Language and Information* 12:249–259.

Kusumoto, Kiyomi. 2005. On the quantification over times in natural language. *Natural language semantics* 13:317–357.

Kučerová, Ivona. 2005. The T-Extension condition. In *Procedings of the 24th West Coast Conference on Formal Linguistics*, ed. John Alderete et al., 227–235. Somerville, MA: Cascadilla Proceedings Project.

Ladd, D. Robert. 1980. *The structure of intonational meaning*. Cambridge: Cambridge University Press.

Ladd, D. Robert. 1996. *Intonational Phonology*. Cambridge: Cambridge University Press.

Larson, Richard. 1988. On the double object construction. *Linguistic Inquiry* 19:335–391.

Lasnik, Howard. 1999. Chains of arguments. In *Working Minimalism*, ed. David Epstein and Norbert Hornstein. Cambridge: MIT Press.

Lasnik, Howard, and Mamoru Saito. 1992. *Move α. Conditions on its application and output*. Cambridge, MA: MIT Press.

Lavine, James, and Robert Freidin. 2002. The subject of defective T(ense) in Slavic. *Journal of Slavic linguistics* 10:251–287.

Lebeaux, David. 1988. Language acquisition and the form of grammar. Doctoral Dissertation, University of Massachusetts at Amherst.

Lebeaux, David. 1998. Where does binding theory apply? Technical report, NEC.

Magri, Giorgio. 2007. A theory of individual level predicates based on blind scalar implicatures [MIT ms.].

Mahajan, Anoop Kumar. 1990. The A/A-bar distinction and movement theory. Doctoral Dissertation, MIT.

Mathesius, Vilém. [1929] 1983. Functional linguistics. In *Praguiana: Some basic and well-known aspects of the Prague Linguistics School*, ed. J. Vachek, 121–142. Amsterdam: John Benjamins.

Mathesius, Vilém. 1931. K dynamické linii české věty [To the dynamic line of a Czech sentence]. *Časopis pro moderní filologii* 17:71ff.

Mathesius, Vilém. 1937. Mluvní takt a některé problémy příbuzné [Prosodic tact and some related problems]. *Slovo a slovesnost* 3:193–199.

Mathesius, Vilém. 1939. O tak zvaném aktuálním členění věty [On the so called topic/comment articulation of the sentence]. *Slovo a slovesnost* 5:171–174.

Meyer, Roland. 2003. On multiple wh-fronting and wh-clustering in Czech. In *Formal approaches to Slavic linguistics XII: The Amherst meeting*, ed. W. Browne, E. Kim, and B. Partee, 393–412. Ann Arbor: Michigan Slavic Publications.

Meyer, Roland. 2004. *Syntax der Ergänzungsfrage. Empirische Untersuchungen am Russischen, Polnischen und Tschechischen [syntax of wh-questions. Empirical studies in russian, polish and czech]*. München: Verlag Otto Sagner.

Miyagawa, Shigeru. 1997. Against optional scrambling. *Linguistic Inquiry* 28:1–25.

Neeleman, Ad. 1994. Scrambling as a D-structure phenomenon. In *Studies on scrambling*, ed. Norbert Corver and Henk van Riemsdjijk, 387–429. Berlin, New York: Mouton de Gruyter.

Neeleman, Ad, and Hans van de Koot. 2006. The nature of discourse templates. [UCL ms.].

Neeleman, Ad, and Tanya Reinhart. 1998. Scrambling and the PF interface. In *The projection of arguments*, ed. M. Butt and W. Geuder, 309–353. CSLI.

Nevins, Andrew, and Pranav Anand. 2003. Some AGREEment matters. In *Proceedings of WCCFL 22*, ed. G. Garding and M. Tsujimura, 370–383. Somerville, Mass.: Cascadilla Press.

Nissenbaum, Jon. 1998. Movement and derived predicates: Evidence from Parasitic Gaps. In *The interpretive tract*, ed. Uli Sauerland and Orin Percus, 247–295. Cambridge, MA: MITWPL.

Nissenbaum, Jonathan W. 2000. Investigations of covert phrase movement. Doctoral Dissertation, MIT.

Novák, Pavel. 1959. O prostředcích aktuálního členění [On the means of topic-focus articulation]. *AUC Philologica* 1:9–15.

Ogihara, Toshiyuki. 1996. *Tense, Attitudes, and Scope*. Springer.

Palková, Zdena. 1994. *Fonetika a fonologie češtiny [Phonetics and phonology of Czech]*. Praha: Karolinum.

Partee, Barbara H., and Mats Rooth. 1983. Generalized conjunction and type ambiquity. In *Meaning, use and the interpretation of language*, ed. Rainer Bäurle, Christoph Schwarze, and Arnim von Stechow, 361–393. Walter de Gruyter & Co.

Percus, Orin. 2006. Anti-presuppositions. In *Theoretical and empirical studies of reference and anaphora: Toward the establishment of generative grammar as an empirical science*, ed. A. Ueyamada, 52–73. Japan Society for the Promotion of Science.

Pesetsky, David. 1982. Paths and categories. Doctoral Dissertation, MIT.

Pesetsky, David, and Esther Torrego. 2006. Probes, goals and syntactic categories. In *Proceedings of the Seventh Tokyo conference on psycholinguistics*, ed. Yukio Otsu, 25–60. Tokyo: Hituzi Svobo Publishing Company.

Petr, Jan, Miloš Dokulil, Karel Horálek, Jiřina Hůrková, and Miloslava Knappová, ed. 1986. *Mluvnice češtiny [Grammar of Czech]*. Praha: Academia.

Petřík, Stanislav. 1938. *O hudební stránce stědočeské věty [About musical properties of a Central Bohemian sentence]*. Praha: Filosofická fakulta University Karlovy.

Postal, Paul. 1966. On so-called "pronouns" in English. In *Report on the Seventeenth Annual Round Table Meeting on Linguistics and Language Studies*, 177–206. Washington, DC: Georgetown University Press.

Pylkkänen, Liina. 2002. Introducing arguments. Doctoral Dissertation, MIT, Cambridge, MA.

Reinhart, Tanya. 1995. Focus – the PF interface [University of Utrecht, ms.].

Reinhart, Tanya. 1997. Quantifier scope: How labor is divided between QR and choice functions. *Linguistics and philosophy* 20:335–397.

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

Rezac, Milan. 2005. The syntax of clitic climbing in Czech. In *Clitic and affix combinations: Theoretical perspectives*, ed. Lorie Heggie and Francisco Ordó nez. John Benjamins Publishing Company.

Richards, Norvin. 1997. What moves where when and in which language? Doctoral Dissertation, MIT.

Rizzi, Luigi. 1990. *Relativized minimality*. Cambridge, Mass.: MIT Press.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: Handbook of generative syntax*, ed. Liliane Haegeman, 281–337. Dordrecht: Kluwer.

Rizzi, Luigi, ed. 2004. *The structure of CP and IP. The cartography of syntactic structures*, volume 2. Oxford: Oxford University Press.

Romportl, Milan. 1973. *Základy fonetiky [Basics of phonetics]*. Praha.

Ross, J. R. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT, Cambridge, MA.

Sabel, Joachim, and Mamoru Saito, ed. 2005. *The free word order phenomenon: its syntactic sources and diversity*. Berlin, New York: Mouton de Gruyter.

Saito, Mamoru. 1989. Scrambling as semantically vacuous A-movement. In *Alternative conceptions of phrase structure*, ed. Mark Baltin and Anthony Kroch, 182–200. Chicago: University of Chicago Press.

Saito, Mamoru. 1992. Long distance scrambling in Japanese. *Journal of East Asian linguistics* 1:69–119.

Sauerland, Uli. 1999. Erasibility and interpretation. *Syntax* 2:161–188.

Sauerland, Uli. 2003. A new semantics for number. In *Proceedings of SALT 13*, ed. R. Young and Y. Zhou. Cornell University, Ithaca, N.Y: CLC Publications.

Sauerland, Uli. 2005. Don't interpret focus: Why a presuppositional account of focus fails, and how a presuppositional account of givenness works. In *Proceedings of Sinn und Bedeutung 9*, 370–384. University of Nijmegen, Netherlands.

Schlenker, Philippe. 2006. 'maximize Presupposition' and Gricean reasoning [UCLA & Institut Jean-Nicod ms.].

Schwarzschild, Roger. 1999. GIVENness, AvoidF and other constraints on the placement of accent. *Natural language semantics* 7:141–177.

Selkirk, Elizabeth O. 1995. Sentence prosody: Intonation, stress, and phrasing. In *The handbook of phonology*, ed. J.A.Goldsmith, 550–569. London: Blackwell.

Sgall, Petr. 1967. Functional sentence perspective in a generative description. *Prague Studies in Mathematical Linguistics* 2:203–225.

Sgall, Petr, Eva Hajičová, and Eva Buráňová. 1980. *Aktuální členění věty v češtině [Topic/focus articulation of the Czech sentences]*. Praha: Academia.

Sgall, Petr, Eva Hajičová, and Jarmila Panevová. 1986. *The meaning of the sentence in its semantic and pragmatic aspects*. Dordrecht, Boston, Lancaster, Tokyo: D. Reidel Publishing Company.

Sigurðsson, Halldór Ármann. 2004. Agree and agreement: Evidence from Germanic. *Focus on Germanic Typology, Studia Typologica* 6:61–103.

Skaličková, Alena. 1956. K otázce větného přízvuku v češtině [To the question of sentential stress in Czech]. *AUC Philologica* 55–86.

Stalnaker, Robert. 1973. Presuppositions. *Journal of Philosophical Logic* 2:447–457.

Stalnaker, Robert. 1974. Pragmatic presupposition. In *Semantics and philosophy*, ed. Milton Munitz and Peter Unger, 197–213. New York: New-York University Press.

Stalnaker, Robert C. 2002. Common ground. *Linguistics & Philosophy* 25:701–721.

Sturgeon, Anne. 2006. The syntax and pragmatics of contrastive topic in Czech. Doctoral Dissertation, UC Santa Cruz.

Svenonius, Peter. 1994. C-selection as feature-checking. *Studia linguistica* 48:133–155.

Svoboda, Aleš. 1984. České slovosledné pozice z pohledu aktuálního členění [Czech word order positions from the point of view of topic focus articulation]. *Slovo a slovesnost* 45:22–34, 88–103.

Szendrői, Kriszta. 2003. A stress-based approach to the syntax of Hungarian focus. *The linguistic review* 20:37–78.

Tateishi, Koichi. 1994. *The syntax of 'subjects'.* Stanford: CSLI.

Trávníček, František. 1937. Základy československého slovosledu [Basics of Czechoslovak word order]. *Slovo a slovesnost* 3:78–86.

Trávníček, František. 1939. Slovosled při důrazu [Word order under emphasis]. *Slovo a slovesnost* 5:131–144.

Truckenbrodt, Hubert. 1995. Phonological phrases: Their relation to syntax, focus, and prominence. Doctoral Dissertation, MIT.

Vallduví, Enric. 1990. The intonation component. Doctoral Dissertation, University of Pennsylvania.

Vallduví, Enric. 1992. *The informational component.* New York, London: Garland Publishing, Inc.

Veselovská, Ludmila. 1995. Phrasal Movement and X-Morphology: Word Order Parallels in Czech and English Nominal and Verbal Projections. Doctoral Dissertation, Palacký University, Olomouc.

Veselovská, Ludmila. 1998. Possessive movement in the Czech nominal phrase. *Journal of Slavic linguistics* 6:255–300.

Veselovská, Ludmila. 2004. The extended verbal projection in Czech: Three variants of the verb 'be'. Presented at FDSL 5. University of Potsdam, Germany.

Veselovská, Ludmila, and Petr Karlík. 2004. Analytic passives in Czech. *Zeitschrift für Slavistik* 2:163–243.

Vos, Riet, and Ludmila Veselovská. 1999. Clitic questionnaire. In *Clitics in the languages of Europe*, ed. Henk van Riemsdijk, 891–1009. Berlin, New York: Mouton de Gruyter.

Šmilauer, Vladimír. 1960. Pořádek slov [Word order]. In *O češtině pro Čechy*, ed. František Daneš et al., 247–270. Praha: Novinářský studijní ústav.

Wagner, Michael. 2005. Prosody and recursion. Doctoral Dissertation, MIT.

Wagner, Michael. To appear. NPI-licensing and focus movement. In *Proceedings of SALT XV. Cornell University.*, ed. Effi Georgala and Jonathan Howell. Cornell University.

Wagner, Michael. To appear a. Association by movement: Evidence from NPI-licensing. *Natural language semantics* .

Wagner, Michael. To appear b. Givenness and locality. In *Proceedings of SALT XVI*. Ithaca, NY: CLC Publications.

Webelhuth, Gert. 1989. Syntactic saturation phenomena and the modern Germanic languages. Doctoral Dissertation, University of Massachusetts, Amherst.

Williams, Edwin. 1984. *There*-insertion. *Linguistic Inquiry* 15:131–153.

Williams, Edwin. 1997. Blocking and anaphora. *Linguistic Inquiry* 28:577–628.

Wurmbrand, Susi. 2006. Tense topics: The future of infinitives [Colloquium talk, MIT, December 2006].

Wurmbrand, Susi. To appear. Infinitives are tenseless. *Proceedings of the 30th Annual Penn linguistics colloquium. Penn Working Papers in Linguistics* 13.

Zerbian, Sabine. 2006. Expression of information structure in the Bantu language Northern Sotho. *ZAS Papers in Linguistics* 45.

Zikánová, Šárka. 2006. Slovosled ve starší češtině (1500-1620): Postavení syntetického přísudku ve větě hlavní [Word order in older Czech (1500-1620): The position of the synthetic predicate in matrix clauses]. Doctoral Dissertation, Charles University, Prague.

Zubizarreta, Maria Luisa. 1998. *Prosody, focus, and word order*. Cambridge, Mass.: MIT Press.