

also the strong preference for discourse deictic anaphora to occur in initial (topic) position. The use of demonstratives for this type of reference can be explained if syntactic restrictions are taken into account, such as those barring unstressed neuter object pronouns from initial position. This makes it clear that the demonstratives are not used to express topic shift.

I have also shown that it is crucial for the resolution of anaphora which carry little semantic information themselves (eg null topics) to take into account the information supplied by the verb. This is in line with Nunberg's restriction of the referring function by information carried by the predicate and also with Asher's use of the subcategorisation frame of the verb to determine the type of abstract object referred to.

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## The Syntax of IPP-Constructions and the Structure of the Lower Middlefield in Westgermanic

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In this paper, we investigate the structure of the lower middlefield in Westgermanic. The arguments for the particular structure that we propose are in part based on an analysis of the syntax of IPP-constructions in Westflemish, Afrikaans and German. In the course of the paper, we will present empirical evidence for leftward V-movement in embedded clauses in Westgermanic. Furthermore, we will demonstrate that not only DP-arguments of the verb, but also verb-particles, VP-internal predicates and CP-complements have to move out of the VP to be licensed in specific positions in the lower middlefield.

### 1. The Verb-Final Pattern: OV and VO Accounts

Two approaches have been proposed to account for the verb-final embedded pattern in the Westgermanic SOV-languages, the traditional SOV approach and the antisymmetric SVO approach. The traditional approach allows for parametric variation in the head-complement order. For the Westgermanic SOV languages it is assumed that the functional and lexical projections in the IP-domain are head-final. In this approach, the embedded verb-final position in (1a) is compatible either with the lack of V-movement (1b) or with rightward V-movement to a functional head within IP (1c).

- (1) a. weil Hans gestern das Buch las  
       *since Hans yesterday the book read-Past*  
       b. [<sub>CP</sub> weil [<sub>IP</sub> Hans gestern [<sub>VP</sub> das Buch las]]]  
       c. [<sub>CP</sub> weil [<sub>IP</sub> Hans gestern [<sub>VP</sub> das Buch t<sub>i</sub>] las<sub>i</sub>]]

A slight complication for the traditional approach is posed by the position that the infinitival marker occupies in infinitival clauses, as is illustrated in (2a). The sequence *zu lesen* (to read) looks very much like a head-initial right-branching structure, in which the infinitival marker heading a functional position takes the infinitival VP as its complement to the right. To accommodate this order with the particular assumptions about the word order in the IP-domain within the standard approach, it is either assumed that the infinitival marker in the Westgermanic SOV-languages is not an

independent head but rather a verbal affix (Haider 1993), as illustrated in (2b) or that the infinitival verb undergoes rightward head-movement to (right-)adjoin to the head-final infinitival marker in the IP-domain, as illustrated in (2c).

- (2) a. ohne gestern das Buch zu lesen  
without yesterday the book to read-*INF*  
b. [<sub>CP</sub> ohne [<sub>IP</sub> PRO gestern [<sub>VP</sub> das Buch [<sub>V</sub> zu-lesen]]]]  
c. [<sub>CP</sub> ohne [<sub>IP</sub> PRO gestern [<sub>VP</sub> das Buch t<sub>i</sub> ]]<sub>I</sub> zu+-lesen,]]]

In the antisymmetry approach (Kayne 1994, Zwart 1993), it is assumed that all structure is head-initial. In this approach, the embedded verb-final order is derived by some sort of feature driven leftward movement of VP-internal material. This is illustrated for arguments of the verb in (3a) and for VP-internal predicates in (3b). While the movement of DPs into AgrPs is in accordance with recent minimalist assumptions about Case-licensing of arguments, the movement of APs, PPs and other VP-internal constituents required within the antisymmetry approach, appears stipulative in the absence of any empirical evidence.

- (3) a. [weil Hans gestern das Buch<sub>i</sub> [<sub>VP</sub> las t<sub>i</sub> ]]  
since Hans yesterday the book read-*PAST*  
b. [weil Hans gestern krank<sub>i</sub> [<sub>VP</sub> war t<sub>i</sub> ]]  
since Hans yesterday sick was

The crucial empirical evidence that supports the assumptions necessary within the antisymmetry approach and at the same time disqualifies assumptions necessary within the traditional approach comes from the position of the infinitival marker in non-finite IPP-Constructions in Westflemish (4a), taken from Haegeman (1995), and Afrikaans (4b), taken from Donaldson (1993).

- (4) a. mee Valere te [willen [dienen boek kuopen]] een  
with Valere to want that book buy have  
“with Valere having wanted to buy that book”  
b. Die banke moes oop gewees het, om dit gister te [kan betaal] het  
the bank should open been have it yesterday to can buy have  
“the bank should have been open to have been able to buy it  
yesterday”

Since material, given in square brackets in (4), can intervene between the infinitival marker and the corresponding infinitival verb, it follows that the infinitival marker in the Westgermanic SOV languages cannot be analyzed as a verbal affix, but, like in English, has to be analyzed as occupying a functional position within the IP-domain. That this functional position is not head-final and that the sequence *te+V* cannot be accounted for by assuming rightward head-movement of the verb within the traditional approach, also follows directly from (4a). In (4a), the constituent that has been moved to the right of the infinitival marker cannot possibly be a head since it contains the DP *that book*.

We thus assume that the infinitival marker occupies a functional head to the left of VP, which Haegeman (1995) coined F1. In section 3, we will argue that it can be shown with the help of the infinitival marker that VP-internal constituents, including APs, verb-particles and PPs move out of the VP. But first we want to explain what IPP-constructions are.

## 2. The Syntax of IPP Constructions

The infinitival clauses in (4) involve IPP-complements. The Infinitivus Pro Participio (IPP) Effect occurs when a restructuring verb, e.g. a modal verb, selecting an infinitival complement (the dependent infinitive) is used in a Perfect tense. In this case, the selecting verb does not show up in its participial form but is realized as a bare infinitive (the IPP-infinitive). This is illustrated for Dutch in (5) and German in (6), where the infinitival forms *willen/wollen* replace the participial forms *gewild/gewollt* of the modal verb *want*.

- (5) a. \*dat Elsie hem een Brief heeft gewild schrijven  
that E him a letter has wanted(pp) write  
b. dat Elsie hem een Brief heeft willen schrijven  
that E him a letter has want(inf) write  
“that E has wanted to write him a letter”  
(6) a. \*dass Elsie ihm einen Brief schreiben gewollt hat  
that E him a letter write wanted(pp) has  
“that E has wanted to write him a letter”  
b. \*dass Elsie ihm einen Brief schreiben wollen hat  
that E him a letter write want(inf) has  
c. dass Elsie ihm einen Brief hat schreiben wollen  
that E him a letter has write want (inf)

As the contrast between (5b) and (6b) shows, in German, it is not sufficient to simply replace the participle with a bare infinitive, as it is in Dutch. In order to yield a grammatical sentence in German, the auxiliary has to invert with the cluster comprised of the dependent infinitive and the IPP-infinitive (6c). We will give an account of inversion in German in this context when we talk about the internal syntax of IPP-complements.

The interesting issue that the IPP-effect raises is the question of whether IPP-infinitives are real infinitives or hidden participles of some sort. Most notoriously, Jakob Grimm (1969/1898:195) put forth the hypothesis that the IPP-infinitive is a prefixless participle. We will adopt the hidden participle account for the following reasons. Based on the distribution of participles, infinitivals and IPP-complements in Westflemish and Afrikaans, we will argue in 2.1 that IPP-complements behave like participles and unlike infinitives. Secondly, the hidden participle account allows us to assume that for the purpose of checking the subcategorization of the auxiliary (which selects for a participial phrase) and for the purpose of temporal interpretation, the IPP-infinitive counts as a participle.

### 2.1. The External Syntax of IPP-Complements

Let us look at the distribution of infinitives, IPP-complements and participles in Westflemish first. The following data are taken from Haegeman (1995). In Westflemish, infinitives always follow their selecting verb, while participles always precede the selecting auxiliary. This is illustrated in (7) and (8), respectively.

- (7) a. da Valere dienen boek wil kuopen  
       *that Valere that book wants buy*  
       b.\* da Valere dienen boek kuopen wil  
        *that Valere that book buy wants*  
        *"that Valere wants to buy that book"*  
 (8) a. da Valere dienen boek gekocht ēē  
       *that Valere that book bought has*  
       *"that Valere has bought that book"*  
       b.\* da Valere dienen boek ēē gekocht  
        *that Valere that book has bought*

In contrast, IPP-complements can both precede and follow the selecting finite verb. In the standard analysis, we may assume that IPP-complements

can optionally be extraposed (cf. 9ab). However, the IPP-complement must follow the selecting verb if the negative particle *en* is to be spelled out on the finite verb. This is illustrated by the contrast in (9cd).

- (9) a. da Jan ee [willen [Marie nen boek geven]]  
       *that Jan has want(IPP) Marie a book give*  
       b. da Jan [willen [ Marie nen boek geven]] eet  
       *that Jan want(IPP) Marie a book give has*  
       *"that Jan has wanted to give Marie a book"*  
       c. da Jan nooit en-eet willen an Valere nen boek geven  
       *that Jan never en has want(IPP) to Valere a book give*  
       *"that Jan has never wanted to give a book to Valere"*  
       d. da Jan nooit willen an Valere nen boek geven (\*en)-eet  
       *that Jan never want(IPP) to Valere e book give en has*

On the other hand, the IPP-complement must precede the selecting verb if the auxiliary is non-finite. In this case the IPP-complement must occur between the infinitival marker and the infinitive as we have seen in (4a). Before we provide an analysis of the distribution of IPP-complements within the antisymmetry approach, let us see how we would account for these data in the traditional SOV-approach. Bringing the facts illustrated in (7-9) into a single picture it is hard to see what rule might govern extraposition in Westflemish. Remember that the regularities are the following. An IPP-complement may or may not be extraposed if the selecting verb is finite. However, it must be extraposed if the selecting finite verb incorporates the negative particle *en*. On the other hand, it may not be extraposed at all when the selecting verb is non-finite. Finally, an infinitival complement must always be extraposed independently of the finiteness of the selecting verb. To capture these regularities in a single rule that follows from other properties of Westflemish or from general principles of grammar seems almost impossible.

Hence we will try to give better explanation of these regularities within the antisymmetry approach. In the antisymmetry approach all complements, that is, infinitives, IPP-complements and participles in our case, start out to the right of the selecting verb. All we have to say about infinitival complements is that they stay in their base position, as illustrated in (10a). Remember, as shown in (8) above, that participles as opposed to infinitives have to precede the selecting auxiliary and that the infinitive in an IPP-complement stands for a participle. Thus, we would like to propose that IPP-complements are Participle Phrases (PartPs) and that they move like

participles into a Specifier, say [Spec,F2], of the selecting auxiliary to check the auxiliary's subcategorization. Now we would like to adopt the ingenious account by Haegeman (1995), who proposes that the complex pattern illustrated in (9) follows from the availability of **leftward** head-movement of the selecting verb. If we assume that non-finite verbs as opposed to finite ones cannot move to F1, then we derive the fact that an IPP-complement may not be *extraposed* if the selecting verb is non-finite (10b). All we have to say to derive the fact that an IPP-complement may or may not be extraposed if the selecting verb is finite (and does not incorporate the negative marker *en*) is to assume that finite verbs may optionally move to F1 (10cd). Still the question arises why an IPP-complement can be **extraposed** while a simple participle, as is shown in (8b), cannot. The answer is that a participle moves even higher than F1. (11) shows that a participle cannot intervene between the infinitival marker and the auxiliary but must always precede the infinitival marker. Finally, if we assume, following Haegeman's (1995) proposal that a) the negative particle *en* is licensed in F1 and b) that it has to incorporate into the verb, then we derive the fact that an IPP-complement has to be **extraposed** if the finite verb incorporates *en*<sup>1</sup> (10e).

- | (10) | F1        | SPEC | F2                  | COMPLEMENT       |
|------|-----------|------|---------------------|------------------|
| a.   | (verb)    |      | (verb)              | infinitive       |
| b.   | <i>te</i> | IPP  | Aux                 | t <sub>IPP</sub> |
| c.   | Auxfin    | IPP  | Auxfin              | t <sub>IPP</sub> |
| d.   | en-Aux    | IPP  | t <sub>auxfin</sub> | t <sub>IPP</sub> |
| e.   |           | IPP  | t <sub>aux</sub>    | t <sub>IPP</sub> |
- (11) a. Mee Valere dienen boek **gewild** te een (vu zenen verjoardag)  
*with Valere that book wanted to have (for his birthday)*  
 "Valere having wanted that book for his birthday"  
 b. \* Mee Valere dienen boek te **gewild** een (vu zenen verjoardag)  
 c. ?\* Mee Valere dienen boek t'een **gewild** (vu zenen verjoardag)

In (12), we summarize the distribution of participles, infinitives and IPP-complements with respect to the selecting verb and infinitival marker *te*. To minimize the difference between participles and IPP-complements (hidden

<sup>1</sup> Haegeman (1995) also argues that if non-finite verbs cannot move to F1, as we have assumed, then one can derive the fact that *en* can only be spelled out on a finite verb.

participles) we propose that participles are not moved in one swoop from their base position to the right of the selecting verb to their surface position but that they, like IPP-complements, first undergo XP-movement to [Spec,F2] of the selecting auxiliary (to check its subcategorisation) and subsequently undergo X<sup>0</sup>-movement to F1. The latter (additional) movement of participles must be triggered by the participial morphology that IPP-infinitives lack. That participles indeed undergo this complex two-step movement in Westflemish and the other Westgermanic languages is supported by behavior of participles in Afrikaans. In this language, the intermediate step of the complex movement of participles, unevincenced in all other Westgermanic languages, luckily is evidenced. As is illustrated in (13), the participle is spelled out between the infinitival marker and the infinitival verb. (13) also provides the ultimate confirmation for our hypothesis that IPP-infinitives are hidden participles: in Afrikaans, participles and IPP-infinitives have exactly the same distribution (cf. (13) and (4b)).

- (12) **participle** *te* **IPP** verb **infinitival complement**

- (13) Jy behoort die lig af te geskagel het  
*You ought the light off to turned have*  
 "You should have turned the light off"

## 2.2. The Internal Syntax of IPP-Complements

In this section, we provide an account of the IPP-effect which we left unexplained so far. We will also explain why participles and IPP-infinitives pattern exactly alike in Afrikaans but have a slightly different distribution in the other Westgermanic languages, as illustrated above for the case of Westflemish. The IPP-effect occurs in restructuring contexts. One important feature of restructuring is the formation of verbclusters (cf. Haider (1993), Rutten (1991)). In Hinterhölzl (1996), we argue that in restructuring contexts, due to a defective complementizer, the dependent infinitive moves into [Spec,F2] of the selecting verb to check its subcategorisation. Following Bech (1955), we assume that a verb selects for the **status** of its non-finite complement. That is, it determines whether the dependent nonfinite verb is a participle, a bare infinitive or a to-infinitive. Thus we will henceforth refer to F2P as Status Phrase (StafP). To explain the IPP-effect, we will make use of the particular structure of participle phrases in Westgermanic. We note that the languages and dialects in which the participle is formed without the participial prefix *ge*, namely Frisian and Low

German, do not display an IPP-effect. In the following we will show how the IPP-effect can be reduced to a structural incompatibility between the participial prefix and the infinitive dependent on the restructuring verb.

In the Westgermanic languages displaying the IPP-effect, the participle is formed by affixation of the prefix *ge* and the suffix *t/d*. We follow Halle & Marantz (1993) in assuming that inflected forms are (partially) derived in the syntax. More specifically, we propose that the participial prefix *ge* is inserted in [Spec,StatP/F2P] of the participial phrase. The verb in the participial phrase will then first move to F2, to check its prefix, and then up to F1 to adjoin to its suffix. The prefix will then left-adjoin to the complex of verb and suffix to form the participle before Spell out. This is illustrated in (14).

(14) [<sub>F1P</sub> -t [<sub>F2P</sub> [ *ge* ] F2 [<sub>VP</sub> V ]]]

If the verb in the participle phrase is a restructuring verb, then the dependent infinitive will at some point in the derivation (before Spell out in German, but after Spell out in Dutch, Westflemish and Afrikaans) move into [Spec,F2P]. It follows that a verb in participial form and a bare infinitive selected by such a verb rule each other out. In this case the participial prefix is *blocked* by the dependent infinitive, that is to say, it cannot be inserted. We argue that the blocking of the prefix leads to a violation of a morphological constraint at MF, namely, of the requirement that a participle consist of a suffix **and** a prefix. This violation is avoided in that a) no phonological material is inserted in F1 (that is, the suffix is dropped) and b) the verb remains in F2 and is spelled out with the default morphology of a bare infinitive. This is illustrated in (15).

(15) [<sub>F1P</sub> 0 [<sub>F2P</sub> [dependent infinitive] IPP-infinitive<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> ]]]

The morpheme in F1 in (15), though not containing any phonological feature, arguably contains the formal feature [+participle] and a semantic feature [+PAST] (or the condition that event time precede reference time in a Reichenbachian system). We propose that the semantic feature of the participle has to move to F1 of the auxiliary (which we now identify as an Aspect-head) to be linked with the matrix tense and argue that it is movement of this feature (after the formal feature of the participle has been checked by XP-movement of the Participle Phrase into StatP of the auxiliary) that pied-pipes a phonetically realized participle but remains invisible in the case of an IPP-infinitive.

Returning to obligatory inversion with the IPP-complement of the auxiliary in German (cf. (6bc)), we propose that the movement of the semantic feature of the participle is in a way made *visible* by the concomitant movement of the auxiliary, which, like auxiliaries in Westflemish, moves up to F1, presumably, in order to help license the empty morpheme, as is illustrated in (16).

(16) daß Else ihm einen Brief [<sub>F1P</sub> hat<sub>i</sub> [<sub>F2P</sub> 0 [[schreiben] wollen]] t<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> ]]]

that Else him a letter has write want-IPP

That movement of the auxiliary in (16) is obligatory is probably due to the strength of the participial feature<sup>2</sup>. Thus, (16) provides an example for a case of leftward V-movement in German.

Why then do IPP-infinitives and participles behave alike in Afrikaans while they differ in their distribution in the other Westgermanic languages? Note that verbs in Afrikaans have lost all their endings. In particular, participles, while retaining the “ge”-prefix, have lost their “d/t”-suffix. Thus, it stands to reason that participles in Afrikaans, like IPP-infinitives in general, contain an empty morpheme in F1, movement of which will fail to pied-pipe the participle in F2P below.

To conclude, the behavior of participles in Afrikaans provides strong, independent evidence for our account of IPP-infinitives in Westgermanic.

<sup>2</sup> Note that in German, even non-finite auxiliaries have to invert with IPP-complements (i), while the opposite holds in Westflemish (ii). It follows that in Westflemish, due to the inability of non-finite verbs to move to F1, the empty morpheme may be licensed at LF.

- (i) a. Else wird ihm einen Brief haben schreiben wollen  
       Else will him a letter have write want (IPP)  
       b. \* Else wird ihm einen Brief schreiben wollen haben  
       Else will him a letter write want (IPP) have  
       “Else will have wanted to write him a letter”  
 (ii) a. dan-ze kosten willen dienen boek kuopen een  
        that they could want(IPP) that boek buy have  
       b. \* dan-ze kosten een willen dienen boek kuopen  
        that they could have want (IPP) that boek buy  
        “that they could have wanted to buy that book”

### 3. The Structure of the Lower Middlefield in Westgermanic

In this section, we give a brief description of the basic clause structure of the Westgermanic languages. The following discussion is mainly based on German data, but its results are taken over to Dutch and Westflemish as well.

Manner adverbs like *sorgfältig* (carefully), *genau* (precisely), *gut* (well), *schlecht* (badly) and so forth show that nominal arguments - both definite and indefinite ones - always have to leave the VP before Spell-out. They are licensed in functional projections above the position of manner adverbs and the negative marker *nicht*.

- (17) a. weil Hans den Plan/einen Plan **schlecht** ausführte  
 since Hans the plan/a plan badly executed  
 "since Hans executed the/a plan badly"  
 b.?? weil Hans **schlecht** den Plan/einen Plan ausführte  
 since Hans badly the plan/a plan executed

This type of scrambling does not affect the interpretation of the moved DP. It is well-known that indefinite DPs in German differ in their interpretation depending on whether they follow or precede sentential adverbs like "oft". So the type of scrambling of DPs across manner adverbs (short scrambling) has to be distinguished from the type of scrambling that affects the scope of a DP, as is illustrated in (18). The latter kind of movement is optional, while the former kind is obligatory and seems to occur for reasons of Case-licensing. In her discussion of the mapping hypothesis, Diesing (1992) systematically overlooks short scrambling and thus arrives at the faulty conclusion that certain DPs, namely nonspecific indefinites, may stay in the VP.

- (18) a. weil Hans ein Buch oft gelesen hat ( only specific interpretation )  
 since Hans a book often read has  
 b. weil Hans oft ein Buch gelesen hat (only nonspecific interpretation)  
 since Hans often a book read has

Having established that the infinitival marker occupies a functional head, namely F1, to the left of the VP we can now show that also VP-internal predicates (including small clauses, idioms and directional PPs) have to move out of the VP. The Westflemish data taken from Haegeman (1995) show that an adjectival small clause predicate cannot remain within the VP, or for that

matter, incorporate into the verb, as is often assumed (cf. Neeleman (1994). We assume that small clauses undergo XP-movement to be licensed in the Specifier of a Predicate Phrase (PredP). The Predicate Phrase occupies a position between F1 and the position of manner adverbs. While the small clause predicate stays in [Spec,PredP] its argument, like the other arguments of the verb, moves out of PredP to its licensing position above manner adverbs, as is illustrated in (19c).

- (19) a. K goan proberen van die deure **groen** te verwen  
 I go try of the door green to paint  
 b.\* K goan proberen van die deure te **groen** verwen  
 I go try of the door to green paint  
 c. weil Hans **den Zaun**, sorgfältig [<sub>PredP</sub> [<sub>t</sub> gelb]<sub>SC</sub> [<sub>VP</sub> anstrich t<sub>SC</sub> ]]  
 since Hans the fence carefully yellow up-painted

The test with manner adverbs indicates that idiomatic expression and directional PPs are licensed in PredP as well. Since these elements can only occur between the manner adverb and the infinitival marker they must occupy PredP in (20).

- (20) a. um es ihr schnell zur Verfügung zu stellen  
 in-order it her quickly to-Agr availability to put  
 "in-order to make it available for her quickly"  
 b.\* um es ihr zur Verfügung schnell zu stellen  
 in-order it her to-Agr availability to put  
 c. um die Milch vorsichtig in den Kühlschrank zu stellen  
 in-order the milk carefully into the refrigerator to put  
 d.\* um die Milch in den Kühlschrank vorsichtig zu stellen  
 in-order the milk into the refrigerator carefully to put

From the licensing movement of adjectives it follows that CP-complements cannot remain within the VP either. (21a) shows the only possible order between adjective and CP-complement in an infinitival clause. The adjectival phrase undergoes licensing movement into PredP above the infinitival marker. As (21b) shows pied-piping of the CP-complement leads to ungrammaticality. It follows then that the CP-complement has to move out of the VP before the adjectival phrase moves to PredP, in order to derive (21a) from the underlying structure in (21c). We propose that CP-complements undergo short movement and are licensed in a functional projection directly below the position to which the verb in embedded clauses

moves. We thus arrive at the following structure of the lower middle field in the Westgermanic languages (cf. (22)).

- (21) a. ohne froh zu sein, daß der Hans nicht kam  
 without happy to be that the Hans not came  
 'without being happy that Hans did not come'  
 b.\* ohne [froh, daß der Hans nicht kam] zu sein  
 without happy that the Hans not came to be  
 c. [<sub>CP</sub> ohne ...<sub>FIP</sub> zu [<sub>VP</sub> sein [<sub>AdvP</sub> froh [CP]]]]  
 (22) [DPs [Neg [ VP-adverbs [ Pred<sup>0</sup> [<sub>FIP</sub> zu [<sub>F2P</sub> V [<sub>F3P</sub> CP [VP]]]]]]]]

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## Pre-Boundary Lengthening: Universal or Language-Specific? The Case of Hungarian

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### 1. Introduction

Right edges of prosodic boundaries can be marked by a variety of acoustic cues. Among these features, increased segmental duration, referred to as pre-boundary lengthening (PBL), is of particular interest, because it raises the question of how this phonetic lengthening interacts with segmental length distinctions. While the general consensus is that PBL is widely used among the world's languages to mark phonological phrasing (Hayes, 1997), and therefore it might be universal (Vaisière, 1983), some languages are considered exceptions. It has been argued, for instance, that languages with phonemic length distinctions, such as Finnish (Lehiste, 1965), Estonian (opt.c.) and Skolt-Sami (McRobbi, 1996) do not have PBL, because they would not utilize duration for additional functions.

In this paper we report the results of an investigation on PBL in Hungarian, a Finno-Ugric language known to have phonemic length distinctions. We begin by showing that there is no convincing evidence against PBL in Finno-Ugric languages, especially not in Hungarian. We will argue based on our data that Hungarian shows a consistent tendency for pre-boundary lengthening, and that the amount of lengthening we observe should be well within the range of perceptibility for native speakers of Hungarian.

### 2. PBL According to the Literature

#### 2.1. What is PBL?

PBL is one of the acoustic cues used to segment speech into linguistically meaningful units. There is, however, some discrepancies between its use in production and the perception. While adults systematically lengthen boundaries when disambiguating between different syntactic bracketings, 5 and 7-year old children do not use such durational cues (Katz et al. 1996), which indicates that PBL may be a learned behavior (Oller and Smith, 1977). On the other hand, adults and 7-year old children massively rely on durational cues in perceiving the same syntactic groupings (Beach et al., 1996). This is consistent with the "phonological bootstrapping" hypothesis (Gleitman et al.,