

0. Introduction

This paper discusses the Alignment-based analysis of Hungarian headed restrictive relative clauses which precede their head noun. First the data itself is introduced in detail as it has not part been subject to much earlier research; then, an Alignment Syntactic analysis is outlined that proposes to explain the problem by referring to language change as constraint re-ranking. The analysis makes use of the strictly alignment-based syntactic system proposed by Newson (2000) and a late vocabulary insertion mechanism (cf. Newson, 2010). It is shown that Hungarian preposed relatives are an example of side-switching phenomena that are handled particularly well by alignment constraints.

1. The data

Headed relative clauses in Hungarian are traditionally argued to follow the head noun. There are, however, cases when relatives can appear in front of their lexical head nouns. The phenomenon was first described by Nádasdy (2011) while neither Kenesei et al. (1998) nor É. Kiss (2003) notice this fact. This section introduces and expands on the data provided by Nádasdy (2011).

The term “preposed relative” is used throughout the paper in a narrow sense as there are many different cases when a relative clause can be on the left side of its head. Consider the examples in (1):

- (1) a. Amit Péter mondott, az furcsa volt.
a-what Péter said *dem* strange was
 What Péter said, was strange.
- b. Amit Péter mondott az a beszéd érdekes volt.
a-what Péter said *dem* *art* speech interesting was
 The speech that Péter gave was interesting
- c. Engem meglepett amit Péter mondott beszéd
 me surprised *a-what* Péter said speech
 The speech that Péter gave surprised me.

From this point on, the term “preposed relative” will only be used to describe constructions like (1c). There are a number of reasons to treat this construction

differently from the other cases. First, notice that in (1a) and (1b), the relative clause is a topic in the matrix clause whereas in (1c) it is not. Also, the first one seems to be more closely related to a free relative, as it clearly involves a universal interpretation, and both (1a) and (1b) comply with Lipták's (2009) definition of correlatives; therefore, it is not surprising that the relative clause should surface at the (left) edge of the main clause. Second, the demonstrative pronoun *az* is obligatory in both (1a) and (1b), which is, again, expected of correlatives.

While the (1c) only shows a preposed relative in a sentence final position, they can be found a wide variety of positions where ordinary postnominal relatives can also appear. As can be seen from (2), preposed relatives can be sentence medial (a), be both topicalised (b) and focused (c), or appear in a PP (d):

- (2) a. János elmondta a tegnap amit hallott viccet Péternek
 János told the yesterday *a-what* heard joke Péter-DAT
 János told Péter the joke he heard yesterday.
- b. A Péter amit mondott beszédet János hallgatta meg
 the Péter *a-what* said speech János listened *prev.*
 It was János who listened to the speech Péter gave.
- c. János a Péter amit mondott beszédet hallgatta meg
 János the Péter *a-what* said speech listened *prev.*
 It was the speech Péter gave that János listened to.
- d. A Péter amit mondott beszéd után mindenki hazament
 the Péter *a-what* told speech after everyone home-went
 Everyone went home after the speech Péter gave.

Preposed relatives also differ from regular relative clauses both in word order and in the range of possible positions. In preposed relatives, it is possible to place a topic in front of the relative pronoun while postnominal relatives must be introduced by a relative pronoun. In fact, according to the judgments of native speakers, instances with a topic preceding the relative pronoun are significantly better than the topic following the relative pronoun as in (3b).

- (3) a. Engem meglepett a beszéd, amit Péter mondott
 b. ? Engem meglepett amit Péter mondott beszéd
 c. *Engem meglepett a beszéd Péter amit mondott
 d. Engem meglepett Péter amit mondott beszéd

Another significant difference is that in postnominal relatives, there might be intervening elements between the head noun and relative clause. However, such intervention is not possible in preposed relatives.

- (4) a. A könyv nekem is kell amit tegnap vettél.
art book me-dat too need a-what yesterday bought-2sg
 I also need the book that you bought yesterday.
 *Amit tegnap vettél nekem is kell a könyv.

It is also important to notice that in preposed relatives, there is no demonstrative pronoun referring to the head noun while in (1b) it is obligatory.

- (5) *Amit Péter mondott, a beszéd furcsa volt.

As far as the range of possible determiners preceding a preposed relative is concerned, the situation is fairly complex. If the preposed relative begins with a relative pronoun there may be no determiner preceding it.

- (6) *Elköltözött az aki kutyákat tartott ember.
 moved *art a-who* dogs kept man
 The man who keeps dogs has moved away.

In cases when there is a topicalised noun in front of the relative pronoun, there may be a determiner preceding the relative. Then, the situation is similar to possessive construction where a single preceding determiner may belong to either the possessor or the possessum. Similarly, in (7a), the definite article cannot belong to the noun *Róma* as that proper noun never appears with an article elsewhere in Hungarian. However, in (7b), the article must belong to *angol filmeket* as the verb *szereti* requires a definite object.

- (7) a. a Rómát aki jól ismeri idegenvezető
art Rome a-who well knows tour guide
 the tour guide who knows Rome well

- b. az angol filmeket aki szereti kritikus
art English films a-who likes reviewer
the reviewer who likes English films

Finally, preposed relatives are only possible in the case of restrictive relatives as the ungrammaticality of (8b) shows.

- (8) a. anyám aki tanár
mother-SG1 a-who teacher
My mother, who is a teacher
b. *aki tanár, anyám

To summarise, preposed relatives are constructions which precede the head noun and often have a topic preceding the relative pronoun, but lack many of the features standardly associated with correlatives.

2. Alignment-based analysis

This section lays out the basics of an analysis that uses only linear alignment constraints to account for preposed relatives. The aim of this analysis is to show how the re-ranking of certain constraints can lead to the emergence of preposed relative clauses. The mechanics of the alignment-based analysis follow the analysis given for English restrictive relatives by Kucsera (2014). This section aims at presenting the rankings which make preposed relatives the most harmonic candidate while the following section discusses the possible implementation of these rankings in an Optimality Theoretic grammar.

There are two important expectations that such an explanation must meet. First, it must not assume any sort of hierarchical structure in the output candidates. Second, the proposed change in the ranking of constraints must be kept to a minimum as a radical reordering would most probably have repercussions in the grammar that are too far-reaching.

2.1. The relevant constraints

Apart from the basic precedence and adjacency constraints, I also make use of domains as described by Gáspár (2005). Furthermore, the idea of domain adjacency (put forward by Newson and Maunula, 2006) is going to be crucial. The reason for this is that such a constraint (provided that it is ranked high enough) can model side switching phenomena quite well.

In this particular case, the analysis makes use of the following domains and constraints. There are two overlapping domains: the relative domain (**R**), and the domain of the information structure of a proposition (**I**). The crucial

difference between the elements of the two is that the former does not contain the root corresponding to the head noun, but the latter does.

The involved functional Conceptual Units are, in turn, *lrestl*, which is responsible for the restrictive interpretation, and *ltopl*, which provides the topic interpretation.

The constraints used are listed in (9).

(9) *List of constraints*

- a. $\sqrt{\neg a} \mathbf{R}$ the head noun either precedes or follows every element of \mathbf{R}
- b. $\sqrt{a} \text{ lrestl}$ the head noun is adjacent to the restrictive FCU
- c. $\text{ lrestl } p \mathbf{R}$ the restrictive FCU precedes every element of \mathbf{R}
- d. $\text{ ltopl } p \mathbf{I}$ the topic FCU precedes every element of \mathbf{I}


It must be noted that (9a) differs significantly from the notation used by Newson and Maunula (2006). In fact, what is proposed here as an anti-alignment constraint would be defined as alignment constraint in their system.

However, Mark Newson (p.c.) points out that the earlier definition of the alignment of a CU with respect to a domain is not very consistent with the notion of alignment. He therefore suggests that the most felicitous way to formalise that a CU is required to be on either side of a domain is by saying that it should *not* be aligned with it (i.e. aligned with as few domain members as possible). This can be achieved by placing it on either side of the domain.

2.2. Possible rankings for headed relatives

First, the tableau in (10) shows what ranking of the constraints in (9) produces the postnominal relative clause.


(10) Input: *lrestl*, *ltopl*, $\sqrt{\quad}$, ...

	$\sqrt{\neg a} \mathbf{R}$	$\text{ lrestl } p \mathbf{R}$	$\sqrt{a} \text{ lrestl}$	$\text{ ltopl } p \mathbf{I}$
 $\sqrt{\text{ lrestl } \text{ ltopl } \dots}$				**
$\sqrt{\text{ ltopl } \text{ lrestl } \dots}$!*	*	*
$\text{ ltopl } \sqrt{\text{ lrestl } \dots}$!*	*		
$\text{ ltopl } \text{ lrestl } \dots \sqrt{\quad}$!*	*	
$\text{ lrestl } \text{ ltopl } \dots \sqrt{\quad}$!*	*
$\text{ lrestl } \sqrt{\text{ ltopl } \dots}$!*			**

In this competition, the winner only violates the alignment constraint targeting the topic as the others do not conflict if the relative clause is behind the head noun.

Then, simply by re-ranking the topic-alignment constraint a situation emerges where it is more important for the topic to be the first than for the *restl* to be close to the noun. The result of this change is shown in (11).


(11) Input: *restl*, *ltopl*, $\sqrt{\quad}$, ...

	$\sqrt{\neg a}$ R	<i>restl p</i> R	<i>ltopl p</i> I	\sqrt{a} <i>restl</i>
$\sqrt{\text{restl ltopl ...}}$!***	
$\sqrt{\text{ltopl restl ...}}$!*	*	*
<i>ltopl</i> $\sqrt{\text{restl ...}}$!*	*		
<i>ltopl restl ...</i> $\sqrt{\quad}$!*		*
 <i>restl ltopl ...</i> $\sqrt{\quad}$			*	*
<i>restl</i> $\sqrt{\text{ltopl ...}}$!*		**	*

This account has a considerable advantage over the ones that are grounded in constituent structure. In the latter, it would require quite fundamental changes to alter the direction of adjunction and such a change would not only affect relatives, but it would have quite far-reaching consequences all over the grammar. Also, notice that this analysis excludes the possibility of *head noun, topic, relative pronoun* sequences (which are, in fact unattested in this case) as that candidate is harmonically bound by the winner.

Finally, only one more change in the ranking is needed to arrive at the proposed relative introduced by the topic. In fact, that change involves a single re-reranking in the hierarchy. Again if the topic-alignment constraint is moved further up the hierarchy we get exactly this result as (12) shows.

(12) Input: *restl*, *ltopl*, $\sqrt{\quad}$, ...

	$\sqrt{\neg a}$ R	<i>ltopl p</i> I	<i>restl p</i> R	\sqrt{a} <i>restl</i>
$\sqrt{\text{restl ltopl ...}}$!***		
$\sqrt{\text{ltopl restl ...}}$!*	*	*
<i>ltopl</i> $\sqrt{\text{restl ...}}$!*		*	
 <i>ltopl restl ...</i> $\sqrt{\quad}$			*	*
<i>restl ltopl ...</i> $\sqrt{\quad}$!*		*
<i>restl</i> $\sqrt{\text{ltopl ...}}$!*	**		

This third tableau illustrates that by promoting the same constraint again placing the topic first becomes even more preferable; so much so that the topic is now placed in front of the restrictive element. Therefore, another advantage of the outlined analysis is that it accounts for this particular change only by changing the place of a single constraint in the ranking.

In addition, the crucial components of the change are the head of the relative clause and the restrictive element; therefore it has no effect on either free or non-restrictive relatives as both of those lack one of the two elements.

Also, the proposed analysis assumes that faithfulness constraints play no part in this phenomenon for the following reason. Deletion would actually give rise to either postnominal relatives with the topic at the front or just regular postnominal relatives as deleting domain features would mean getting rid of the asymmetry between the elements of **R** and **I**.

3. Directions for further research

There are two main directions in which the present analysis can be furthered. First, any future research on this topic requires a wider range of data as proposed relatives are generally underdocumented at present.

Also, the primary theoretical problem to overcome is that of definite determiners. In particular, an explanation must be found for the fact that two definite determiners cannot appear preceding a relative. However, as a very similar phenomenon is exhibited by possessives, it is very likely that the solution lies not in the content of relative clauses, but rather in how vocabulary insertion works.

Apart from these theoretical issues, another important question is the implementation of a system that is able to produce these different rankings.

In the case of proposed relatives, it could not be argued that they are only observed in a given a dialect or age group as they are quite widespread. Also, as both postnominal and proposed relatives are produced by the same speakers, it is not possible to hypothesize two separate grammars that differ only on this point.

One direction to explore is to employ some probabilistic version of Optimality Theory such as Boersma's (1999) stochastic implementation of OT. In this particular case, this is would involve the free re-ranking of the constraints (9b), (9c), and (9d).¹ Thus, the analysis has to account for 3!=6 combinations. Section 2.2 has shown the result of three possible rankings, and as the reader may verify, the places of \sqrt{a} *restl* and *restl* p **R** may be swapped in each of these cases, so the most harmonic candidate in each case is a grammatical sentence.

¹ This is a necessary of consequence of assigning a weight to *topl* p **I** such that it is sufficiently likely to end up either above or below or inbetween both \sqrt{a} *restl* and *restl* p **R**. This, in turn will mean that the latter two are so close in rank to each other that either may end up dominating the other.

References

- Boersma Paul. 1999. Optimality-Theoretic learning in the Praat program. ROA report #380.
- É. Kiss Katalin, Kiefer, Ferenc and Siptár, Péter. 2003. Új magyar nyelvtan. Budapest: Osiris.
- Gáspár, Miklós 2005. Coordination in Optimality Theory. PhD dissertaion. Eötvös Loránd University.
- Lipták, Anikó. 2009. The landscape of correlatives. In: Anikó Lipták (ed). Correlatives cross-linguistically. Amsterdam: John Benjamins. 1-48.
- Kenesei, István, Vago, Robert M., Fenvesi, Anna. 2002. Hungarian. London: Routledge.
- Kucsera, Márton. 2014. Restrictive relative clauses in Alignment Syntax. The Odd Yearbook 9.
- Nádasdy, Ádám. 2011. Balról korlátozó mellékmondatok. Lecture. HAS Research Institute for Linguistics.
- Newson, Mark. 2000. A restrictive theory of alignment and some of its consequences. Manuscript. Eötvös Loránd University.
- Newson, Mark. 2010. Syntax first, words after: A possible consequence of doing Alignment Syntax without a lexicaon. The Even Yearbook 9.
- Newson, Mark and Maunula Vili. 2006. Word order in Finnish: Whose side is the focus on?. The Even Yearbook 7.

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