

# On the Syntax-Prosody Mapping in Hungarian Comparatives

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The aim of the present paper is to provide an adequate description of the syntax–prosody mapping in Hungarian comparative subclauses, which may account for certain differences observed in the position of the quantified expression. As will be shown, Hungarian has two quantifier operators, *amilyen* 'how' and *amennyire* 'how much' that may appear together with a lexical AP; however, the latter but not the former may be separated from the AP. I will argue that this contrast has important consequences in terms of information structure too: while in the case of *amilyen* GIVEN and F-marked APs behave in the same way, with *amennyire* there are also differences with respect to the position of the AP. This variation will be shown to be derivable from general rules of syntax–prosody mapping that apply in Hungarian comparative subclauses.

#### 1 Introduction

In Hungarian, the standard value of comparison can be expressed by either a case-marked DP or a CP. Consider the following examples:

(1) a. Peti magas-abb [DP Mari-nál].
 Peter tall-er Mary-ADESSIVE
 'Peter is taller than Mary.'
 b. Peti magas-abb [CP mint Mari].
 Peter tall-er than Mary

'Peter is taller than Mary.'

In (1a), the standard value (ie to which something is compared) is expressed by the DP Marinál 'Mary-DAT', which is inherently marked for the

adessive case; this is an instance of phrasal comparison. By contrast, (1b) shows clausal comparison, where the standard value is expressed by a CP headed by the complementiser *mint* 'than'; in this case, the DP *Mari* 'Mary' is in the nominative case since it functions as the subject of the subclause.

The full CP status of the bracketed string becomes obvious when other elements also appear in the structure, the option of which is naturally not available in phrasal comparatives. Besides the fact that the verb can be overt, it has to be mentioned that Hungarian is a language that allows the overt presence of a quantified degree expression in the subclause as in (2):

- (2) a. Peti magas-abb [CP mint **a-milyen magas** Mari volt]. Peter tall-er than REL-how tall Mary was 'Peter is taller than Mary was.'
  - b. Peti-nek több macská-ja van [CP mint a-hány
    Peter-DAT more cat-POSS.3SG is than REL-how.many
    macská-ja Mari-nak van ].
    cat-POSS.3SG Mari-DAT is
    'Peter has more cats than Mary.'

As can be seen, the subclauses are full in the sense that they are allowed to contain an inflected verb; moreover, they may also overtly realise a quantified expression, the QP *amilyen magas* 'how tall' in (2a) and the DP *ahány macskája* 'how many cats' in (2b), the latter containing the QP *ahány* 'how many'. Both of these elements count as GIVEN: they have logically identical antecedents in the matrix clause (*magasabb* 'taller' and *több macskája* 'more cats', respectively).

However, it is also possible to have F-marked quantified elements in the subclause; consider:

- (3) a. Az asztal hossz-abb [CP mint **a-milyen széles** az iroda ]. the table long-er than REL-how wide the office 'The table is longer than the desk is wide.'
  - b. Peti-nek több macská-ja van [CP mint Peter-DAT more cat-POSS.3SG is than a-hány kutyá-ja Mari-nak van].

    REL-how.many dog-POSS.3SG Mary-DAT is 'Peter has more cats than Mary has dogs.'

In this case, the QP *amilyen széles* 'how wide' in (3a) is clearly not logically identical with the matrix clausal QP *hosszabb* 'longer', and the same

is true for the relation between ahány kutyája 'how many dogs' and ahány macskája 'how many cats' in (3b).

The problem is essentially the following. Quantified elements in Hungarian seem to occupy invariably the same position irrespectively of whether they are F-marked or not, which raises the question of whether and to what extent they may change the phonological phrasing of the subclause, ie whether and to what extent their presence causes any difference in assigning stress to other elements in the structure.

The question is compelling especially because in English the case seems to be straightforward. Consider the following examples:

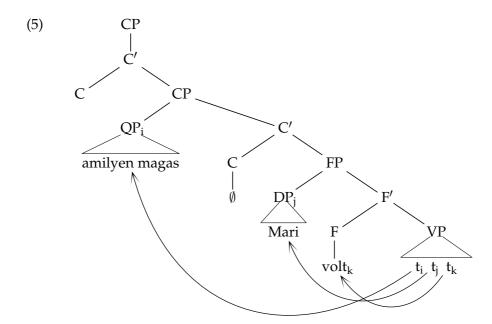
- (4) a. Peter is taller than MARY is (?? tall).
  - b. The table is longer than the desk is WIDE.

In English, a GIVEN quantified expression is normally eliminated from the structure: the presence of the QP in (4a) is very marked; however, if the QP is F-marked, as in (4b), the sentence is completely grammatical. Note that — for independent reasons — English realises the overt copy of the quantified expression in its base position and the operator element is zero (cf Bácskai-Atkári 2010, 2012). Hence it seems that while English clearly makes a distinction in terms of whether the quantified element is GIVEN or F-marked in terms of what qualifies as a grammatical sentence and what not, Hungarian allows both possibilities. I will show that this difference can be accounted for in terms of the differences in the syntax-prosody mapping rules between the two languages and will provide an explanation for the Hungarian data that may also predict and rule out further theoretically possible configurations.

## 2 Comparatives and contrast

As is known, comparatives tend to inherently encode contrast (cf Klein 1980, Larson 1988); the contrasted element is generally the focus of the clause, bearing nuclear stress and expressing exhaustive identification (cf É. Kiss 2002). The structure of the subclause in (2a)—ie the CP mint amilyen magas Mari volt 'than Mary was tall'—is shown in (5).

As can be seen, there are altogether three movement operations: first, the QP amilyen magas 'how tall' has to move up to a [Spec; CP] position via ordinary wh-movement (cf Chomsky 1977). Second, the DP Mari 'Mary' moves to the [Spec; FP] position: this movement is traditionally claimed to be motivated by the fact that the focussed constituent has to check its



[+Focus]-feature against the Focus head (cf Bródy 1990, 1995). Third, the verb moves up to the F head.

This seems to imply a straightforward relation between the contrasted element and the focus of the clause; moreover, it is typically this element that remains overt only as in most comparative subclauses only one element is contrasted and the rest of the clause can hence be deleted. This happens in the case of (1b): the subclause *mint Mari* 'than Mary' contains only the contrasted element but not the GIVEN QP.

While it is true that the comparative subclause must contain at least one element that is contrasted — irrespectively of whether comparison involves equality or inequality —, it is not true that there could be no more contrasted elements. One type is when the quantified expression is also contrasted with its matrix clausal counterpart, as in (3a) — or its English counterpart in (4b); in addition, the subclause may contain other contrasted elements as well. Consider the Hungarian examples in (6).

As can be seen, it is possible to have contrasted elements other than the subject: an object argument, as in (6a), an adverbial modifier, as in (6b), or the lexical verb itself, as in (6c). Hence contrastivity in itself is not linked to any designated positions or functions in the comparative subclause.

- (6) a. Mari jo-bb-an szeret-i Peti-t, mint Liza Pali-t.

  Mary good-er-ly love-s Peter-ACC than Liz Paul-ACC

  'Mary loves Peter more than Liz does Paul.'
  - b. Mari több macská-t lát-ott kedd-en, mint Pali szombat-on. Mary more cat-ACC see-PST Tuesday-SUP than Paul Saturday-SUP 'Mary saw more cats on Tuesday than Paul did on Saturday.'
  - c. Mari több regény-t olvas-ott, mint a-hány-at Peti ír-t. Mary more novel-ACC write-PST than REL-many-ACC Peter write-PST 'Mary read more novels than Peter wrote.'

## 3 Syntax-prosody mapping in Hungarian

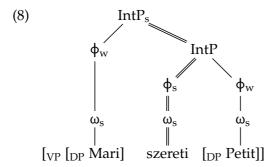
Since the primary focus of the present essay is neither to review nor to modify the more or less standard assumptions concerning the syntax–prosody mapping in Hungarian, I will restrict myself to introducing only some basic notions that will be used in this paper.

As expressed by Szendrői, "nuclear stress in Hungarian is assigned to the leftmost phonological phrase in the intonational phrase" and "phrasal stress is assigned to the leftmost phonological word in the phonological phrase" (2001:45). This predicts that Hungarian stress, as opposed to English, is leftward-oriented; hence focussed constituents have to move leftward in order to be found in a stress position.

Let us take the following example:

(7) Mari szeret-i Peti-t. Mary love-s Peter-ACC 'Mary loves Peter.'

In this case, the sentence is neutral and nuclear stress falls on the verb; following Szendrői (2001 : 48–49), the representation is as follows:

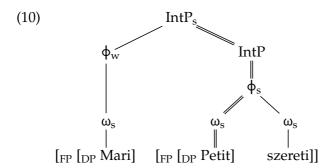


As can be seen, the DP *Mari* 'Mary', which is a topic in the clause, is adjoined to the VP and hence is treated as extrametrical (Szendrői 2001: 49, following Truckenbrodt 1999). In other words, the rule assigning main sentential stress to the entire intonational phrase (IntP) simply disregards such adjoined constituents and operates only within the lower IntP; since in this IntP the leftmost element is the verb itself, nuclear stress will fall on the verb in a neutral Hungarian sentence.

The picture is slightly different when the sentence contains a focussed constituent, as in (9):

(9) Mari PETI-T szeret-i. Mary Peter-ACC love-s 'It is Peter that Mary loves.'

In this case, the DP *Petit* 'Peter' is moved to the specifier of a Focus phrase (FP) and the structure is as follows (cf Szendrői 2001 : 51):



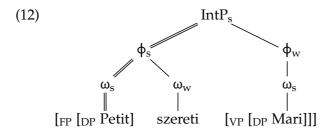
The pattern is similar to the one in (8); however, there are some important differences that have to be mentioned. First, the topic *Mari* 'Mary' is adjoined to the FP, while the DP *Petit* 'Peter' also moves out of the VP and lands in the specifier position of the FP, the head of which is filled by the moving verb—see the representation given in (5). The topicalised constituent is again extrametrical; in the lower IntP, stress regularly falls on the leftmost constituent—which is in this case the DP *Petit* and not the verb.

According to Szendrői (2001:50–53), focus movement in Hungarian is stress-driven: the focussed constituent moves to [Spec; FP] to get main stress, while verb movement happens in order to license an empty functional head projection (that is, F). As opposed to this, topics move to adjunct positions and as such their movement seems to be optional. As a

matter of fact, the sentence in (9) could also be phrased as (11), where the DP Mari 'Mary' stays in its postverbal position:

(11) PETI-T szeret-i Mari. Peter-ACC love-s Mary 'It is Peter that Mary loves.'

Based on what has been said above and Szendrői (2001:51-52), the intonational phrasing should be as follows:



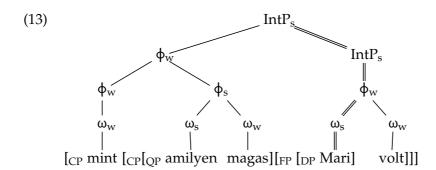
In this case, the DP Mari 'Mary' does not have to be treated extrametrical in order to avoid main stress falling on it: stress falls on the leftmost constituent, which is—just as in (10)—the DP *Petit* 'Peter'.

Needless to say, there would be a number of other issues to discuss in terms of focussing in Hungarian but at this point I do not wish to argue either for or against Szendrői's (2001) approach that takes focus movement to be stress-driven. For our purposes here, these basic notions will be sufficient.

## 4 Comparative subclauses and focussing

Having established all these, let us have a look at comparative subclauses. The syntactic structure of the string mint amilyen magas Mari volt 'than Mary was tall' was already shown in (5); the intonational phrasing is given in (13).

First of all, based on the Lexical Category Condition (Truckenbrodt 1999:226) and the Principle of Categorial Invisibility of Function Words (Selkirk 1984:226), function words are to be treated as invisible with respect constraints holding at the syntax-phonology mapping: as a consequence, the complementiser mint 'than' may not receive strong stress. In the analysis provided by Sato & Dobashi (2012) for English, it is shown that



complementisers are phonologically dependent on the word that immediately follows them.

The same is not true for the operator *amilyen* 'how', which does not necessarily require an element following it:

# (14) Olyan, **amilyen.**how REL-how 'He/She is what he/she is.'

As a consequence, the operator *amilyen* 'how' may receive a strong label and as far as the QP *amilyen magas* 'how tall' is concerned, phrasal stress falls on *amilyen*, the leftmost element in the phrase. On the other hand, in terms of intonational phrasing the entire C + QP complex counts as an adjunct to the lower IntP and will hence be treated as extrametrical by the nuclear stress rule.

It is worth mentioning at this point that the theory presented by Szendrői (2001) needs to be modified inasmuch as extrametricality and topics are concerned: as nuclear stress clearly does not fall on the quantified element in the C-domain, it must be external to the domain in which nuclear stress is assigned. However, the movement of this quantified expression is obligatory: as opposed to topics, it cannot remain in its base position:

(15) \*Peti magas-abb [CP mint Mari volt **a-milyen magas**]. Peter tall-er than Mary was REL-how tall 'Peter is taller than Mary was.'

As also indicated in (5), the quantified expression moves to a [Spec;CP] position via ordinary *wh*-movement hence syntactically it is not an adjunct.

In other words, adjuncthood is not a satisfactory criterion for determining extrametricality in the prosodic structure.

The subclause may of course contain (contrastive) topics too, as in (16):

szeret-i Peti-t, mint a-mennyi-re (16) Mari jo-bb-an Peter-ACC than REL-how.much-SUBL Mary good-er-ly love-s Liza PALI-T szeret-i. Paul-ACC love-s 'Mary loves Peter more than Liz does Paul.'

In this case, the DP *Liza* 'Liz' is a contrastive topic that appears before the focussed DP Palit 'Paul', the latter bearing nuclear stress.

It is, however, by no means obligatory to move all contrastive elements before the verb:

(17) Mari jo-bb-an szeret-i Peti-t, mint a-mennyi-re Peter-ACC than REL-how.much-SUBL Mary good-er-ly love-s Pali-t. LIZA szeret-i Liz love-s Paul-ACC 'Mary loves Peter more than Liz does Paul.'

Here the focus is the DP *Liza*, and the DP *Palit* 'Paul', which is likewise contrastive, stays in its base position after the verb.

What is not permitted is to leave all contrasted elements in the VP:

jo-bb-an szeret-i Peti-t, mint a-mennyi-re (18) \*Mari good-er-ly love-s Mary Peter-ACC than REL-how.much-SUBL Pali-t. szeret-i Liza love-s Liz Paul-ACC 'Mary loves Peter more than Liz does Paul.'

This clearly shows that the subclause is not a neutral sentence as in that case the main stress could (and should) fall on the verb; this is irrespective of whether the verb is GIVEN or not: even if one substitutes szereti 'loves' in (18) with another verb, eg utálja 'detests', the result is still not grammatical.

In sum, the prosodic mapping of a (Hungarian) comparative subclause has the following characteristics: the complementiser is by definition weak; the quantified expression moves to a position above the domain of assigning main sentential stress; topics may appear between the quantified expression and the domain of assigning main sentential stress; the presence of a focussed constituent is obligatory.

## 5 More on the quantified expression

So far I have dealt with examples containing mainly the quantifier head *amilyen* 'how' and an AP. However, Hungarian also allows the quantifier *amennyire* 'how much' to appear with lexical APs; this operator exhibits different behaviour. Consider the following examples:

```
magas-abb [CP mint a-milyen/a-mennyi-re
(19) a. Peti
                             than REL-how/REL-how.much-SUBL
       Peter tall-er
       magas Mari
                             volt].
       tall
              Mary
                             was
       'Peter is taller than Mary was.'
     b. Peti magas-abb [CP mint
                                     *a-milyen/a-mennyi-re
                                     REL-how/REL-how.much-SUBL
        Peter tall-er
        Mari volt
                            magas].
        Mary was
                            tall
        'Peter is taller than Mary was.'
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As can be seen, *amennyire* 'how much' but not *amilyen* 'how' may be extracted from the QP; this is due to the fact that they occupy different positions in the QP containing the lexical AP (cf Kántor 2008).

In terms of prosodic structure, this simply means that while the quantifier *amennyire* 'how much' is still in a position outside the domain where nuclear stress is assigned, the adjective itself may remain in the VP and hence be assigned weak stress.

What is more striking, however, is that the behaviour of *amennyire* 'how much' and adjective strings also seems to differ according to whether the adjective is GIVEN or not. The possible positions for a GIVEN adjective, along with the average judgement of native speakers (individual ratings may differ) are indicated in (20):

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(20) Peti magas-abb [CP mint a-mennyi-re ?magas<sub>1</sub>
Peter tall-er than REL-how.much-SUBL tall
Mari ?/??magas<sub>2</sub> volt ??magas<sub>3</sub>].
Mary tall was tall
'Peter is taller than Mary was.'
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As can be seen, the adjective preferably moves together with the quantifier and the least preferable one is when it stays in its base position. What is unexpected is that a middle position, ie  $magas_2$ , is preferred over the sentence-final one: since this is the position immediately preceding the verb, and since the comparative subclause obligatorily contains a focus phrase (FP), as was established in the previous section, the adjective magas 'tall' in this case seems to be located precisely in the focus position, despite the fact that it is GIVEN and hence not contrastive.

Before attempting to handle this apparent problem, let us see the data for F-marked adjectives:

(21) A macska kövér-ebb, mint a-mennyi-re ?/??széles<sub>1</sub> the cat fat-er than REL-how.much-SUBL wide a macskaajtó //?széles<sub>2</sub> volt ?/??széles<sub>3</sub>. the cat flap wide was wide 'The cat is fatter than the cat flap is wide.'

Though the positions are the same, the preferences are different. On the one hand, it has to be mentioned that the presence of an overt F-marked adjective is generally more acceptable than that of a GIVEN one: the latter case involves the repetition of superfluous material and deletion would be preferred (how this may be carried out falls outside the scope of the present essay). If, however, the adjective is F-marked then it obviously cannot be deleted; the reason why these constructions are still slightly marked is lies in the fact that the operator *amennyire* 'how much' is less preferred by speakers than the operator *amilyen* 'how'.

On the other hand, the most preferred position for an F-marked adjective is precisely the one immediately preceding the verb, ie *széles*<sub>2</sub>; the other two possibilities are less acceptable though definitely not ruled out. This is in itself not the least surprising because the contrasted adjective appears in the canonical contrast position, ie the specifier of the FP.

The last point to make concerns a configuration where the quantified expression precedes the verb and the subject DP of the clause stays in the VP. Here there is a crucial difference between GIVEN and F-marked adjectives, as in (22).

As can be seen, the appearance of the GIVEN adjective is ungrammatical in this configuration whereas an F-marked adjective is acceptable, by and large as much as when the subject DP precedes it. The identical behaviour of  $sz\acute{e}les_2$  and  $sz\acute{e}les_4$  is expected but the difference between  $magas_2$  and  $magas_4$  is striking. On the other hand, the adjectives here immedi-

(22) a. \*Peti magas-abb [CP mint a-mennyi-re magas4
Peter tall-er than REL-how.much-SUBL tall
volt Mari].
was Mary
'Peter is taller than Mary was.'

b. ?A macska kövér-ebb, mint a-mennyi-re széles<sub>4</sub> the cat fat-er than REL-how.much-SUBL wide volt a macskaajtó.

was the cat flap
'The cat is fatter than the cat flap is wide.'

ately follow the quantifier, which raises the question whether the position is rather identical to that of  $magas_1$  and  $sz\'eles_1$  than to  $magas_2$  and  $sz\'eles_2$ . Though this may be tempting at the first sight, note that  $magas_1$  is in fact acceptable (as is  $sz\'eles_1$ , even if less preferred than  $sz\'eles_4$ ).

At any rate, this clearly indicates that the syntax–prosody mapping schematised in the previous section needs to be refined in order to account for further differences in the information structure.

To summarise what has been said so far, the problem is essentially the following: there are altogether three surface positions where the adjective can appear; one of them (the one immediately preceding the verb) seems to be one that hosts F-marked constituents, see (22)—however, if there is another contrastive constituent before it, the presence of given constituents in this position becomes acceptable, see (20).

#### 6 Default Nuclear Stress Position and recursive IntPs

Discussing the behaviour of Hungarian QPs, Ishihara & Surányi (2009) argue that Intonational Phrases are recursive, hence there is not only one single position available before the verb in the domain where nuclear stress can be assigned. Consider the following example they give:

(23) A vizsgá-n minden-ki minden-t meg-old-ott the exam-SUPERESS every-who every-ACC PARTICLE-solve-PST-3SG egy óra alatt. one hour under

'At the exam, everyone solves everything within one hour.'

In the sentence above, there are two quantified expressions: mindenki 'everyone' and mindent 'everything'. The experiment carried out by Ishihara & Surányi (2009) arrived at the result that the default nuclear stress position is in fact the highest QP (here: mindenki). This is important because mindenki receives both nuclear stress and focal interpretation despite the fact that it is not located in a [Spec; FP] position: the verb is immediately preceded by the verbal particle (*meg*) and hence the sentence displays the otherwise neutral verbal modifier — verb order. Depending on what has to be contrasted exactly, nuclear stress either falls on the highest QP (*mindenki*) or stress may also be shifted to the lower constituents.

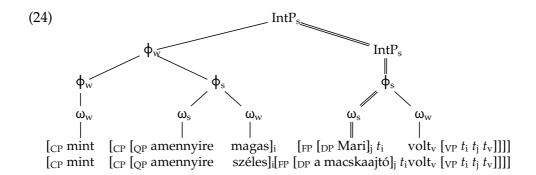
What this tells us is that the focus domain is wider than merely one position before the finite verb and that—though with differences among individual speakers — focus interpretation and stress assignment may affect more than one constituent in this domain. The importance of this is clearly that elements preceding the preverbal constituent are not necessarily topics and hence they are not necessarily adjuncts in terms of prosodic structure.

### 7 Syntax-prosody mapping in comparative subclauses

Seen in this light, the data presented in §5 may actually be accounted for. The core idea is this: the QP in the subclause is base-generated in the VP, then first moves to the specifier of a functional position (call it FP), which is an extension of the vP, and subsequently it moves to the lower [Spec; CP] position. While it is obligatory for the operator itself to move up as high as the [Spec; CP] position, that being the canonical operator position (at least for relative operators), the lexical AP may be stranded either in its base position in the VP, or in the [Spec; FP]—but it may of course move together with the operator. Note that this holds only in the case of *amennyire* 'how much', which may move out of the entire QP on its own: for amilyen 'how', the only possibility is to move together with the AP.

Let us first see the relatively unproblematic case when the AP is together with the operator, hence the case of  $magas_1$  and  $sz\'{e}les_1$ . The intonational phrasing of the strings mint amennyire magas Mari volt 'than Mary was tall' and mint amennyire széles a macskaajtó volt 'than the cat flap was wide' are shown in (24).

As expected, nuclear stress falls on the DP Mari 'Mary' and a macskaajtó 'the cat flap', in the same way as was seen in connection with (13). There are a few remarks that have to be made here. The adjective (magas 'tall' or széles 'wide') is outside the scope of main stress assignment: in terms of prosody, it counts as extrametrical. Moreover, this is a position



which is above the domain of contrastive phrases too: topics carrying new information are found between the lower [Spec; CP] and the FP-projection; in other words, the QP in (24) is not in a contrast position. This explains the difference in the acceptability of GIVEN and F-marked QPs in this position: while it is an optimal position for a GIVEN QP, it is not so for an F-marked one, though definitely not impossible.

In either case, the QP moves up from within the VP into the FP domain; for the sake of simplicity, I hereby assume that the FP can have multiple specifiers and hence the verb is adjacent to the lowest specifier in the syntactic derivation. As a second step of movement, the QP moves up to [Spec; CP] hence the lower copies of the QP—both the one in the VP and the one in the FP—will regularly be deleted at PF (cf Bošković & Nunes 2007:44–48, Chomsky 2005, Bobaljik 2002); as a result, these copies will be invisible for determining prosodic structure, as conveniently indicated by the traces in (24).

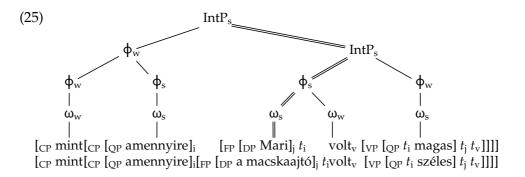
The question arises why the QP moves to the FP in the first place. This can easily be explained considering that the verbal domain is a phase and if elements are to be moved out of this phase, they have to move to the edge of the domain otherwise they would not be accessible for further syntactic operations after spell-out, cf Chomsky (2005). The FP counts as the edge of the verbal domain (cf also Dyakonova 2009: 213–215 in connection with Russian *wh*-movement)—in Hungarian, this is reinforced by the fact that the verb moves up to the F head (but not higher, see É. Kiss 2002), thus extending the (vP-)phase, cf also den Dikken (2007), Pesetsky (2007).

Second, in (24) the QP is at some point adjacent to the verb, which is not the case in (23): as Ishihara & Surányi (2009) point out, QPs cannot normally occupy the structural focus position in Hungarian. Note, however, that in the case of (24) the QP does not have to stay in this position as it

can move further up to take scope over the entire clause. I will not venture to examine the question of why QPs are otherwise ungrammatical in this position, as that would take us far beyond the scope of the present paper; suffice it to say that in comparative subclauses, the QP in question does not violate this constraint as further movement removes it from this position.

Last but not least, while in (23) it was obvious that the topmost phrase in the FP domain was a QP, in (24) the DP—Mari 'Mary' or a macskaajtó 'the cat flap' — precedes it. Note, however, that this is primarily due to economy: the FP domain is extended only as far as it is necessary to do so. Quantified expressions such as mindenki 'everyone' cannot move to topic positions above the FP hence their presence immediately indicates that the edge of the FP domain is filled. By contrast, QPs such as amennyire magas 'how much tall' or amennyire széles 'how much wide' cannot stay in the FP as the quantifier has to move up to [Spec; CP]. In cases like (24), the movement of the QP out of the FP would leave the preverbal position empty for prosodic structure if the contrasted DP (Mari 'Mary' or a macskaajtó 'the cat flap') were an adjoined topic, ie invisible for nuclear stress assignment. However, if there is a DP available in a higher [Spec; FP], then the edge feature of the F head is satisfied even after the movement of the QP to [Spec; CP] and nuclear stress can be assigned to this constituent.

Let us now turn to the case when the AP is left in the VP, hence the case of magas<sub>3</sub> and széles<sub>3</sub>. The intonational phrasing of the strings mint amennyire Mari volt magas 'than Mary was tall' and mint amennyire a macskaajtó volt széles 'than the cat flap was wide' are shown in (25):



The only crucial difference from (24) here is that the AP (magas 'tall' or széles 'wide') remains in its base position in the VP: this is possible because the QP amennyire 'how much' is an adjunct within the QP containing the APs and hence may move out on its own, first to [Spec; FP] and finally to the lower [Spec; CP] position.

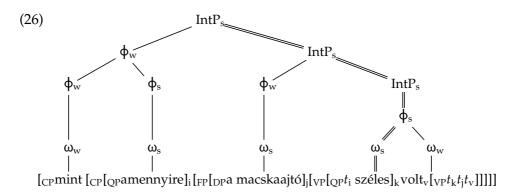
The postverbal position is quite interesting in terms of encoding information structure: if there are multiple foci in a Hungarian clause, then the secondary focus falls on a constituent that follows the verb, due to the fact that there is only a single focus position pre-verbally (cf Szendrői 2001; Surányi 2007). Note that this is true also in cases such as (23): the fact that the FP can have multiple specifiers does not imply that all elements moving there would be interpreted as foci — on the contrary, it is only one of the XPs that is assigned nuclear stress ad focus interpretation (by default the highest one but stress may be shifted). In this position, as pointed out by Szendrői (2001:53–55), elements receive extra stress by an additional prosodic rule and not by the nuclear stress rule — by default, then, it is more economical to move a phrase to the FP domain for assigning stress than to leave it in the VP: in this sense, the secondary focus position is a last resort option for inherently focussed elements that — due to another obligatorily (inherently) focussed element in [Spec; FP]—cannot move up but must still receive focal stress. Apart from these cases, the postverbal domain is de-stressed.

As for (25), this bears two implications. In the case of an F-marked adjective such as *széles* 'wide' in (25), which expresses the main contrast in the comparative subclause, an extra stress rule is required later on for it to receive strong stress; however, a more economical way of doing that would be to move the entire QP (including thus the AP) to the [Spec; FP] position and to leave the AP there, as will be seen soon; hence the markedness of *széles*<sub>3</sub>. As for the markedness of *magas*<sub>3</sub>, it clearly does not receive extra stress since it is not F-marked; it becomes de-accented but de-accenting would preferably mean deletion, which does not happen here.

Note that the behaviour of Hungarian is similar to what was seen in connection with the English data in (4): while English allows the presence of the F-marked adjective (eg *wide*) in a clause-final position, the presence of a GIVEN adjective here is strongly marked. The reason behind this is that in English the canonical position for focussed elements is the right edge of the clause (cf Szendrői 2001, based on Selkirk 1984, 1986, Nespor & Vogel 1986, Chen 1987, Inkelas 1989, McCarthy & Prince 1993, Neeleman & Weerman 1999, Truckenbrodt 1999 among others). Hence while this is an ideal position for the F-marked adjective, a GIVEN one is not preferred in this position but there is no other position it could overtly appear in—of course, if it is nevertheless present in a clause-final position, it is de-accented (stress being shifted to the subject DP) but de-accenting is preferably deletion, just as in the case of Hungarian in (25). The crucial difference between English and Hungarian is in the canonical realisation of focus, which in Hungarian

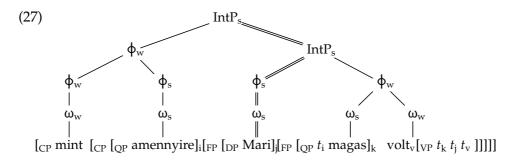
is a preverbal position—consequently, the F-marked adjective preferably appears in a position other than the clause-final one.

Let us now turn to the most problematic case, which is when the AP is moved up and then left in the FP, hence the case of magas<sub>2</sub> and széles<sub>2</sub>. The intonational phrasing of the string mint amennyire Mari magas volt 'than Mary was tall' and mint amennyire a macskaajtó széles volt 'than the cat flap was wide' are shown in (26):



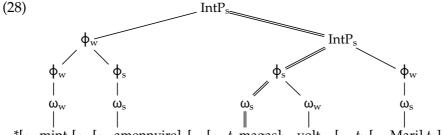
As can be seen, in this case the DP a macskaajtó 'the cat flap' is a topic, ie adjoined to the FP and it counts as extrametrical in terms of prosody. The focus will be the QP széles 'wide'. Note that in this case it is not the entire QP that moves up to [Spec; CP]; still, it is not ungrammatical to have the QP immediately before the verb as the quantifier itself has moved up, leaving only the adjective behind. Since this is a canonical contrast position and as such optimal for an F-marked element —, the acceptability of this construction is higher than that of the other two.

The situation is markedly different when there is a GIVEN adjective in the same position. The intonational phrasing of the string mint amennyire a macskaajtó széles volt 'than the cat flap was wide' is shown in (27):



In this case, the QP *magas* 'tall' is not focussed: nuclear stress is assigned to the DP *Mari* 'Mary'. The main difference between (26) and (27) is that the subject DP is a topic (hence an adjunct) in the former but not in the latter case; as a consequence, in (26) it does not and cannot receive nuclear stress, while it regularly does in (27), cf the discussion in §6 above. In (26), the subject DP is not included in the IntP containing the verb: by default, the FP does not extend higher as the highest QP, which is in this case adjacent to the verb itself. This rule is overwritten in the case of (27), where the accommodation of the DP *Mari* in (27) into the IntP containing the verb is necessary to save the structure: without this, nuclear stress would have to fall on the GIVEN adjective. The construction is essentially the same as the one in (24), with the exception that the adjective does not move out from the FP and hence stress has to be assigned to a DP above the overt QP, which would normally be a topic position—hence the markedness of (27), as opposed to the well-formedness of (26).

The prediction of this is of course that if there is no potential constituent before the GIVEN AP that could bear nuclear stress, the structure does not converge, whereas it is acceptable when the AP is F-marked. This prediction is in fact borne out, as demonstrated in (22): when the subject DP is left behind the verb in its base position within the VP, the structure converges with the F-marked but not with the GIVEN adjective, ie the case of magas<sub>4</sub> and széles<sub>4</sub>. The intonational phrasing of the strings \*mint amenynyire magas volt Mari 'than Mary was tall' and mint amennyire széles volt a macskaajtó 'than the cat flap was wide' are shown in (28):



\*[CP mint [CP [QP amennyire]<sub>i</sub> [FP [QP  $t_i$  magas]<sub>k</sub> volt<sub>v</sub> [VP  $t_k$  [DP Mari]  $t_v$ ]]]] [CP mint [CP [QP amennyire]<sub>i</sub> [FP [QP  $t_i$  széles]<sub>k</sub> volt<sub>v</sub> [VP  $t_k$  [DP a macskaajtó]  $t_v$ ]]]]

In this case, the subject DP stays within the VP; being a contrasted element, it can well be accommodated in that position, ie there is clearly no preference for its elimination there. In the case of *széles* 'wide', nuclear stress can be assigned to the AP, which is F-marked and located in the [Spec; FP] position. However, this option is not available for *magas* 'tall':

just as in (27), it cannot receive nuclear stress—however, in (28) there is no constituent available that could be located in a higher [Spec; FP].

One might wonder why (28) is similar to (26) and (27) and not to (24), ie why the AP is not interpreted as moving together with the quantifier amennyire 'how much'. However, as should be obvious, in that case the edge feature of the F head would not be satisfied: the only constituent moving to [Spec; FP] — that is, the entire QP — would move further and hence nuclear stress could not be assigned to it, which is clearly not the case with an F-marked adjective. The same problem does not arise in (24), where there is a DP available within the FP domain.

In sum, it should be clear that the acceptability of a GIVEN adjective in the FP-domain is dependent on the presence of another element that may be assigned nuclear stress; this behaviour is predictable on the basis of general syntax-prosody mapping rules that hold in Hungarian. The case of amennyire 'how much' shows that there is indeed a difference between GIVEN and F-marked adjectives in comparative subclauses, though not exactly in the same way as in English; this difference is not recognisable in the case of amilyen 'how', which cannot be moved out of the QP on its own and hence the AP taken by amilyen will always be located in the [Spec; CP] position.

#### 8 Conclusion

The aim of this paper was to investigate the syntax-prosody mapping of Hungarian comparative subclauses, with the aim of explaining certain syntactic differences that are rooted in distinctive prosodic phrasing. It was shown that while Hungarian largely allows the presence of a QP (containing a quantifier operator and a lexical AP) in the subclause irrespectively of whether the AP is GIVEN or F-marked, information structure still plays a crucial role in determining the possible structures. I demonstrated that if the operator is separable from the AP, the possible positions of the AP are determined by the syntax-prosody mapping operative in comparative subclauses, which makes certain positions available, preferable or impossible for GIVEN and F-marked elements differently.

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